adertech

# EXT-NDI-REC

## 4K NDI Video
## Streaming Encoder/Decoder




## User Manual

**Attention**

The purpose of this user manual is to ensure that users can use the product correctly and avoid danger and damage in operation. Before using this product, please read this user manual carefully and keep it properly for future reference.

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**Contents**

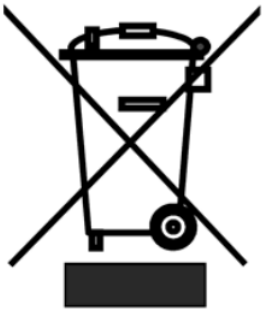
1. General ..... 1
   1.1 Overview ..... 1
   1.2 Features ..... 2
2. Quick Start Guide ..... 3
   2.1 Packing List ..... 3
   2.2 Connections and Controls ..... 3
   2.3 Screen Display ..... 4
   2.4 Tally Indicator ..... 5
   2.5 Quick Start Guide ..... 5
3. PC and Mobile Web Console ..... 9
   3.1 Live ..... 9
   3.2 Dashboard ..... 10
   3.3 PTZ ..... 11
   3.4 Tally ..... 11
   3.5 Input ..... 12
   3.6 Encoder ..... 12
   3.7 Output ..... 13
   3.8 OSD ..... 13
   3.9 Audio ..... 14
   3.10 Local Video Stream ..... 15
   3.11 Live Video Stream ..... 15
   3.12 Video Stream Decoder ..... 16
   3.13 Record ..... 16
   3.14 NDI® ..... 18
   3.15 Network ..... 19
   3.16 System ..... 22
   3.17 Version Copy ..... 25

**Warnings and Precautions**



1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the Power Adapter before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet slides and bottom are provided for ventilation. To ensure this unit's safe and reliable operation and protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked.
7. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
8. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your dealer or your local power company.
9. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
10. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord rating.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the Power Adapter and refer to qualified service personnel under the following conditions:
    a) When the liquid has spilled into the unit.
    b) When the product has been exposed to rain or water.
    c) When the product does not operate normally under normal operating conditions. Adjust only those controls covered by the operating instructions in this manual; improper adjustment of other controls may damage the unit and often require extensive work by a qualified technician to restore the unit to normal operation.
    d) When the product has been dropped or the cabinet has been damaged.
    e) When the product exhibits a distinct change in performance, indicating a need for service.

**Disposal**



**For EU Customers only - WEEE Marking**

This symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service, or the shop where you purchased the product.

# 1. General

## 1.1 Overview

EXT-NDI-REC is a hardware encoder/decoder in a small aluminum box, a new generation, 4k Ultra HD video, ultra compact video streaming encoder and decoder, plus featuring NDI®| HX3, PoE and big distinct tally light. It is rugged, small form-factor, light weight and professional for critical streaming applications. It is a cost effective, easy to use, user friendly with standard tripod mount. EXT-NDI-REC supports popular USB Type-C charger, WIFI, hotspot, DC output and a range of innovative modern features. It is a standalone streaming encoder, no PC required. It offers system integrators, streaming professionals, and affordable solution to stream high quality video over network.

EXT-NDI-REC comes HDMI zero-lag loop out for video passthrough. Meanwhile it can standalone streaming to multiple CDN simultaneously without PC and affecting PC gaming experiences. It is PC free.

High quality, ultra-low-latency NDI®| HX3 is even better than USB capturing. The decoding capability of EXT-NDI-REC is an easy way to distribute streaming video or NDI®|HX3 on the network, decode and route to HDMI output to a screen or projector.

Streaming on-the-go, make compact EXT-NDI-REC easy mount on top of any SLR or screen sources with 1/4-20 mount underneath by ball head or any standard mounting gear. It can convert any existing video such as SLR cameras or PTZ cameras, into NDI enabled real-time, low-latency high-quality video over IP workflow.

Recording prepare for future. EXT-NDI-REC allows recording either by TF for local recording or NAS while live streaming.

The front mini screen can display current settings and working status in real-time. A browser-based GUI enable setting and control of encoder done by PC, smartphone or pad via WIFI, hotspot or LAN.

The encoder can be powered by any handy USB type C power adapter. It is also designed to be powered by any DC power adapter via type C to DC adapter in any voltage between 5 to 20V PoE, USB-C or DC make the power and connectivity easy and smooth.

The state-of-art, all-in-one EXT-NDI-REC is an encoder, decoder, recorder, Tally light and PTZ controller plus it is also NDI encoder/decoder. It can be widely used in IP based video world.

## 1.2 Features

- Encoder/decoder/NDI® in small box, one device multi-purpose
- Standalone streaming, no PC required.
- Up to 4K30 hardware video encoder and decoder
- High efficiency H.264 HP/MP/BP or H.265/HEVC MP codec
- 4K HDMI input and HDMI loop out/output with embedded audio
- Auto input detection auto resolution and format switching
- Real-time live video passthrough out with zero latency, best for game streaming without computer and CPU load
- NDI® | HX3 support with better quality and very smallest delay
- Powerful NDI encoding or NDI decoding
- Up to 50mbps bitrate, high bandwidth video stream for best quality
- Adaptive AAC audio for both embedded audio and analog
- Analog line in audio input and headphone output
- Video recording and photo capability in mp4/mov format
- Live video feed to PC, phone and iPad
- Simple setup and configuration via login protected web interface
- Comprehensive control via by PC, smartphone or iPad
- Native Portrait/Vertical or Landscape to Vertical video streaming
- NDI® | HX3, RTSP, SRT, RTMP(s) steaming decoder up to 4K30
- WYSIWYG, powerful and flexible OSD, text, logo and stamp image overlay, user-friendly and what you see is what you get.
- IP VISCA PTZ control relay to existing legacy PTZ cameras
- Built-in tally light PVW/PGM in multi-camera productions
- Rich working or vital operating status in front display at a glance
- With standard camera tripod mount
- Support YouTube, Twitter, Facebook and Twitch etc.
- Simultaneous live to multiple CDN in RTMP(s)/SRT
- Easy access and plug-and-play installation by mDNS or hotspot
- Handy and convenient USB-C, DC, or single cable PoE power
- PoE with DC OUT to power other devices such as SLR, PTZ etc.

# 2. Quick Start Guide

## 2.1 Packing List

| Name | Unit | Quantity |
|---|---|---|
| 4K NDI® Video Streaming Encoder/Decoder | PCS | 1 |
| USB TYPE C Power Adapter | PCS | 1 |
| Cold Shoe | PCS | 1 |
| USB-C Cable | PCS | 1 |
| Quick Start Guide | PCS | 1 |
| Warranty Card | PCS | 1 |

## 2.2 Connections and Controls



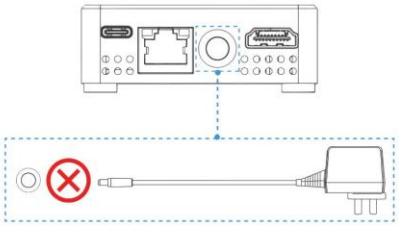

**Physical Connections**

| Label | Name | Icon | Description |
|---|---|---|---|
| 1 | Tally | / | Indicates the status of the device |
| 2 | USB-C | | Plug the power supply in here |
| 3 | LAN/PoE/NDI®\|HX3 | POE+/NDI | Ethernet network port |
| 4 | DC Out | DC OUT | Power other devices. This feature needs to be set in the web console |
| 5 | HDMI In | HDMI IN | Connect the HDMI signal source |
| 6 | LCD Screen | / | Real-time display of current settings and working status |
| 7 | TF Card | / | Plug the TF card in here |
| 8 | HDMI Out/Loop Out | HDMI OUT LOOP | Connect an HDMI cable from this connector to a monitor or projector |
| 9 | USB Port | | Used to expand RS232/485/422 to control the camera through VISCA/PELCO |

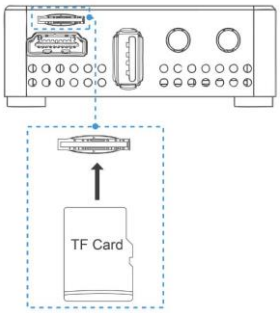
| | | | |
|---|---|---|---|
| 10 | Audio Input | | Stereo audio input |
| 11 | Audio Output | | For audio confidence monitoring. Plays the audio for the currently visible channel |

NOTE

*a. It is forbidden to use the DC Out 4 interface to supply power to EXT-NDI-REC. It may damage the EXT-NDI-REC. DO NOT remove DC Out Cap before reading the instruction manual.*



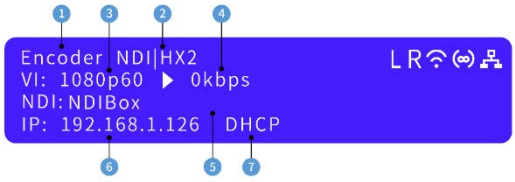
*b. Pay attention to the direction of the TF card（7）.*



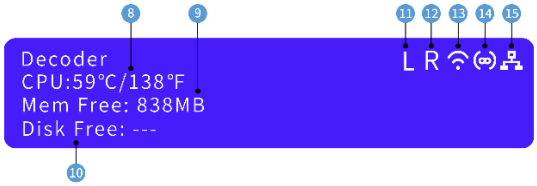

## 2.3 Screen Display

EXT-NDI-REC alternately displays the status and system information on two screens.

The first screen




The second screen




| Label | Description | Label | Description |
|---|---|---|---|
| 1 | Displays the working mode of the EXT-NDI-REC. It can display an Encoder or Decoder. | 9 | Memory Free |
| 2 | NDI Format/Stream Format | 10 | Disk Free |
| 3 | Input/Output Resolution | 11 | Loop Out |
| 4 | Encoder/Decoder Bitrate | 12 | Tally color |

| | | | |
|---|---|---|---|
| 5 | NDI Name/Stream Name | 13 | WIFI status |
| 6 | IP address | 14 | Hotspot status |
| 7 | DHCP Status | 15 | LAN status |
| 8 | CPU temperature | | |

## 2.4 Tally Indicator

The Tally on the EXT-NDI-REC can indicate the Tally working status when it is in automatic mode. The indicator status is as follows:

| AUTO | NDI Encoding | Encoder | Decoder |
|---|---|---|---|
| Green | Preview(PVW) | / | / |
| Red | Program(PGM) | / | / |
| Blue | / | Push Streaming | Pull Streaming |
| White | / | No Push Streaming | No Pull Streaming |

NOTE

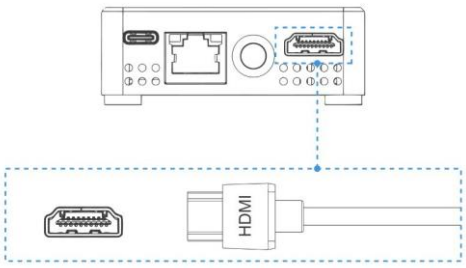
*When the mode of EXT-NDI-REC is NDI encoding mode and output to other NDI receivers, such as vMix, OBS, etc.. EXT-NDI-REC will change the color of the tally light according to whether the receiver switches to program or preview.*

## 2.5 Quick Start Guide

Please follow the following steps for quick connection guidance on the EXT-NDI-REC.

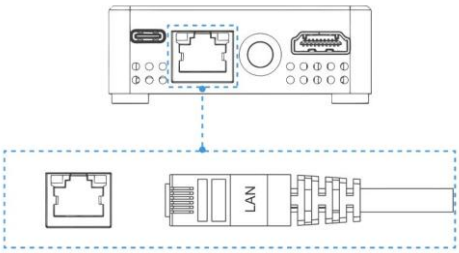
**Step1. Connect video signal**

Connect the HDMI signal from a video source (such as a camera) to the HDMI input port of the EXT-NDI-REC through an HDMI cable. Video formats and resolutions can be automatically detected by EXT-NDI-REC.




**Step2. Connect network**

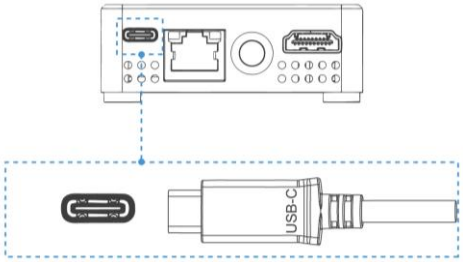
Use a LAN cable to connect EXT-NDI-REC to a network port of a network switch or network router with DHCP.




**Step3. Connect power supply**

1） USB-C

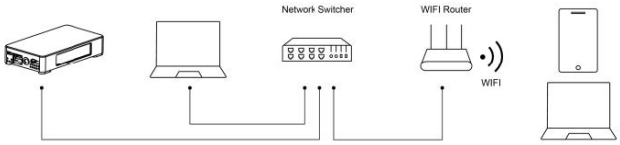
Use the USB TYPE C power adapter to power the EXT-NDI-REC and then the screen will turn on.




2） POE

EXT-NDI-REC can also be powered by Power over Ethernet (PoE/ PoE+). You needn't prepare a power adapter. To take advantage of PoE, the LAN cable has to be connected to a PoE Network Switch, but at least a CAT5e LAN cable is required for PoE.

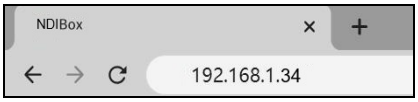
**Step4. Login to the WEB Console**




EXT-NDI-REC provides five easy, quick ways to log into the WEB console. Please make sure the phone, PC, or iPad is on the same LAN or WIFI as the EXT-NDI-REC.

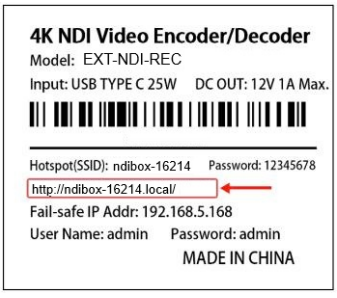
1） IP Address

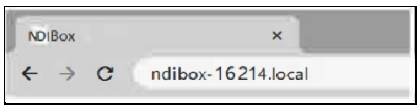
The EXT-NDI-REC DHCP is turned on by default, so just find the IP address on the first screen and type IP into the browser.




2） Login EXT-NDI-REC by mDNS

Please enter http://ndibox-16214.local/ in the browser of your computer or mobile phone. (mDNS URL is on the bottom of the EXT-NDI-REC.)



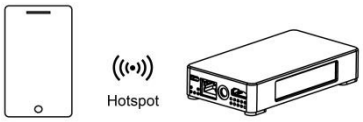




3） Login EXT-NDI-REC by Hotspot

Connect to EXT-NDI-REC without a LAN or WIFI network. Connect the mobile device to EXT-NDI-REC hotspot, it is default on. Please find its

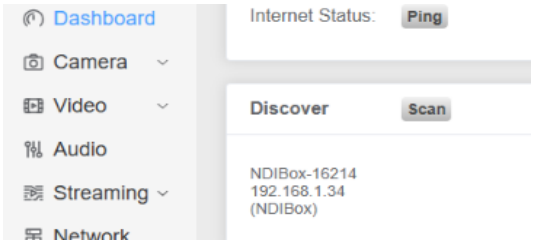
SSID and password at the bottom of EXT-NDI-REC. After connecting to the hotspot, enter http:// 192.168.100.1 in the browser to log into the Web console. When connecting to the hotspot, the phone may prompt that there is no Internet, which is normal, please continue to connect.



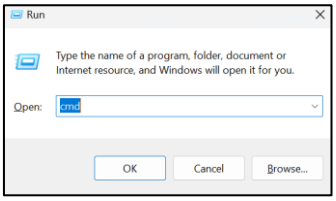

4） Login to EXT-NDI-REC by Device Discovery

Log in to the Web console, and click "Setting > Dashboard" to use the discover function. After clicking the "Scan" button, find the device serial number on the bottom label corresponding to the new EXT-NDI-REC and click it to quickly jump to the device's Web console.

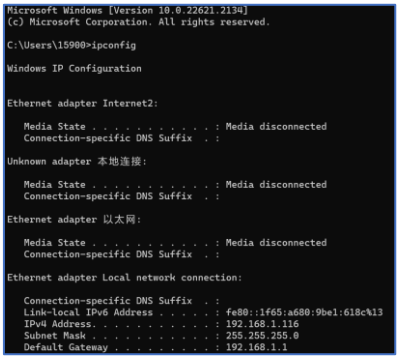



5） Failsafe IP

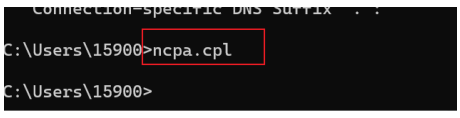
When the connected network does not have the DHCP or directly connects EXT-NDI-REC to the PC via LAN cable, or other unknown errors occur, the IP of EXT-NDI-REC will become a failsafe IP (192.168.5.168). Please add a 5-segment address to the computer to log in to the web console. (1) Press Win+R, then type cmd and enter.



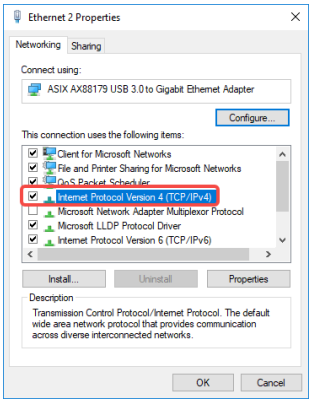

(2) Type ipconfig in the window and enter.




(3) Type ncpa.cpl in the same window and enter.

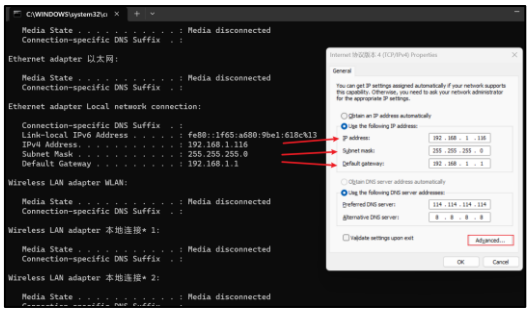



(4) Right-click Local Network connection and select Properties, then click Internet Protocol Version 4(TCP/IPv4) and Properties.

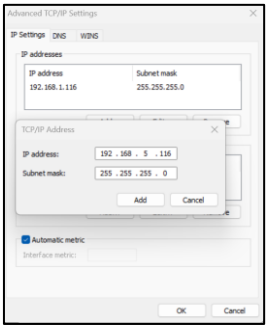



(5) Type in IP address, subnet mask and default gateway found.

(6) Use 192.168.1.1 as the Preferred DNS server address and 8.8.8.8 as the Alternate DNS server.




(7) Click Advanced. Add a new IP address, whose first three segments are the same as the failsafe IP address (192.168.5.168). Type 192.168.5.116 for example. The subnet mask remains the default.




(8) Save setting.

NOTE

a. *Login administrator Username:* **admin***; Password:* **admin**

b. *Login super Username:* **super***; Password:* **super**

**c.** *Login basic Username:* **basic***; Password:* **basic**

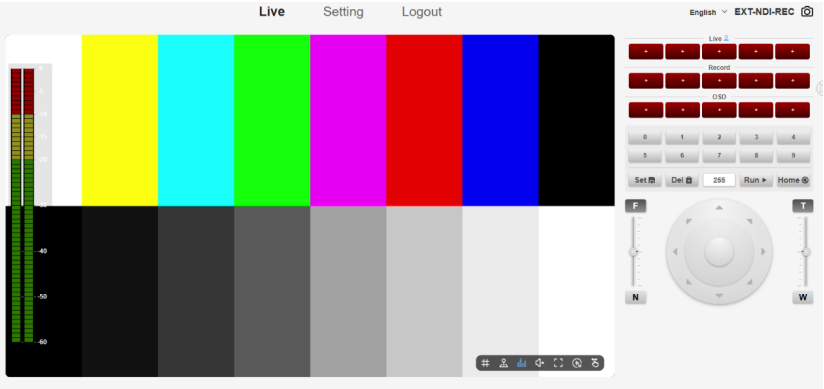
d. Failsafe IP address: 192.168.5.168

# 3. PC and Mobile Web Console

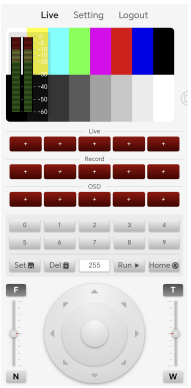
After connecting the EXT-NDI-REC, follow the steps of the quick start guide in the previous chapter, users can control the Web Control User Interface now by PC or Phone. When the mobile device and EXT-NDI-REC are in the same local area network, you can use the mobile device to log in to the EXT-NDI-REC web page to set parameters. When returning to the previous level on the mobile terminal, please swipe right directly. The various settings and functions of the EXT-NDI-REC webpage will be introduced in detail below:

## 3.1 Live

After logging into the web console, the web will be shown as follows:




(PC)




(Mobile)

**Preview**

View the encoded video status in real-time on the left side. Through the buttons on the lower right corner, users can perform mute, full screen, primary and secondary stream switching, zoom in, zoom out, rotate, move, and reset operations on the screen in sequence.

If preview is not possible, an error message will be displayed on the web. It indicates that EXT-NDI-REC has not detected the input signal source. It indicates that the main stream encoding format is H.265, and the main stream does not support the preview of the H.265 format.

**One-click streaming**

In encoding mode, click the red button on the right to easily open the network stream that has been set. If the network stream has not been set, click "+" to automatically jump to the network stream interface for setting.

**One-click decoding**

In decoding mode, click the red button on the right to conveniently open the stream address that has been set. Up to five Internet stream addresses, five local stream addresses, and ten NDI addresses can be displayed.

**One-click Record**

After plugging in the storage device or mounting the NAS successfully, click the button to quickly start recording.

**OSD**

After successfully setting the canvas on the OSD interface, you can quickly open and close the canvas on this interface.

**PTZ control**

Use a serial cable or IP Visca to connect EXT-NDI-REC to the camera, and EXT-NDI-REC can perform some basic operations on the camera through the control buttons on the right side of the web page. Currently, EXT-NDI-REC supports camera focus, zoom and direction control.

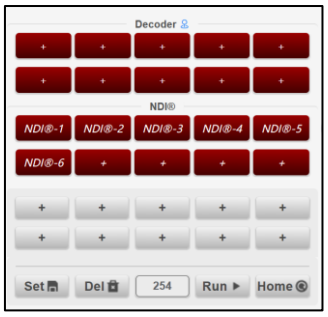
After the working mode is switched to decoding mode, Internet, Record, and OSD will be replaced by Decoder and NDI® buttons.

**Decoder**

The decoder button will show five local stream decodes and five Internet stream decodes.

**NDI®**

The NDI button will display the first ten searched NDI streams, and the full name of the NDI stream can be displayed by moving the mouse over the button.




NOTE

a. *When there is a blue icon to the right of the name, use the number keys of the keyboard to quickly enable the button. Use the Tab key to quickly switch the position of the blue icon.*

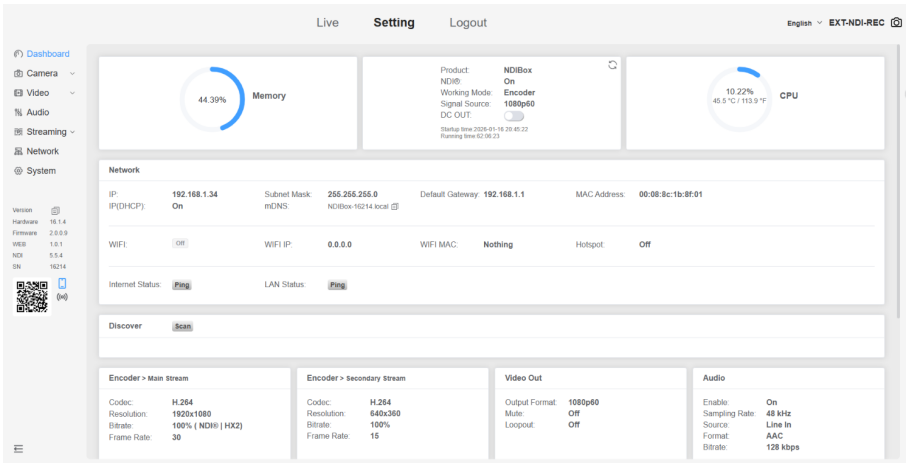
b. *Internet stream, OSD, record, decoder, and NDI decoder will form multiple alias shortcut buttons on the Preview interface.*

c. *To use the red shortcut button on the right, please click the + button to jump to the interface for quick configuration, and click the name above to quickly jump to the specified location to view how to configure. After the configuration is completed, the + will change to a customized name, and please activate it by clicking on the name.*

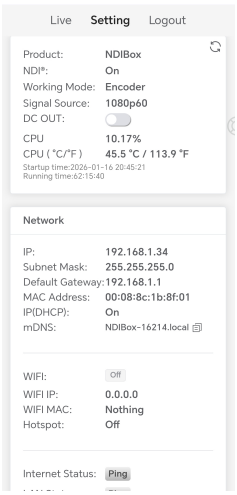
## 3.2 Dashboard

After clicking the "Dashboard", the page of the Dashboard will be shown as follows.

This page shows the basic configuration information of EXT-NDI-REC. Users can view information such as CPU usage, working mode, device temperature, streaming, recording status, encoding settings, and network information settings.




(PC)




(Mobile)

**DC out**

DC output is turned off by default. To use EXT-NDI-REC to power other PTZ cameras, please turn on the DC output button on the page.After turning on the DC out button on the page, Use the DC out interface to provide power for other cameras. The maximum output of this interface is 12V, and the load cannot exceed 12V 1A. It is forbidden to use the DC Out interface to supply power to EXT-NDI-REC. It may damage the EXT-NDI-REC.

**Ping**

Click the two ping buttons to quickly check whether EXT-NDI-REC is successfully connected to the Internet and LAN.

**Discover**

The scan button can scan all devices in the same LAN, and display the IP address and name of the scanned device. Click the IP address to quickly jump to the corresponding web control interface. The name of the defaults to Serial Number, which matches the hotspot name and can be viewed on the bottom of the device.

## 3.3 PTZ

After clicking the "PTZ" option on the left column, the page of PTZ will be shown as follows.

By default, only the IP VISCA protocol can be used. When the EXT-NDI-REC is connected to the camera with a serial cable, the PECLO-P, PECLO-D and VISCA protocols can be selected.

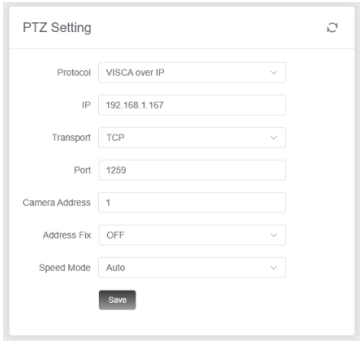
**VISCA over IP**

If the camera has a network function and supports Visca IP.

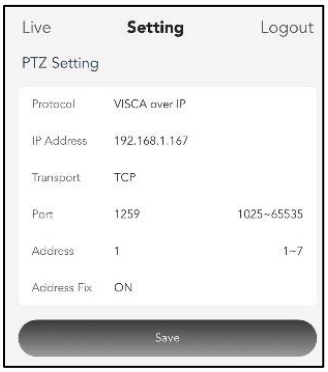
Please first check the IP address, transmission protocol, port and protocol address of the controlled camera and fill them in the corresponding text boxes. After saving successfully, switch to the "Preview" to control it.

**VISCA, PECLO-P, PECLO-D**

Please check the protocol and baud rate set by the controlled camera first and fill it in the corresponding text box. After saving successfully, switch to the "Preview" to control it.



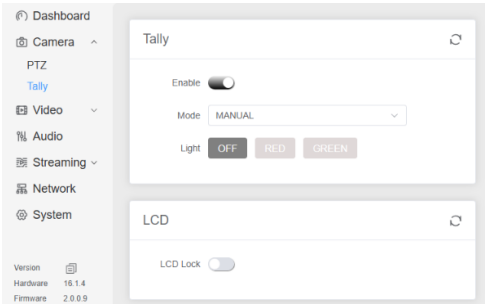

(PC)



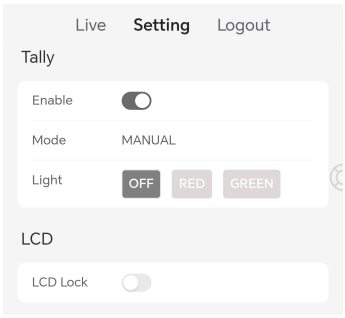

(Mobile)

## 3.4 Tally

After clicking the "Tally" option, the page of Tally will be shown as follows.




(PC)




(Mobile)

Tally has two modes, manual and automatic mode. After the tally light is set successfully, the color of the camera icon in the upper right corner of the web page will also change with the tally light.

**Manual**

There is an option to set the tally light to green, red or off. The Tally lights will remain in this color after the setup is complete.

**Auto**

In automatic mode, the tally light will change according to the working status of EXT-NDI-REC

The specific rules are as follows:

| AUTO | NDI Encoding | Decoder | Encoder |
|---|---|---|---|
| Green | PVM | / | / |
| Red | PGM | / | / |
| Blue | / | Pull Streaming | Push Streaming |
| White | / | No Pull Streaming | No Push Streaming |

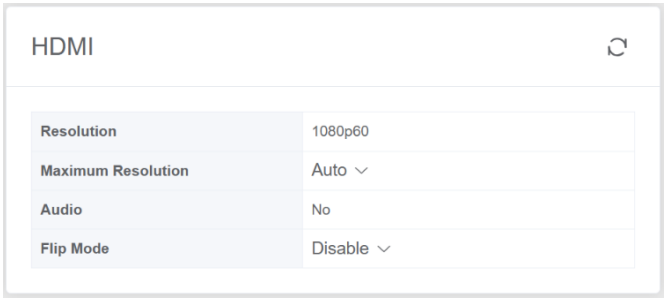
aa

When the mode of EXT-NDI-REC is NDI encoding mode and output to other NDI receivers, such as vMix, OBS, etc.. EXT-NDI-REC will change the color of the tally light according to whether the receiver switches to program or preview.

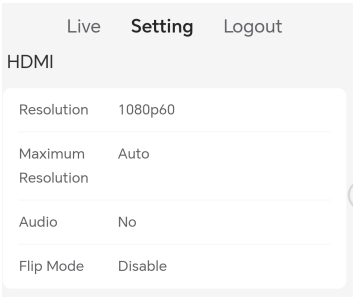
## 3.5 Input

After clicking the "Input" option, the page of Input will be shown as follows.

The Input page can display the input resolution and audio sample rate of HDMI. EXT-NDI-REC supports the detection of common resolutions such as I frame resolution, decimal resolution, and integer resolution.




(PC)




(Mobile)

## 3.6 Encoder

After clicking the "Encoder" option, the page of Encoder will be shown as follows. Set the parameters of the main and secondary streams on this page. These parameters include Codec, Profile, Resolution, Rate Control, Image Quality, Bitrate, Frame Rate, I Frame Interval and I Frame Min QP.

**Codec:** H.264 by default for main and secondary streams, H.265 optional

**Profile:** Profile Mode Setting (BP by default for main and secondary streams, HP. MP optional)

**Resolution:** 1920*1080 by default for mainstream,3840*2160. 2560*1440. 1280*720. 1080*1920. 720*1080 optional; 1280*720 by default for the secondary stream,640*360. 320*180 optional

**Rate Control:** CBR(Constants Bitrate) by default for main and secondary streams, VBR(Variable Bitrate) optional

**Bitrate:** NDI is turned off(12000kbps by default for mainstream, 64kbps~51200kbps optional; 6000kbps by default for secondary stream, 64kbps~25600kbps optional)

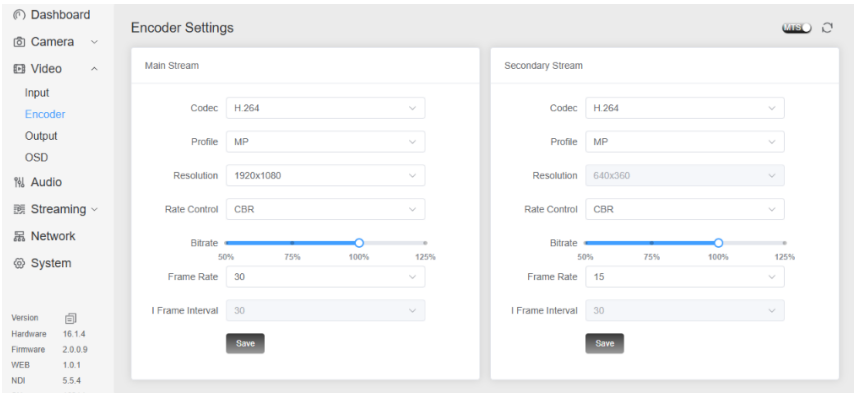
The bitrate changes with the state of the NDI. When NDI is enabled, only the percentage is displayed. For the specific value, please jump to the NDI page of the guide to view it.

NDI is turned on(100% by default for main and secondary streams, 50%~125% optional)

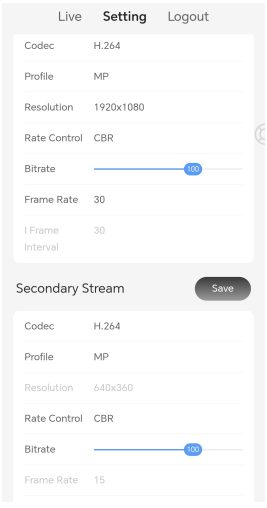
**Frame Rate:** There is no fixed default value for the frame rate of the main and secondary streams, and it will change as the input frame rate changes. The frame rate of the input signal will be an integer multiple of the encoded frame rate. For example, when the input frame rate is 60fps, the encoding frame rate is 15fps or 30fps, or 60fps.

**I Frame Interval**：30 by default for main and secondary streams,25~240 optional.

**Rotate:** Rotate clockwise, 0 by default, 90, 180, 270 optional.




(PC)




(Mobile)

NOTE

*a. No matter which "Save" button is pressed, the mainstream and secondary stream information will be saved together.*

*b. The resolution and bitrate options are limited by the input resolution.*

*c. By rotating, the user can turn the signal into a vertical screen for vertical screen push and adapt to the mobile phone.*

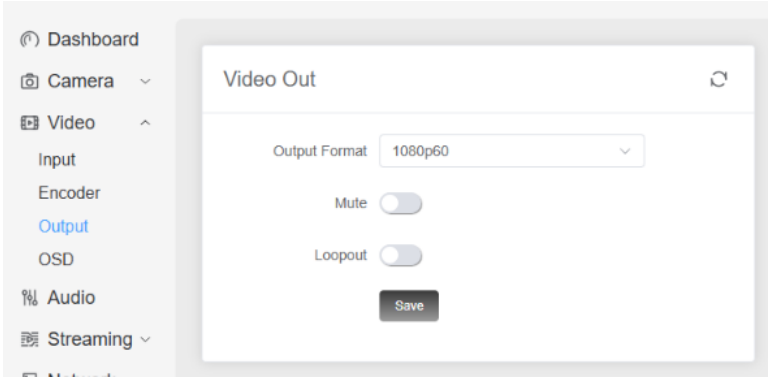
## 3.7 Output

After clicking the "Output" option, the page of Output will be shown as follows.

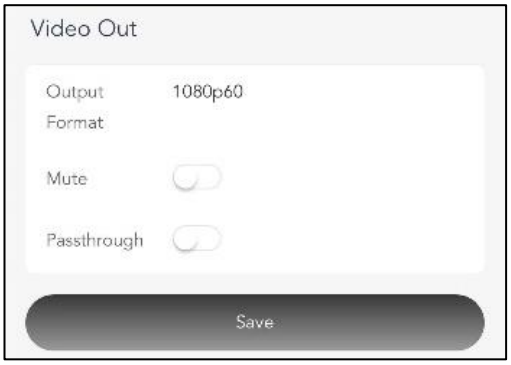
**Output Format:** 1080P60 by default, 2160p30. 2160p25, 1080p50, 1080p30, 1080p25,1080p24, 1080i60, 1080i50, 720p60, 720p50 optional (The output frame rate will be constrained by the input frame rate. When the input frame rate is 30, 60, 59.94, or 29.97, the output frame rate is 30/60. When the input frame rate is 25/50, the output frame rate is 25/50. When the input frame rate is 24, the output frame rate is 24.)

**Mute:** Turn off the sound of the HDMI output and line out after turning on the mute button. When the Loop Out button is on, the Mute button is hidden and does not affect the output.

**Passthrough:** Output directly at the input resolution without any other operations on the video signal.



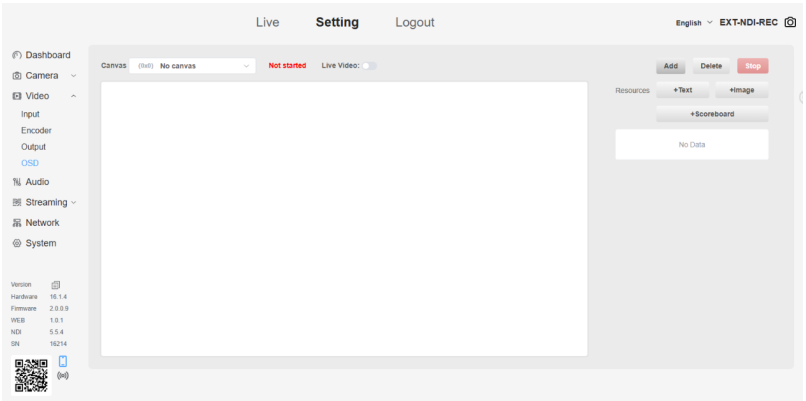

(PC)




(Mobile)

## 3.8 OSD

After clicking the "OSD" option, the web page of OSD will be shown as follows.




**Add/Enable Canvas**

When using the OSD function, please add a canvas first, and the resolution of the canvas can be 3840x2160, 2560x1440,1920x1080, 1280x720,2160x3840,1440x2560,1080x1920 or 720x1280. EXT-NDI-REC supports adding up to four canvases, but only one canvas can be enabled at the same time.

When the canvas is enabled, it is recommended that the canvas resolution is consistent with the encoding resolution, otherwise, the displayed image will be enlarged or reduced, or displayed incompletely.

The OSD function is only valid for the mainstream, not for the secondary stream.

After the canvas is successfully created, the OSD canvas shortcut buttons will be automatically generated on the preview interface for the convenience of the next use.

**+ Image**

When adding a picture, enter the name of the picture to facilitate management when adding multiple pictures. Click "Select File" to select the desired picture. Currently, images in JPG and PNG formats are supported. The size of the picture cannot exceed 1.70M, and the resolution of the picture cannot exceed the resolution of the canvas, otherwise it will not be able to be added.

**+ Text**

Text name: Easy to manage when adding multiple texts, supports 1-16 characters

Content: Support input 1-50 characters

Size: support setting 16-126px

Thickness: Support normal, bold, or lighter

Font: Support setting more than 20 fonts

Font color: Support RGB color modification and transparency modification

Background color: Support RGB color modification and transparency modification

Stroke color: Support RGB color modification and transparency modification

**Modify element information**

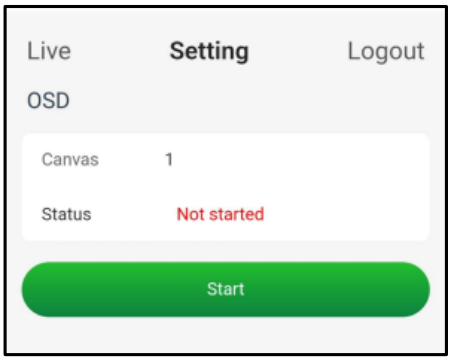
Click the first button to hide the element

Click the second button to modify the element information

Click the third button to delete the element

Long press the element name and drag to modify the layer order

On the OSD page on mobile, users can only choose to switch between existing canvases, and cannot edit elements or canvases.




## 3.9 Audio

After clicking the "Audio" option, the page of Audio will be shown as follows. Audio off affects both encoded sound and HDMI output sound. Parameters include Format, Sampling Rate, Sampling Bits, Bitrate, Channel, Volume, and Source.

**Format:** AAC by default, MP3 optional

**Sampling Rate:** 48 by default,16,32, 44.1 optional

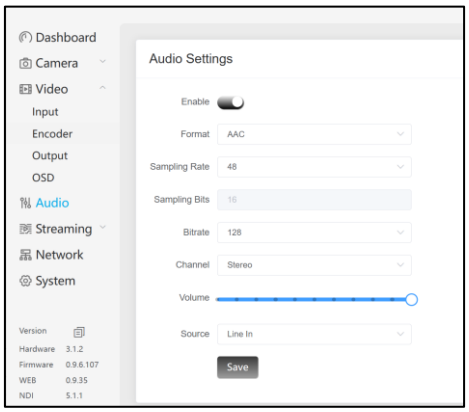
**Sampling Bits:** Fixed value

**Bitrate:** 128 by default, 32, 48, 64, 96 optional

**Channel:** Stereo by default, Mono optional

**Volume:** 100 by default,0~100 optional

**Source:** Line In by default, HDMI optional




NOTE

a. *When the source is HDMI, the sampling rate, channel, and volume are no longer displayed, and the actual parameters depend on the audio input via HDMI.*

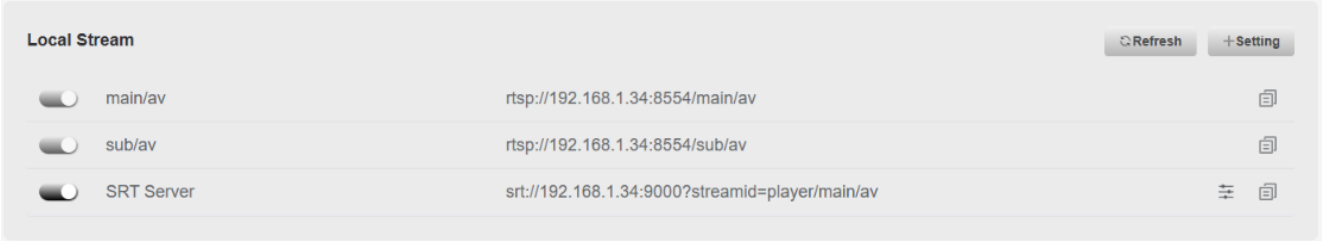
b. *The HDMI output will have no sound When the HDMI audio sampling rate is 16KHz.*

## 3.10 Local Video Stream

After clicking the "Local" option, the page Local will be shown as follows.

Users can view the effect of encoder settings in real-time through local streams on the same LAN.

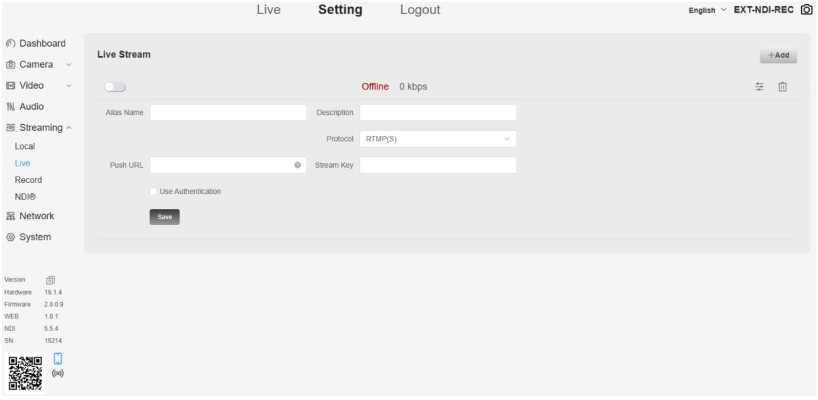
Click the button on the right to quickly copy the address.



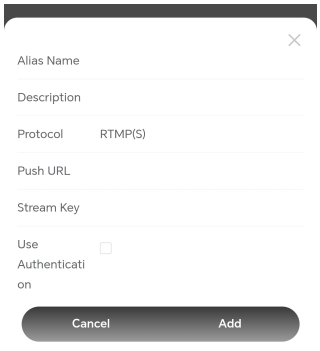

## 3.11 Live Video Stream

After clicking the "Live" option, the page of the Live will be shown as follows.

Click the "+Add" button to add a new stream task, and multiple tasks cannot be added at the same time.




(PC)




(Mobile)

**Protocol:** Select RTMP or SRT protocol.

**Alias Name:** It supports 1-16 characters.

**Stream URL:** Enter the required stream URL, which must be consistent with the protocol and cannot be the same as the stream URL of other tasks.

**Stream key:** Enter the required stream key, which can be empty.

**Description:** Notes for this task.

EXT-NDI-REC supports multi-channel streaming and supports simultaneous streaming of two channels of RTMP and SRT.

# 3.12Video Stream Decoder

After switching the mode of EXT-NDI-REC to encoder mode in the system interface, the encoder page is clickable. The page of Encoder will be shown as follows. Click on the link for how to switch modes(3.16.2).

After switching to decoder mode, the Input, Encoder, OSD, Audio, local, NDI, Live and Record pages will not be accessible, and the functions will be disabled.

**Local**

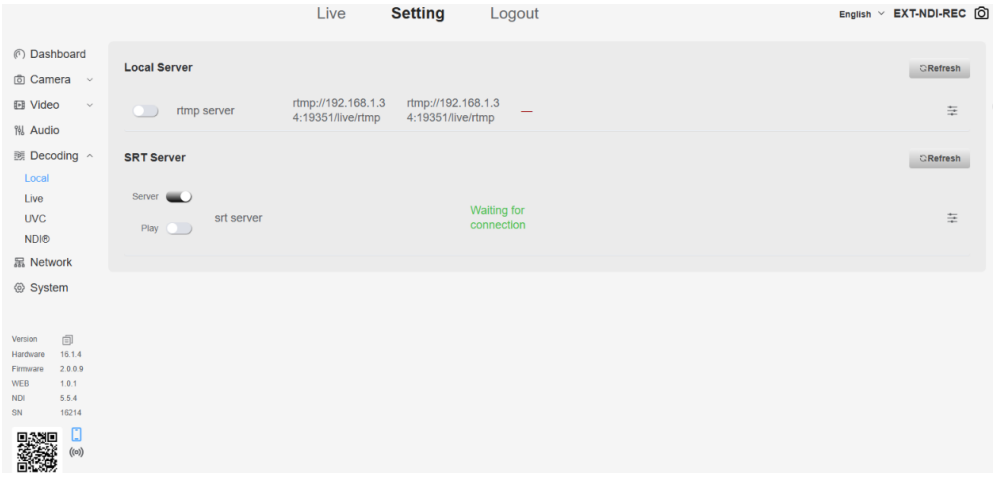
In this area, RTSP can be added for streaming, and names can be entered for easy management and displayed on the Live interface. Up to 5 local streams can be added currently.

**Live**

In this area, you can add RTMP or SRT addresses to pull streams and enter a name for easy management and display on the Live interface. Up to 5 Internet streams can be added currently.

**NDI**

In the NDI area, EXT-NDI-REC will automatically search for all NDI streams grouped as Public in the same LAN. If you need to search for NDI streams in other groups, please add the group manually. If the NDI stream is not on the same LAN as the device, the video will not be displayed.




(PC)

In decoding mode, EXT-NDI-REC only supports decoding one stream at the same time. It is forbidden to set the output resolution during decoding, and please switch the output mode to output, otherwise, the video of the input source will be played.

# 3.13 Record

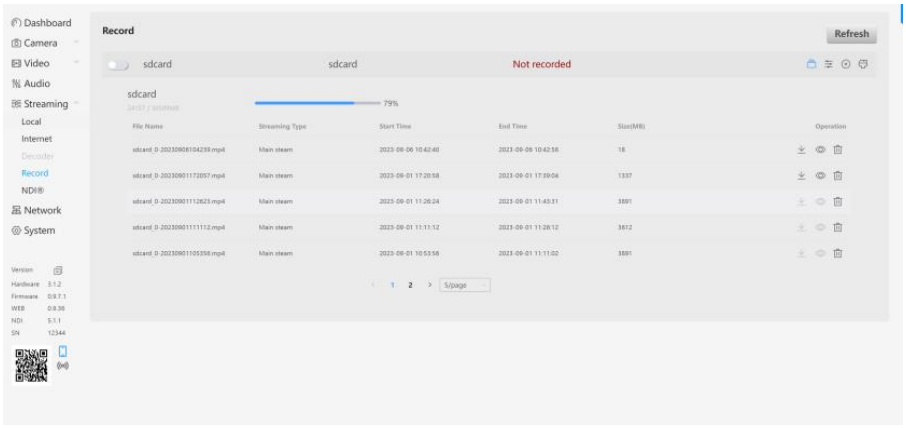
After clicking the "Record" option, the page of Record will be shown as follows.

At present, EXT-NDI-REC supports TF cards, USB, and NAS recording. Currently supports storage devices in FAT32 and EXFAT formats.

After inserting the TF card, or USB or mounting the NAS successfully, the recording task will be created automatically. Click the "refresh" button to refresh the recording task. Please click the link for how to mount the NAS (3.15.6).

**Video List**

Click the first button of the recording task to get the recording video list, where the file name, stream type, start time, end time, file size, download, online preview, and delete operations of the video will be displayed.




(PC)

**Set recording parameters**

Click the second button of the recording task to set the recording parameters.

Auto

After the auto mode is turned on, it will automatically start recording the next time the device is started.

Loop

After the loop recording is turned on, the earliest video file will be automatically deleted when the memory is insufficient to ensure continuous recording.

Alias

Recording task name.

Format

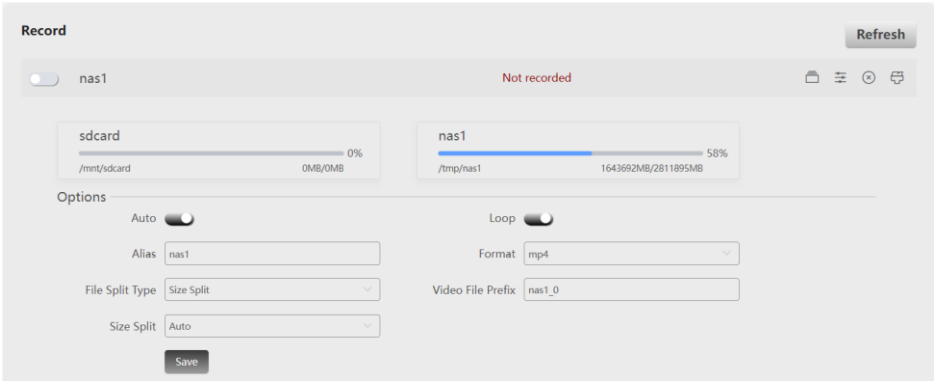
Supports recording video files in ts, mp4 and mov formats.

File Split Type

It supports splitting by size or by time. After the selection is complete, select the specific split size or time in the selection box below.

Video File Prefix

The name prefix of the recording file, the specific format is "file prefix-device year, month, day, hour, minute, second".




(PC)

**Eject storage device**

Click the third button of the recording task to eject the device.

**Format**

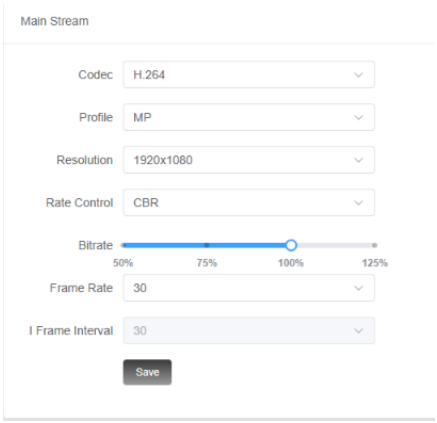
Click the fourth button of the recording task to format the storage device into FAT32 or exFAT format.

# 3.14 NDI®

After clicking the "NDI" option, the page of NDI will be shown as follows.

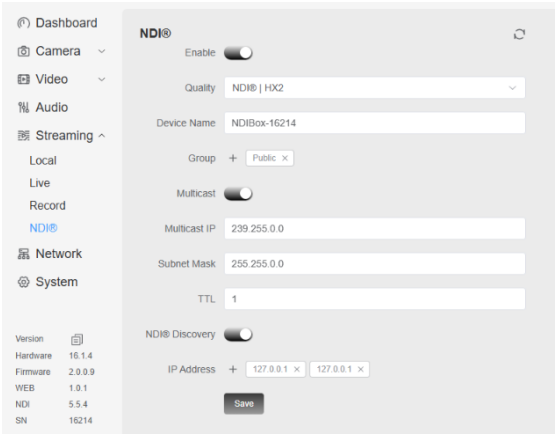
This page will not be displayed until NDI is activated. Click on the link for how to activate NDI (3.16.3).

The NDI function is disabled by default. To enable it, please click the "NDI" button and restart the EXT-NDI-REC. After NDI is enabled, the bitrate setting on the Encoder page will change to a slider, ranging from 50% to 125%.




(PC)

On this page, users can modify NDI quality, Device name, NDI group and NDI multicast information.




(PC)

NOTE

a. *On the NDI page, the modified information needs to be restarted to take effect.*

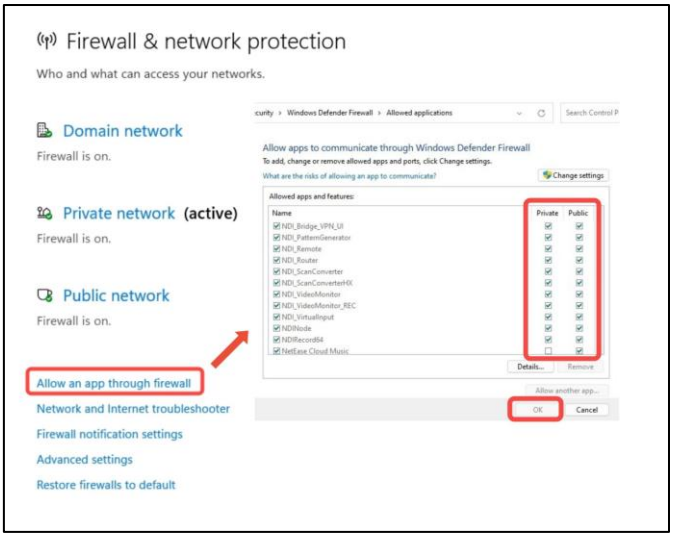
b. *Compatible Software: OBS. Xsplit. vMix. Wirecast. NewTek Studio Monitor software and other NewTek NDI-enabled encoding or stream media software.*

c. *If the computer cannot find all NDI devices:*

(a) *Check whether the computer can log in to the EXT-NDI-REC Web page.*

(b) *Please close the VPN and other related software.*

(c) *Please check whether the computer is using a private network or a public network, and check whether the NDI software is allowed to pass in "Allow an app through firewall".*

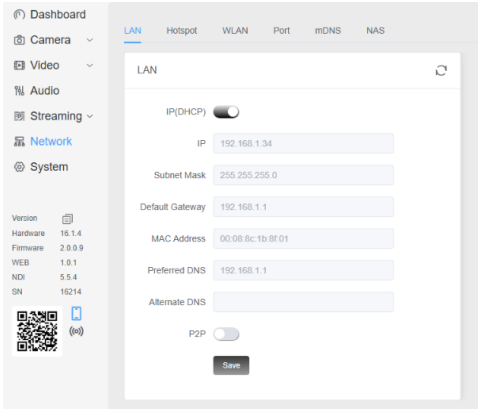



# 3.15 Network

Modify network-related configurations on this interface.

## 3.15.1 LAN

DHCP is enabled by default, and the IP address, subnet mask, default gateway, and DNS can be modified after DHCP is disabled. After modification, please click "Save" and "Restart".

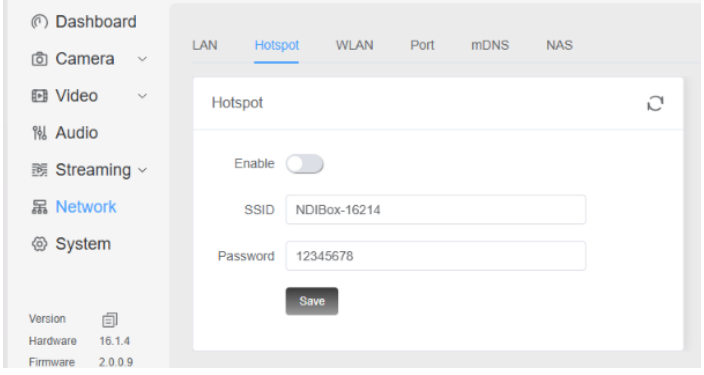



(PC)

## 3.15.2 Hotspot

When the button is turned off, users can change the SSID and password of the hotspot.

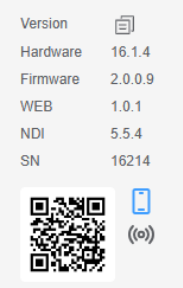
When the button is on, users can use other mobile devices to search for this hotspot and connect. After the connection is successful, it can jump to the webpage of the EXT-NDI-REC




(PC)

After turning on the hotspot, you can directly search for the hotspot on the mobile device or scan the QR code on the left side of the navigation bar to connect.

When connecting to the hotspot, the phone may prompt that there is no internet, which is normal, please continue to connect.

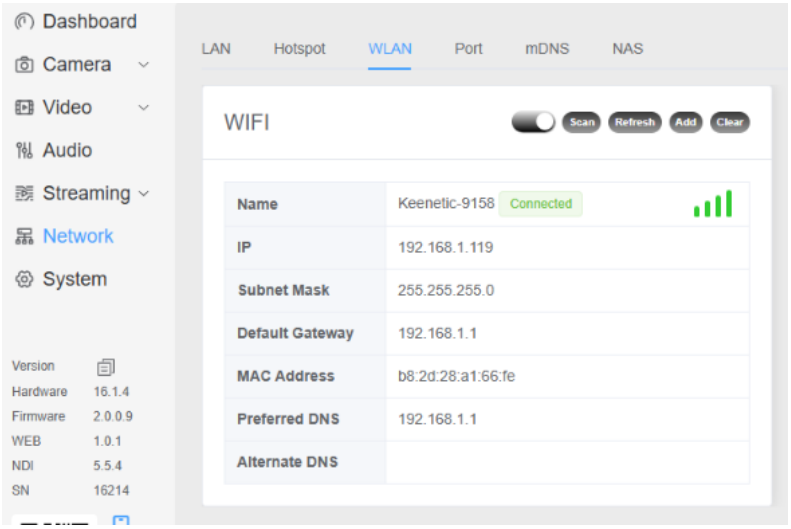



### 3.15.3 WIFI

After turning on Wi-Fi, click the "Add" button to directly add the network for use.

Or click the "Scan" button to get all available Wi-Fi. After entering the correct password and connecting successfully, click "Refresh" to get Wi-Fi details.

When the EXT-NDI-REC is turned on next time or the Wi-Fi function is turned on again, the EXT-NDI-REC will automatically connect to the last connected Wi-Fi.

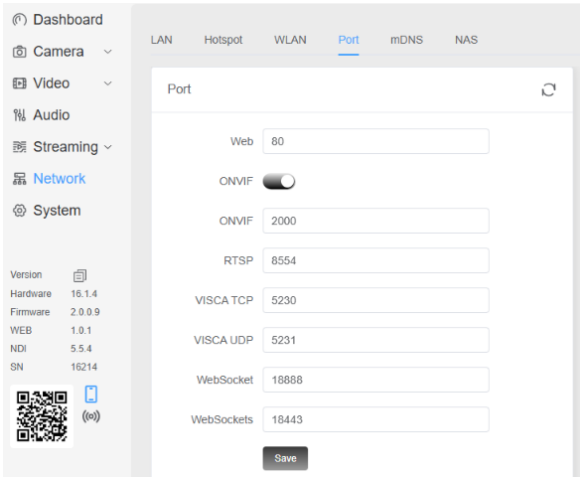



(PC)

### 3.15.4 Port

Modify the ports of various parameters in this interface. All port numbers are factory defaults. If you need to modify the port number, please fill in the port number according to the valid range of the port. Click the save button at the bottom and restart the device and the port will take effect. The port number of each port cannot be repeated.

After modifying the web port, please add the port number after the IP address, otherwise the web cannot be accessed.



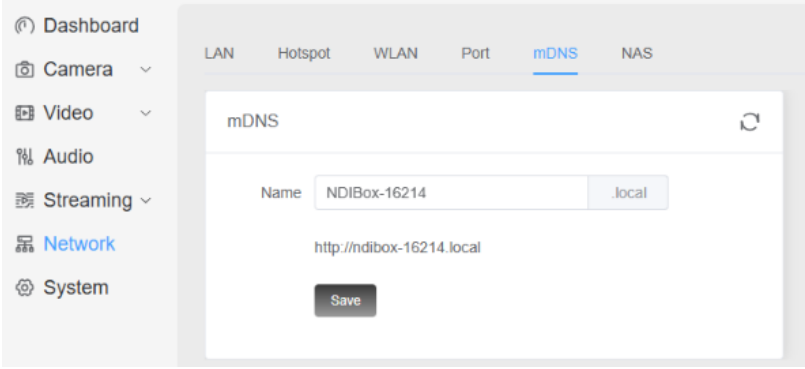

(PC)

### 3.15.5 mDNS

Users can log in to EXT-NDI-REC' s web console through mDNS without knowing the IP address, and mDNS can be customized and modified to

make it easier for users to remember and distinguish.

Please restart after modifying mDNS. When using mDNS, please make sure that the mobile phone or computer is in the same LAN as EXT-NDI-REC. Users can click the address below to directly copy the mDNS address.




(PC)

## 3.15.6 NAS

The full name of NAS is Network Attached Storage, which can store data in large-capacity devices through the network, such as computer disks or dedicated network storage servers.

Please confirm the server IP and folder path that can be shared.

**+ Add**

Click "+Add" to add a new NAS

**Name**

Enter the NAS name for easy management of NAS information.

**NAS Type**

NAS type currently only supports CIFS.

**Host IP**

The IP address of the storage network location. E.g. 192.168.1.7

**Share Directory**

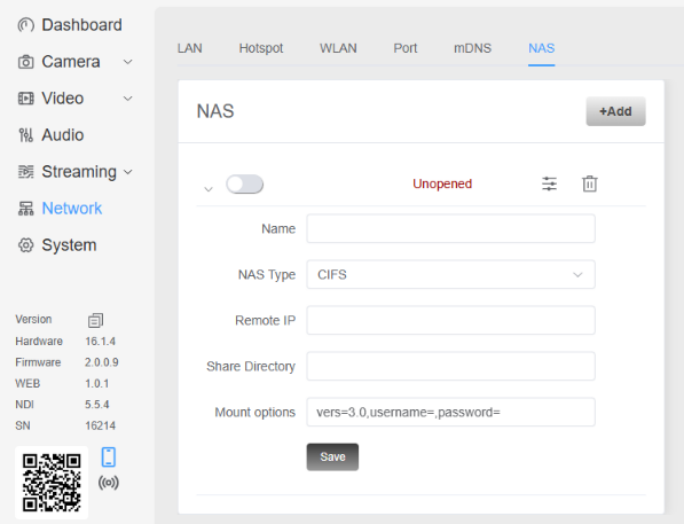
Enter all addresses following the folder path/ here. Example: Please enter home\test in the share directory if the folder path is \\192.168.1.7\home\test .

**Mount options**

Enter the username and password after "=", if there is no password, please clear the text box.

Click the button after the addition is successful, and the NAS will display that the mount is successful.

After the mount is successful, the NAS option will appear on the recording interface.




(PC)

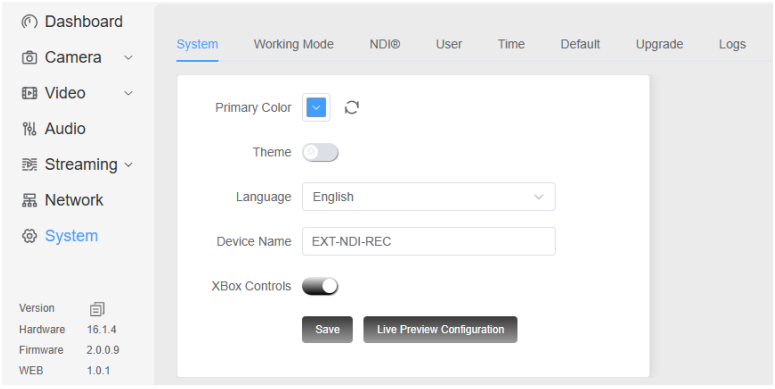
# 3.16 System

In this interface, modify the system-related configuration.

## 3.16.1 System

On this page, users can modify the language displayed on the web page and the name of the device.

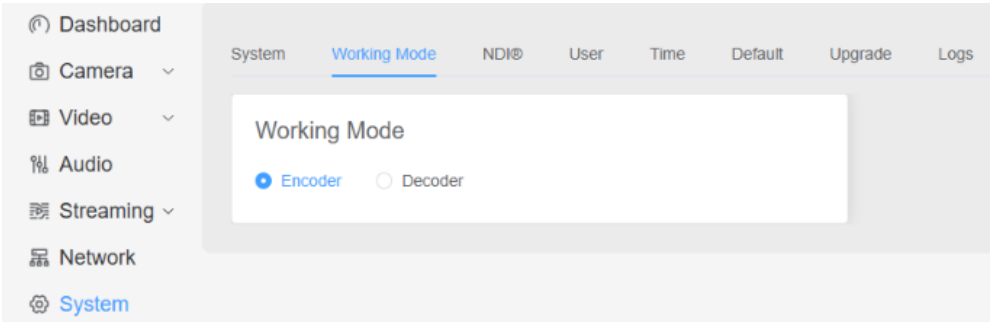
After modifying the device name, the scanned device name will not be modified in real time, and it needs to be restarted to take effect.




(PC)

## 3.16.2 Mode

On this page, users can modify the mode of EXT-NDI-REC. Please select the desired mode.

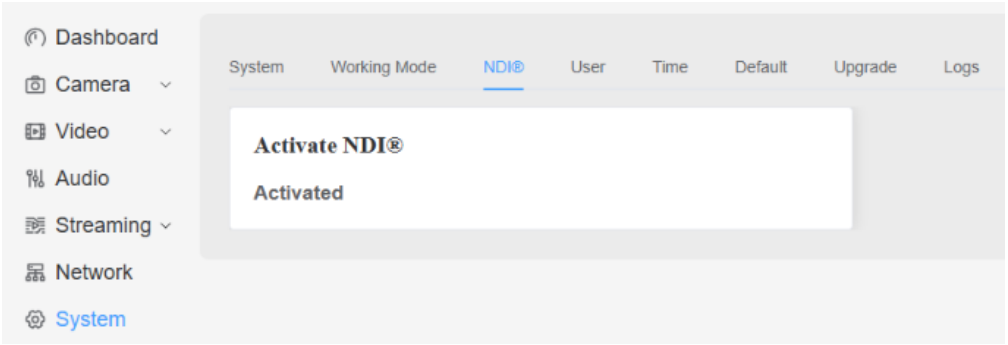



(PC)

## 3.16.3 NDI

Displays whether EXT-NDI-REC has the NDI function activated.

If EXT-NDI-REC does not activate the NDI function, please fill in the correct activation code with the admin user privilege and activate it. To obtain an activation code, please contact dealer or manufacturer.




(PC)

## 3.16.4 User

EXT-NDI-REC provides three types of permissions for users: administrator permissions, super permissions and basic permissions.

**Admin**

The default username and password are admin.

Users with administrator privileges can perform any operations on EXT-NDI-REC.

Log in to the webpage with administrator privileges, and the user can modify, add, and delete the usernames and passwords of all accounts.

When adding or removing accounts, the user must authenticate again with administrator privileges.

The administrator privilege account is unique, and the old password needs to be verified when modifying the administrator password.

**Super**

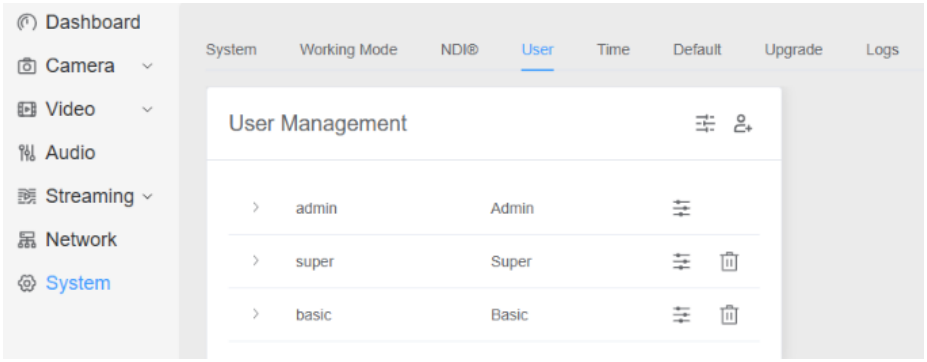
The default username and password are super.

Users with super privileges can perform operations on EXT-NDI-REC other than activating NDI and upgrading.

**Basic**

The default username and password are basic.

Users with basic permissions can only enter the preview interface of EXT-NDI-REC.




(PC)

## 3.16.5 Time

EXT-NDI-REC provides three ways to modify the time, manually modify, follow the computer time, and use the NTP service.

**Synchronize with computer time**

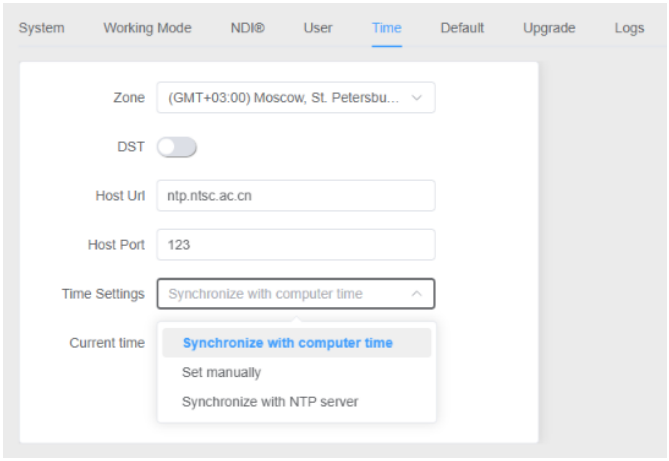
When using time synchronization with a computer, directly click the "Save" button, and EXT-NDI-REC will automatically obtain the time of the computer.

**Set manually**

When using the manual time setting, click the bottom text box to select the correct time and click "Save".

**Synchronize with the NTP server**

When using the NTP service, please select the correct time zone and click "Save".

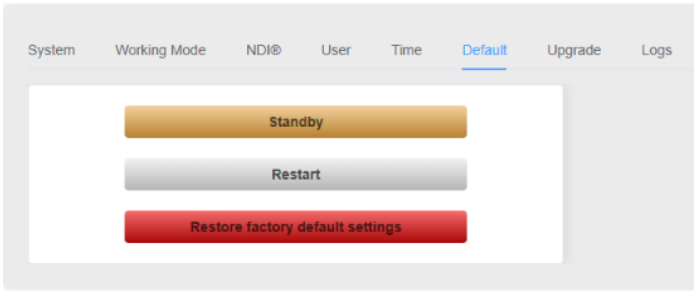



(PC)

## 3.16.6 Default

On this interface, users can restart or restore factory default settings.

Use the factory reset button sparingly, as it will change all configurations to their initial configurations.



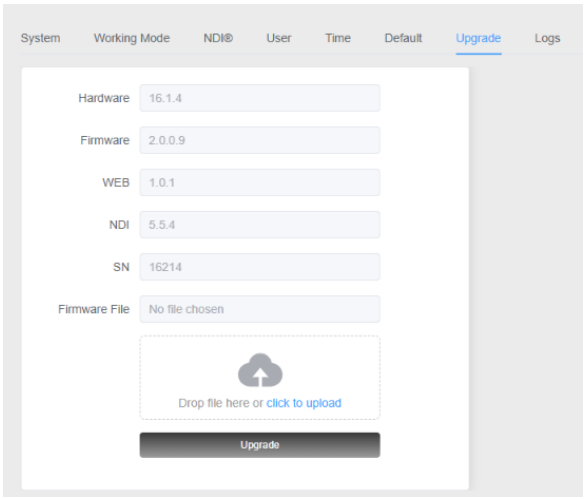

(PC)

## 3.16.7 Upgrade

View hardware, firmware, web and NDI version numbers, and device serial numbers on this page.

If EXT-NDI-REC needs to be upgraded, upload the correct update file and click "Upgrade". Do not refresh the page or perform other actions while upgrading. After a few minutes, the page will automatically jump to the login page and prompt that the upgrade is successful. The upgrade operation will not modify the parameters of EXT-NDI-REC.

EXT-NDI-REC currently does not support upgrades on the mobile device.




(PC)

## 3.16.8 Logs

EXT-NDI-REC will log all actions so can assist with troubleshooting.

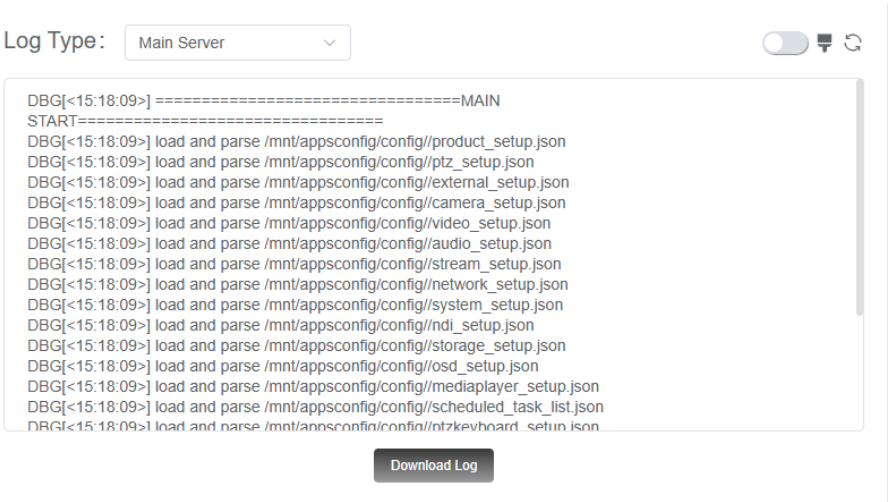
EXT-NDI-REC has a Main Service log and a Web Service log.

Logging is off by default, click the first button to turn on logging.

Click the second button to delete the log information when closing.

Click the third button to refresh the log.

Users can view the last 200 log messages on the web page. For more log information, please download the log.

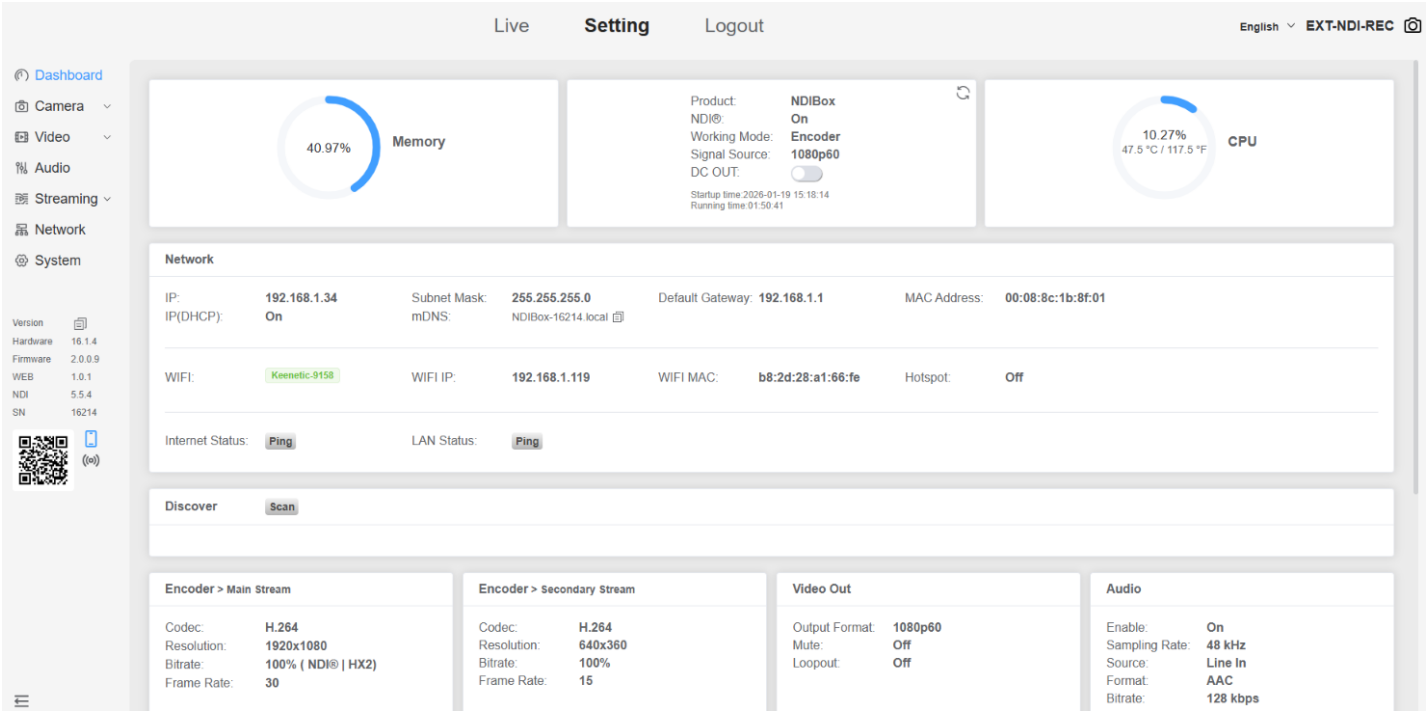


# 3.17 Version Copy

Through the EXT-NDI-REC version, serial number and other information, users can obtain the NDI activation code, lock the problem, and upgrade the firmware.

In order to copy version information, please log in to the web console on the PC first.

After successful login, click the **Setting** button, slide the left navigation bar to the bottom and click the copy button below to copy the version information.




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