

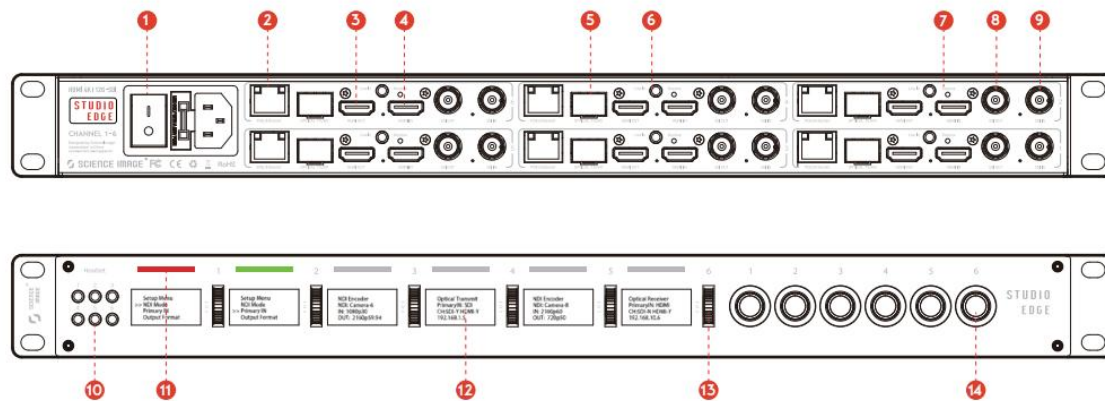


Studio Edge User Manual

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1 Interface and Indicator



- ① Power Interface: 100V–240V AC power input, dual power supply input
- ② Network Port: Gigabit Ethernet port, for data transmission only; PoE is not supported.
- ③ HDMI Output: HDMI signal output port, supporting video output up to 4Kp60.
- ④ HDMI Input: HDMI signal input port, supporting video input up to 4Kp60.
- ⑤ Fiber Optic I/O: Optical interface for baseband signal transmission over fiber.
- ⑥ LINE IN: 3.5mm audio line input jack.
- ⑦ Factory Reset: Recessed reset button; press with a pin to restore the device to factory default settings.
- ⑧ SDI Output: SDI signal output port, supporting up to 12G-SDI output.
- ⑨ SDI Input: SDI signal input port, supporting up to 12G-SDI input.
- ⑩ Headset / Mic: 3.5mm audio output jack.
- ⑪ Tally: Real-time indication of the current video signal status: Green/Preview, Red/Program.
- ⑫ OLED Display: Built-in OLED screen for real-time display of device status and parameter information.
- ⑬ Scroll Wheel: Rotating dial used to navigate menus and adjust device settings.
- ⑭ Independent Power Switch: Used to power each channel; every channel is equipped with its own dedicated power switch.

2 Power Supply and Startup

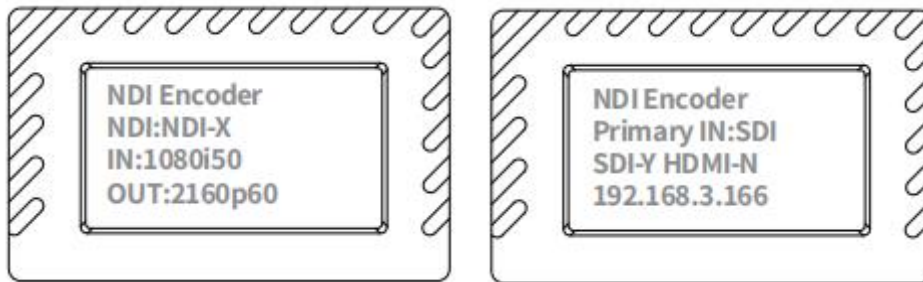
The Studio Edge features two AC power inputs, each supporting a wide voltage range of 100V–240V. Users may operate the device using either a single power input or both simultaneously. When both inputs are connected, one serves as the primary power source while the other acts as a redundant backup.

Once the main power is connected, individual channels can be turned on or off using their dedicated power switches. For example, when the power switch for Channel 1 is pressed:

- The power button indicator will illuminate red.
- The OLED screen will display "Science Image Tech".
- Once an IP address appears on the screen, the device has entered normal operating mode.

3. OLED Display and Scroll Wheel

3.1 OLED Display



Line 1: NDI Encoder / NDI Decoder / Optical Transmit / Optical Receiver

Indicates the current operating mode —either encoding or decoding mode, or optical transmit or receive mode. (Note: Optical receiving mode is only available in encoding mode.)

Line 2: In encoding mode, displays the name of the NDI source being encoded and the priority of the SDI/HDMI input signals; In decoding mode, displays the name of the decoded signal source.

Line 3: In encoding mode, shows the resolution format of the input signal and whether SDI and HDMI inputs are detected: “-Y” indicates an active input, while “-N” indicates no input; In decoding mode, displays the resolution format of the decoded NDI source.

Line 4: In encoding mode, shows the output resolution format and the device’s current IP address; In decoding mode, displays only the device’s current IP address.

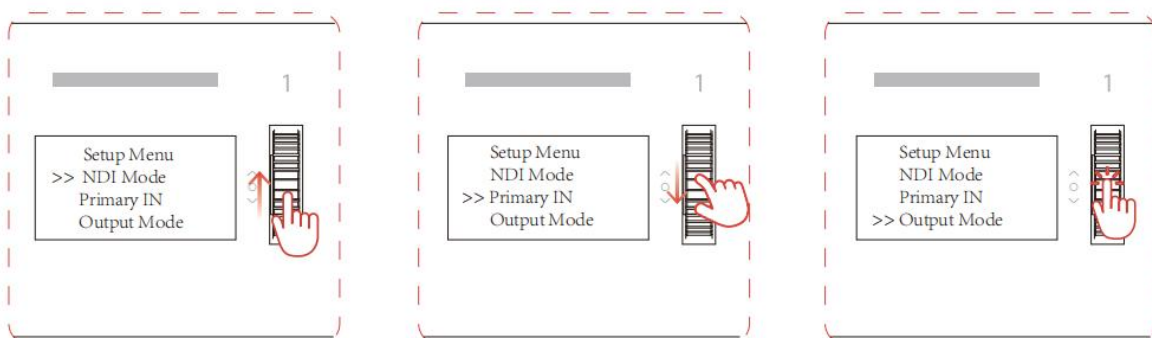
3.2 Scroll Wheel

The scroll wheel is used to configure the following settings:

- ① Operating mode(Encoding/ Decoding)
- ② Priority of SDI/HDMI input signals
- ③ Output resolution format
- ④ Optical transmission mode (Transmit / Receive)

Operation Instructions

- ① Enter Settings Menu: Press and hold the control dial to access the settings menu.
- ② Adjust Parameters: Rotate the wheel upward or downward to navigate through options. Press the wheel briefly (short press) to confirm your selection.



4. Login Web UI

The Studio Edge allows device configuration via a web-based user interface (Web UI). You can access the login page using any of the following methods.

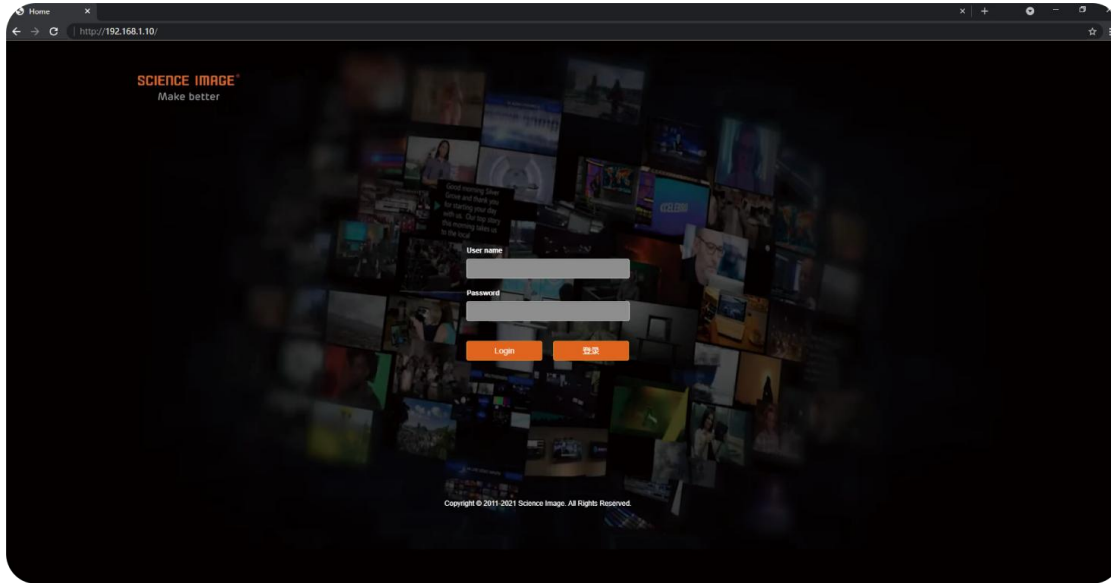
Default credentials:

Username: admin

Password: admin

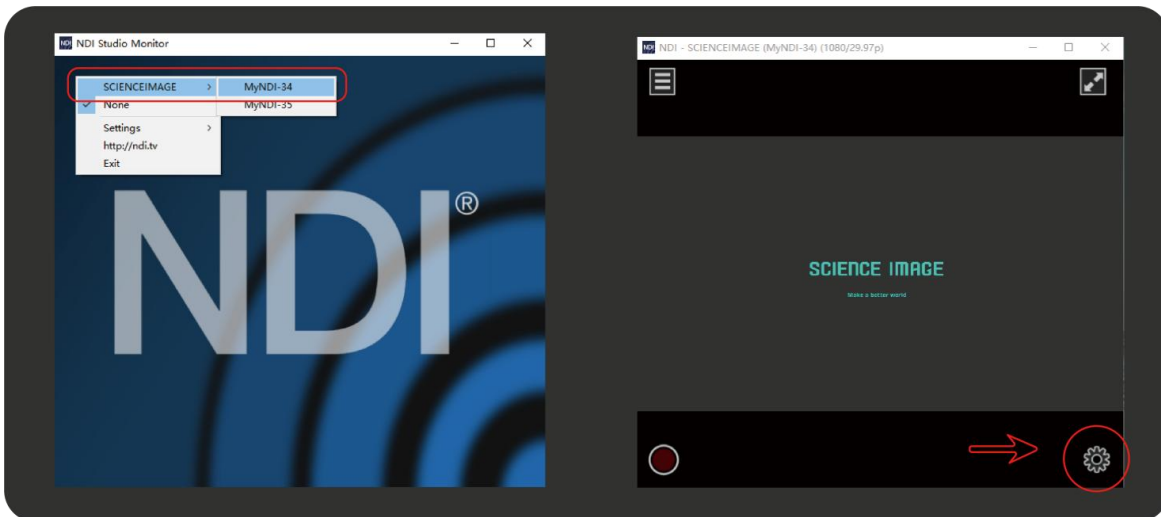
Method 1: Enter the IP Address in a Web Browser

- ① After activating the corresponding channel, check the IP address displayed on the fourth line of the OLED screen.
- ② Open a web browser and enter the IP address into the address bar to access the Web UI login page.
- ③ Log in using the default username and password (admin / admin).



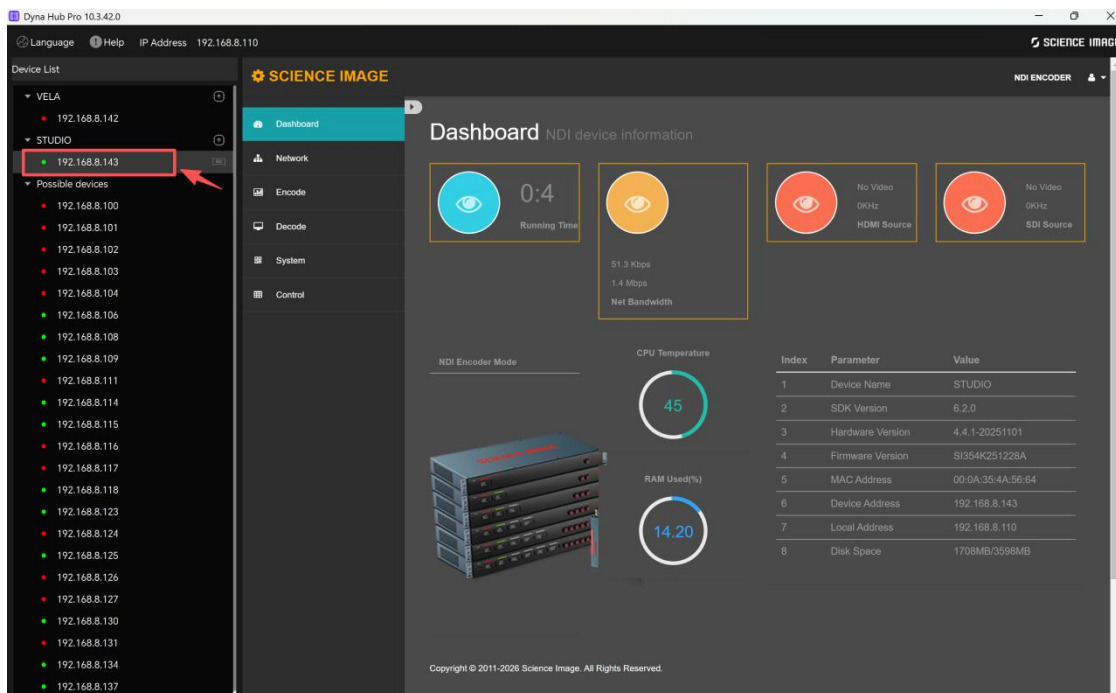
Method 2: Using the NDI Studio Monitor Application

- ① Download and install the free NDI Tools from the official website: <https://ndi.video/>.
- ② After installation, launch the NDI Studio Monitor application. It will automatically discover all compatible NDI devices on the same local network.
- ③ Click the menu button in the top-left corner, then navigate to Device Name > NDI Source Name to select your channel. Studio Monitor will display the live video stream generated by the selected device.
- ④ In Studio Monitor, click the gear icon in the bottom-right corner. This will automatically open the device's Web UI login page in your default web browser.

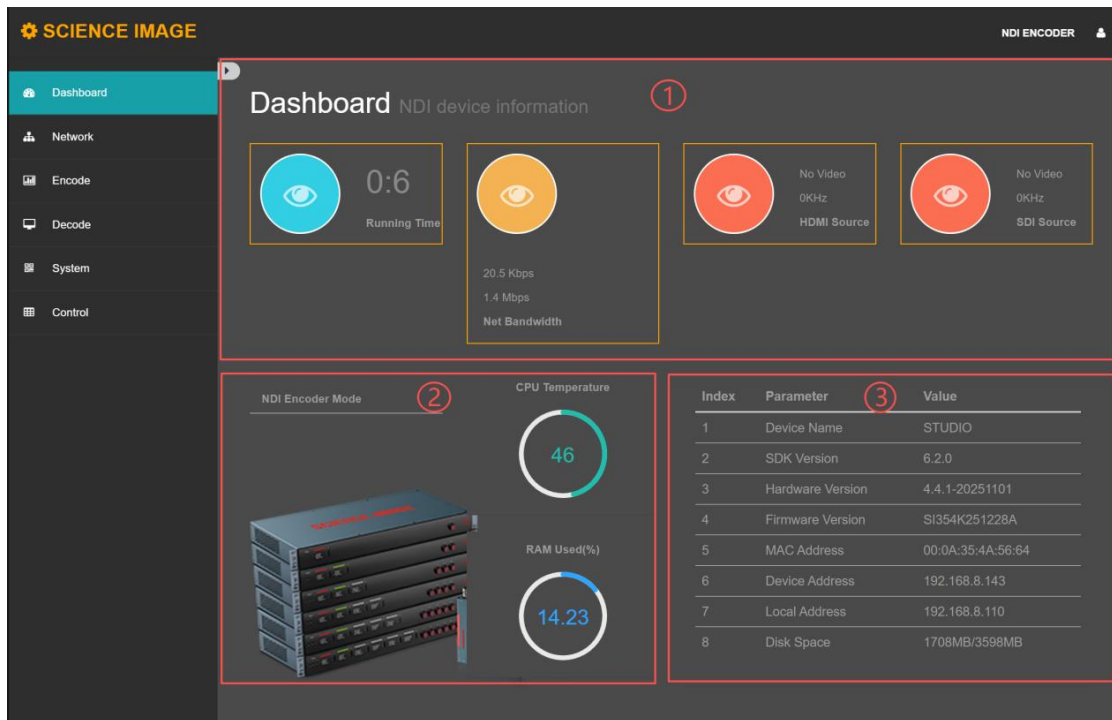


Method 3: Using the Dyna Hub Software

- ① Download and install Dyna Hub, the official software from Science Image.
- ② Launch the Dyna Hub application after installation. The program will automatically scan your local network for compatible devices.
- ③ Click the device model in the left-hand list (since Studio Edge belongs to the Studio series, its channels will appear under the "STUDIO" group in Dyna Hub). Then, click the corresponding channel IP address to directly access that channel's Web UI.



5 Device Information



① Area 1 displays the channel's running time, net bandwidth as well as video and audio information for HDMI and SDI inputs.

② Area 2 displays the channel's operating mode(encoding/ decoding), CPU temperature and RAM information.

③ Area 3 displays the channel's version information, MAC address, IP address, and other details.

6 Network Settings

Click [Network] to enter the network settings page.

The screenshot shows the 'Network' page of the SCIENCE IMAGE NDI Encoder. The left sidebar contains navigation links: Dashboard, Network, Encode, Decode, System, and Control. The main content area is titled 'Network NDI net setting' and contains the following settings:

- IP address setting:** A toggle switch for 'Auto(DHCP) or Manual:' with 'Auto' selected.
- IP address:** A text input field.
- Netmask:** A text input field.
- Gateway:** A text input field.

6.1 Modify Device IP Address

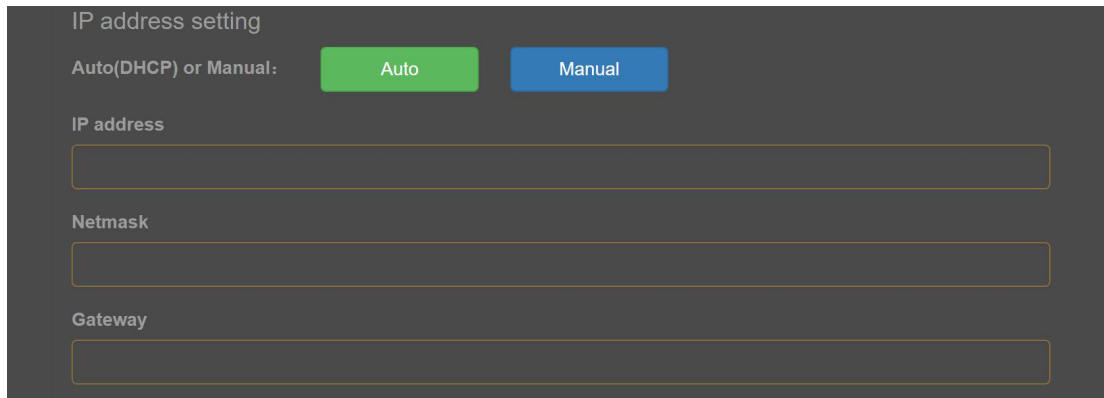
Each channel's IP address can be configured in one of two modes: Automatic (DHCP) or Manual.

6.1.1 DHCP Mode

Click the Auto button. The channel will automatically reboot.

If a router is present, it will assign an IP address to the device.

If no router is available, the channel of Studio Edge will generate a default IP address in the range 169.254.X.X.



The image shows a dark-themed dialog box titled "IP address setting". At the top, it says "Auto(DHCP) or Manual:" with two buttons: "Auto" (highlighted in green) and "Manual" (blue). Below this, there are three input fields labeled "IP address", "Netmask", and "Gateway", each with a yellow border and a small "x" icon in the top right corner.

6.1.2 Manual Mode

In manual mode, you must enter a valid IP address, subnet mask, and gateway.

Note: The channel's IP address must be configured within the same subnet as your local PC or mobile device.

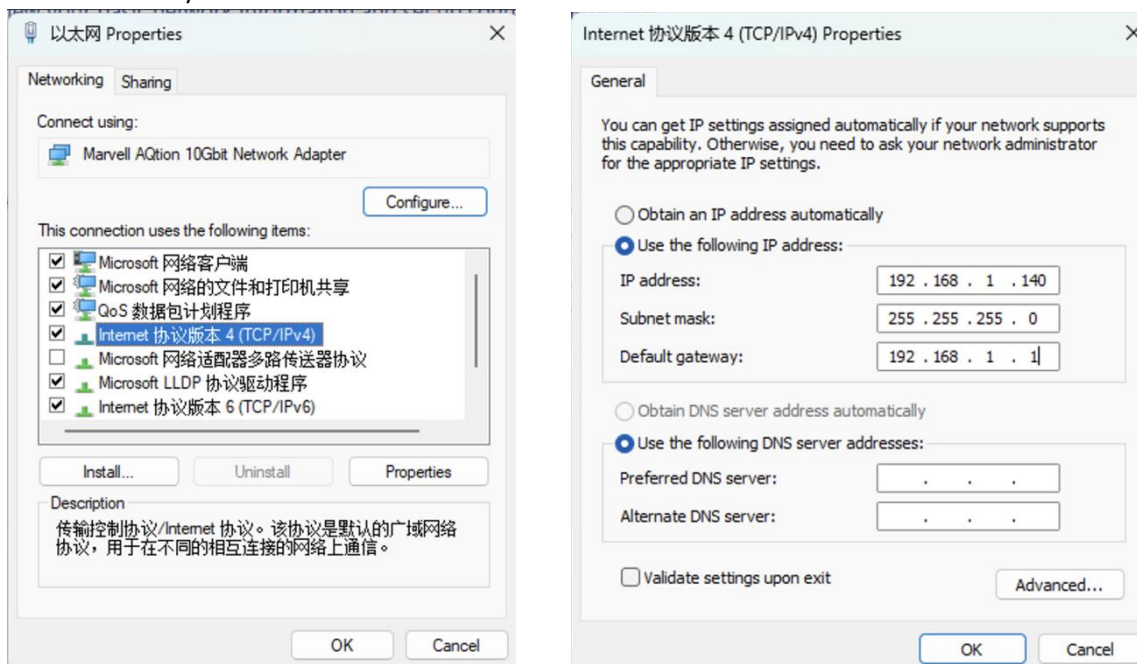
Example:

If your local computer's Ethernet IPv4 settings are:

IP Address: 192.168.1.140

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.1



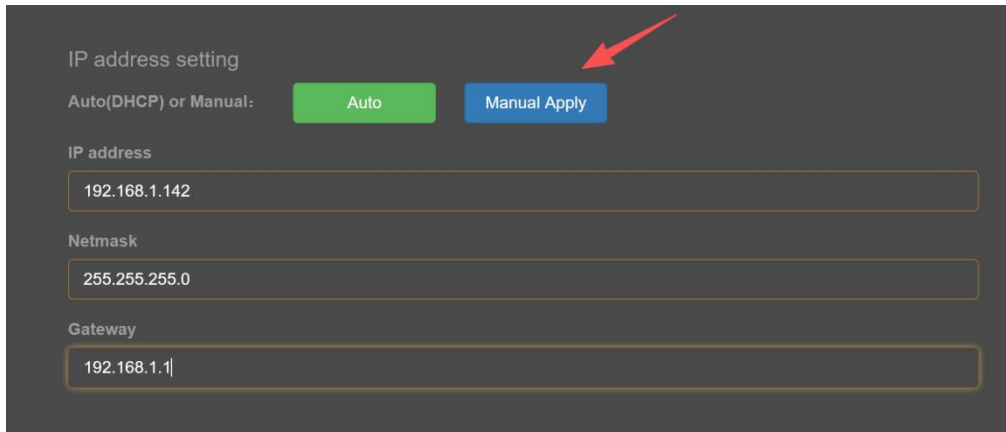
You can then set the channel's IP address as follows:

IP Address: 192.168.1.142

Gateway: 192.168.1.1

Subnet Mask: 255.255.255.0

The gateway and subnet mask must match those of your local PC or mobile device. The IP address just needs to be within the same subnet and not conflict with any other device on the network.



IP address setting

Auto(DHCP) or Manual: Auto Manual Apply

IP address

192.168.1.142

Netmask

255.255.255.0

Gateway

192.168.1.1

Once the channel's IP address, subnet mask, and gateway are configured, click the [Manual Apply] button to apply the settings. The channel will restart automatically and operate with the newly assigned static IP address.

6.2 NDI Discovery Server

Studio Edge allows you to configure an NDI Discovery Server as an alternative to the default NDI auto-discovery mechanism. Once enabled:

In encoding mode, the NDI source (this device) will register itself with the specified Discovery Server.

In decoding mode, NDI discovery will retrieve the list of available NDI sources from the Discovery Server.

This is suitable for scenarios where NDI is used across network segments or your network does not support UDP multicast. This feature can also send the output video stream to receivers on different network segments.

Studio Edge supports two types of Discovery Server modes:

Using the Vizrt NDI Discovery Service software tool.

Using the built-in NDI Discovery Service within Studio Edge itself.

6.2.1 Using the NDI Discovery Service Software Tool

① To use this feature, download and install the NDI SDK and NDI Tools from the official Vizrt website: <https://www.ndi.tv/sdk/>.

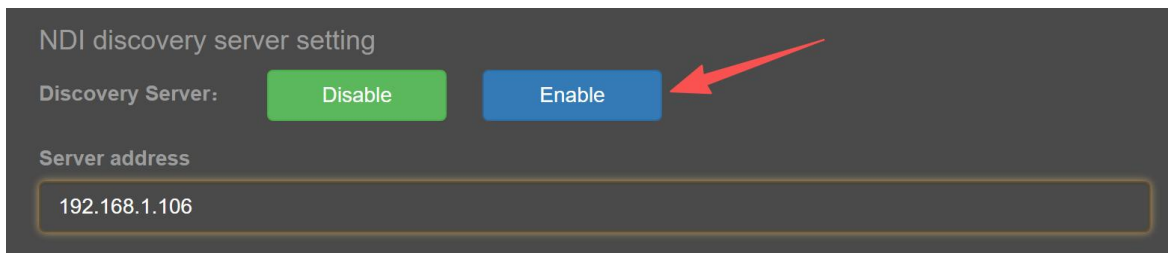
After installation, locate and launch the NDI Discovery Service application from the NDI Tools installation directory. Note the IPv4 address of the computer running this service (e.g., 192.168.1.106).

Sources: Indicates the number of encoders connected to this Discovery Server.

Listeners: Indicates the number of decoders connected to this Discovery Server.

```
0:10:42 : Added Source : SCIENCEIMAGE (NDI-43)
0:10:42 : Num Sources : 2
0:10:47 : Listening... [---* ]
```

② Log in to the Web UI, navigate to Network > NDI Discovery Server Settings, enter the IPv4 address recorded in Step 1 (e.g., 192.168.1.106) as the server address, and click Enable.



③ For a channel operating in decoding mode to discover an encoder located on a different subnet, it must also enable the NDI Discovery Server setting in its Web UI and configure the same server address (e.g., 192.168.1.106), then click Enable.

6.2.2 Using the Built-in NDI Discovery Service in Studio Edge

(1) Using the Encoder as the NDI Discovery Server

① To configure a Studio Edge’s encoding channel as the NDI Discovery Service server, log in to the channel’s Web UI, set the server address to the channel’s IP address (e.g., 10.0.0.66), and click the “Enable” button for the Discovery Server.

② Next, log in to the decoder’s Web UI, enter the same encoder IP address (e.g., 10.0.0.66) as the Discovery Server, and click “Enable.” The decoder will then be able to discover the encoder’s NDI source across different subnets.

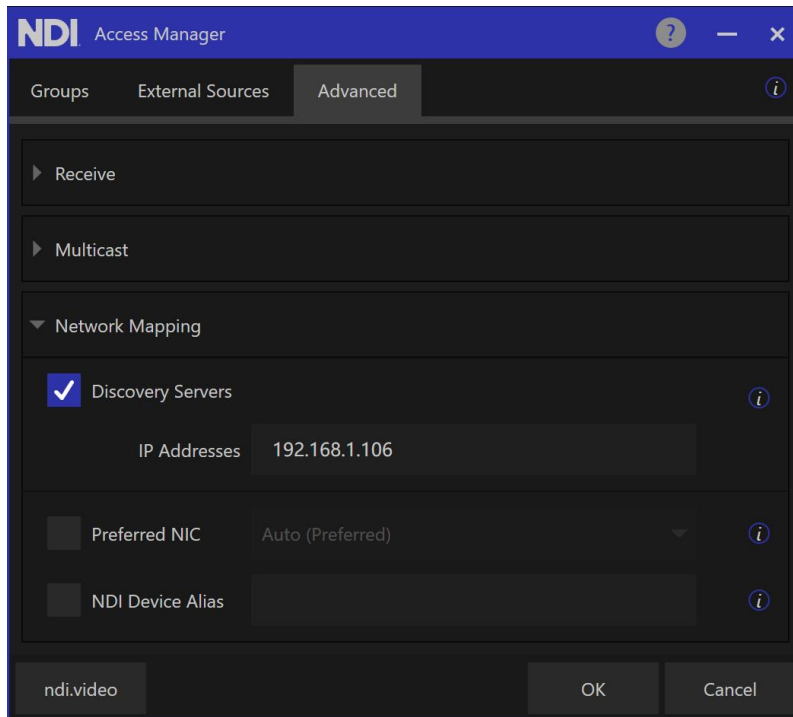
(2) Using the Decoder as the NDI Discovery Server

① To configure a Studio Edge’s decoding channel as the NDI Discovery Service server, log in to the channel’s Web UI, set the server address to the channel’s IP address (e.g., 10.0.0.66), and click the “Enable” button for the Discovery Server.

② Then, log in to the encoder’s Web UI, enter the decoder’s IP address (e.g., 10.0.0.66) as the Discovery Server, and click “Enable.” The decoder will then be able to discover the encoder’s NDI source across different subnets.

6.2.3 Discovering Cross-Subnet Studio Edge NDI Sources Using PC Software

To allow PC software applications—such as vMix or Studio Monitor—to discover Studio Edge channels in encoding mode that are located on a different subnet, first download and install the NDI Tools suite. Open the “NDI Access Manager” application, navigate to the Advanced tab, check the box next to Discovery Server, and enter the IP address of the designated Discovery Server device (e.g., 192.168.1.106). Click OK to apply the settings.

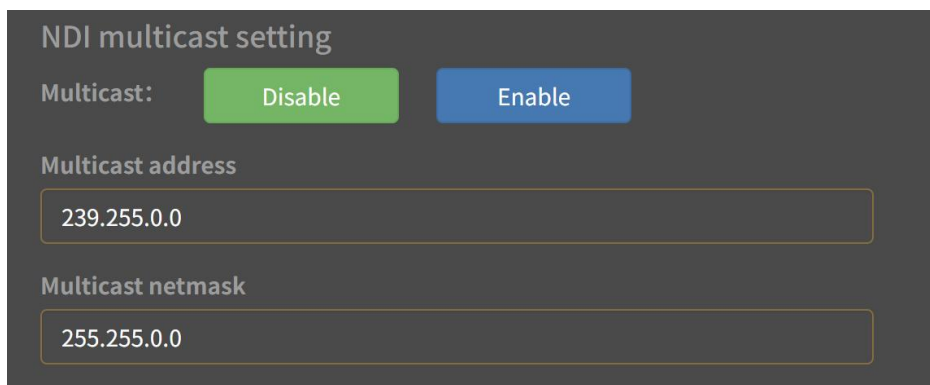


6.3 NDI Multicast Configuration

Each channel of Studio Edge supports multicast mode. When multicast is enabled, the system assigns a default multicast IP address and subnet mask, but you can also manually configure the address. The valid multicast address range is 239.0.0.0 to 239.255.255.255. Click Apply to activate the settings. When multicast is disabled, it reverts to TCP (Multi-Connection) transmission mode. By default, multicast mode is disabled.

Note: In an environment with only one encoder and multiple decoders, the multicast address can be set to either the same value or different values across devices.

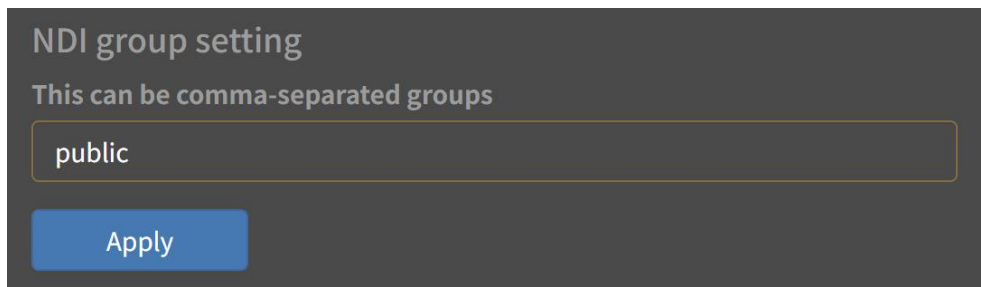
However, in an environment with multiple encoders and multiple decoders, each encoder must use a unique multicast address, though the first three octets of these addresses must be identical (e.g., 239.10.20.x).



6.4 NDI Group Configuration

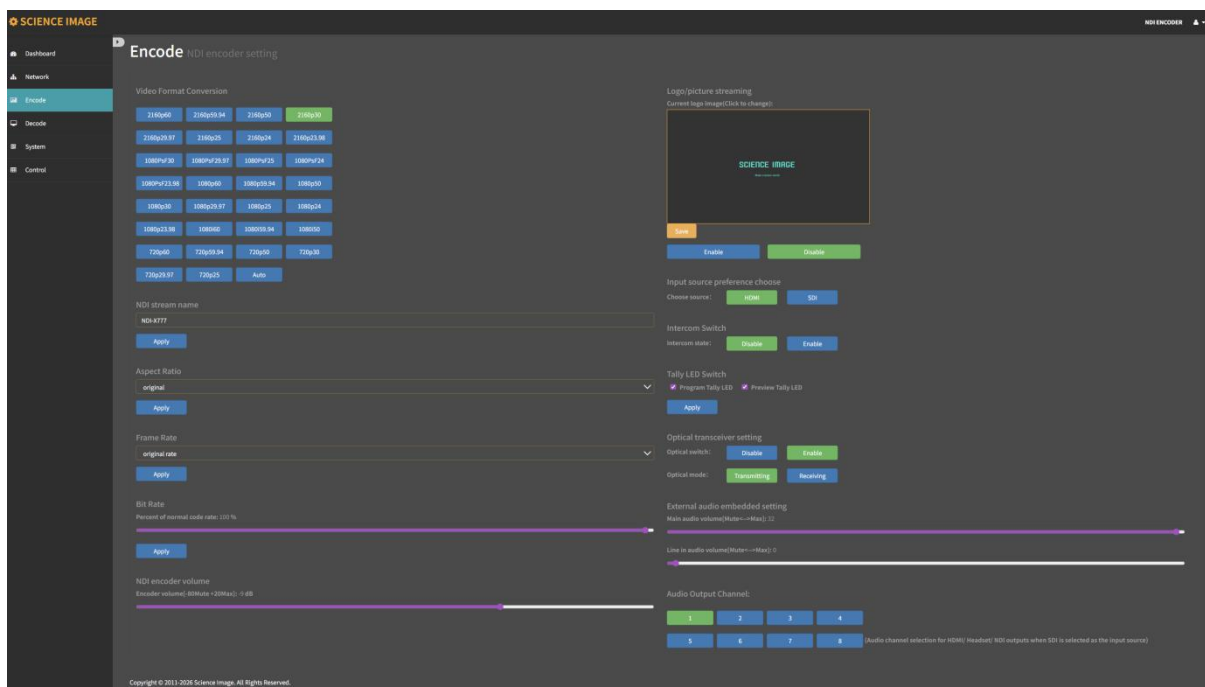
By default, NDI uses the public group named "public". To add a new group, simply append it after the existing group name, separated by a comma (,).

You can also create a dedicated private group—for example, "SciencelImage". In this case, only devices that are configured with the exact same group name ("SciencelImage") will be able to discover and receive the video source.



7 Encoding

The encode page allows configuration of various parameters, including the video output format, stream name, aspect ratio, frame rate, bitrate, Tally light on/off, NDI encoder audio volume, and fiber optic transmitter settings.



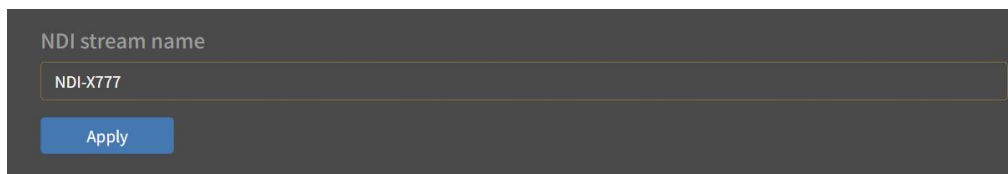
7.1 Encoding Format Conversion

Users can select any format from the list of supported resolutions, and Studio Edge will output the video in the chosen resolution format. If "Auto" is selected, the output format will match the input format. Additionally, Studio Edge supports input signals in 4K DCI and 2K DCI formats, and can output via SDI and HDMI (NDI output for these formats is not currently supported).



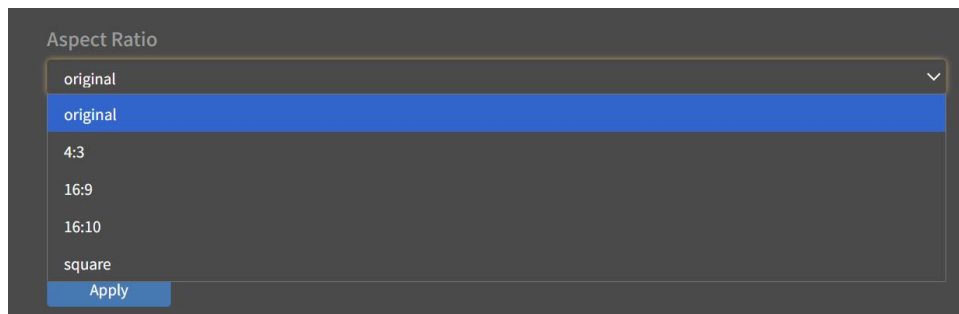
7.2 NDI Stream Name Modification

If the channel is used as an encoder, you need to modify the NDI stream name. The NDI stream name must be unique on the local network; otherwise, software such as NDI Studio Monitor might fail to detect it. After modifying the name, click the Apply button below to take effect immediately. The updated name will be displayed on the second line of the device's OLED screen. The default stream name is "NDI-X".



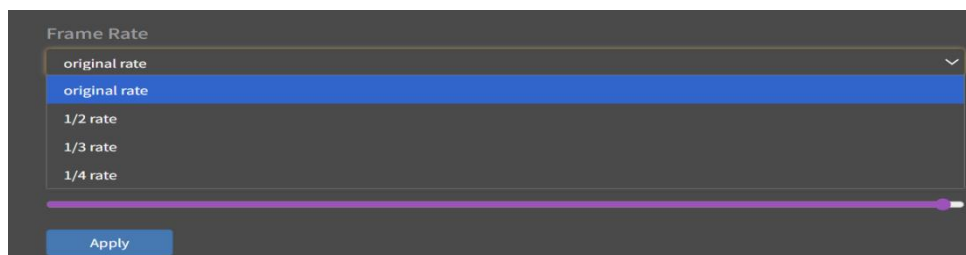
7.3 Set Aspect Ratio

Supports five aspect ratio settings: Source Aspect Ratio, 4:3, 16:9, 16:10, and Square.



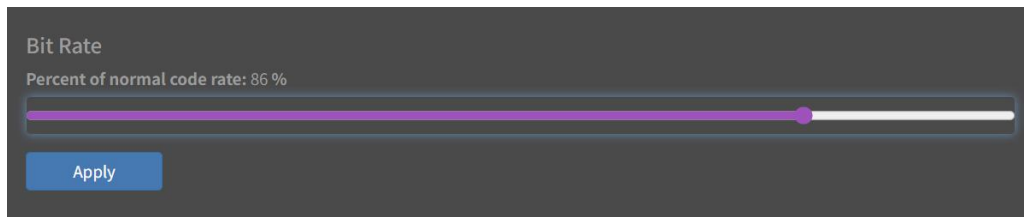
7.4 Set Frame Rate

Supports four frame rate settings: Source Frame Rate, 1/2 Frame Rate, 1/3 Frame Rate, and 1/4 Frame Rate.



7.5 Bitrate (Bandwidth) Setting

Users can adjust the bitrate using a slider, with a minimum setting of 30% of the normal bitrate. When high video quality is not required, lowering the bitrate can help conserve network bandwidth.



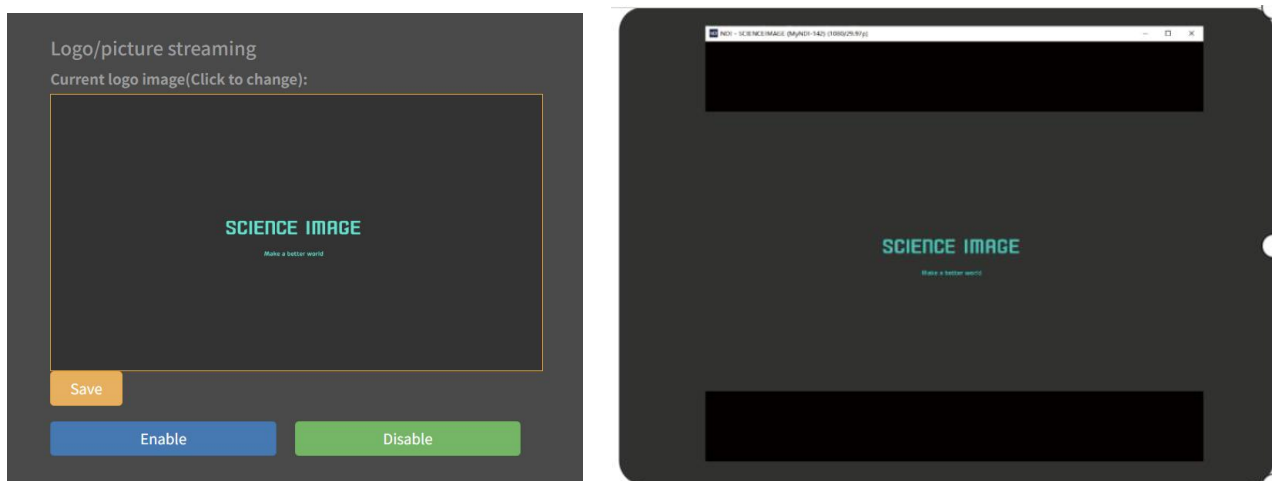
7.6 NDI Audio Volume Setting

Users can adjust the volume of the encoded NDI audio by dragging the slider.



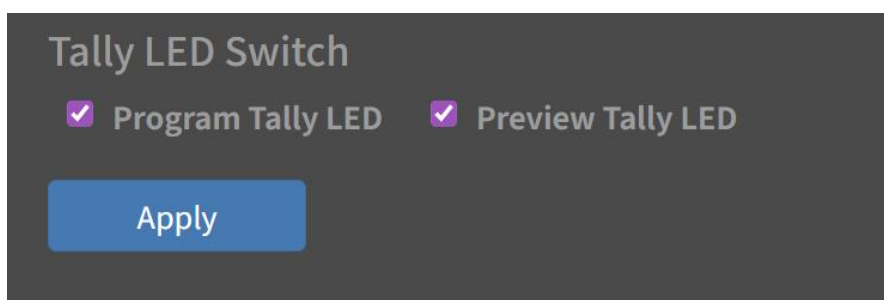
7.7 Image Streaming Settings

Image streaming supports a resolution of 1920×1080. Click "Current Logo Image" to select a local file, then click "Save" to start streaming. When no longer needed, simply click "Disable". The streaming state will also automatically terminate after a power cycle.



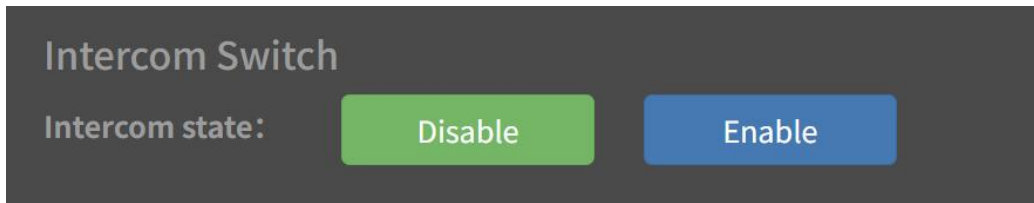
7.8 Tally Light Settings

You can turn the Tally light on or off at any time. It has two display states: Green for Preview and Red for Program.



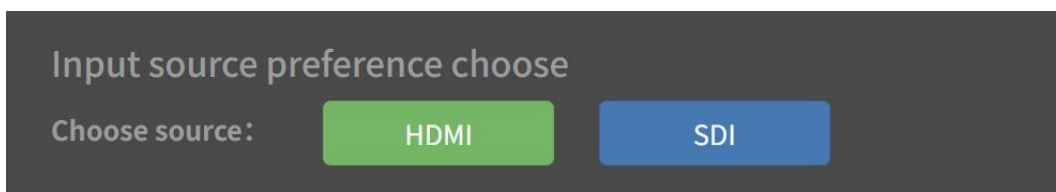
7.9 Intercom Switch

The intercom feature is currently unavailable. This switch is used to enable the device's intercom functionality, which requires compatible production software to operate.



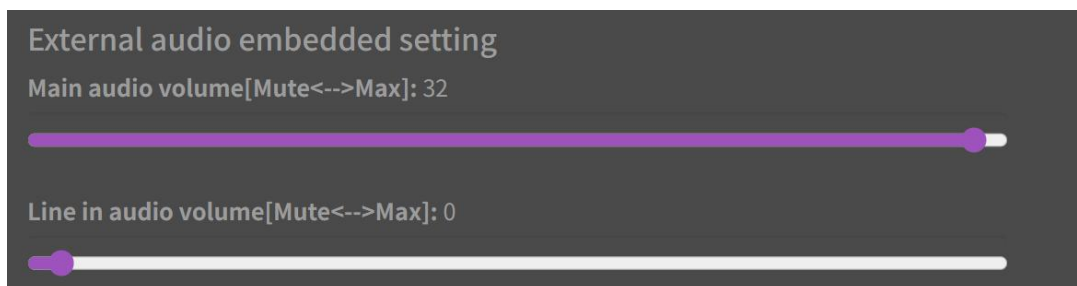
7.10 Input Source Priority Selection

When both SDI and HDMI inputs are connected simultaneously, the system defaults to prioritizing the HDMI source. To prioritize the SDI source instead, simply click Apply next to the SDI option. If only one input source is connected, the device will automatically detect and use it, regardless of this priority setting.



7.11 External Audio Embedding Settings

If you wish to add new audio to the output video, you can input it via the LINE IN port. Connect your external audio source to the device's Line IN jack. Use the main audio volume slider to adjust the level of the original audio, and use the Line IN volume slider to adjust the level of the embedded external audio.

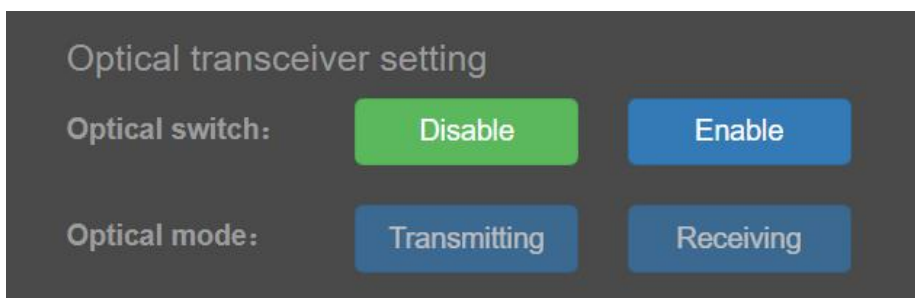


7.12 Optical Transceiver Settings

The optical transceiver setup configures the device as an optical transceiver. Use the Science Image official T1 optical module and transmit data via optical fiber. Two channels (one transmit, one receive) are required, and both channels must operate in encoding mode.

Users can access the Web UI of each channel separately, enable the optical transceiver function on the encoding page, and set one channel to Transmit mode and the other to Receive mode.

Note: The optical function of Studio Edge is compatible not only with Studio Edge but also with Studio2, FLOW2, and Flow Edge.



After the configuration is complete:

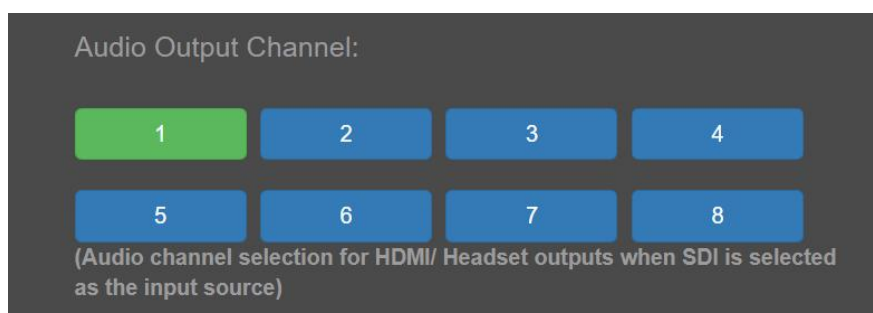
The first line of the OLED screen will display “Optical Transmit” (for the transmitter) or “Optical Receiver” (for the receiver).

The third line will show “Optical-Y” if the input source is coming from the optical interface, or “Optical-N” if no optical signal is being received.

7.13 Audio Channel Output Settings

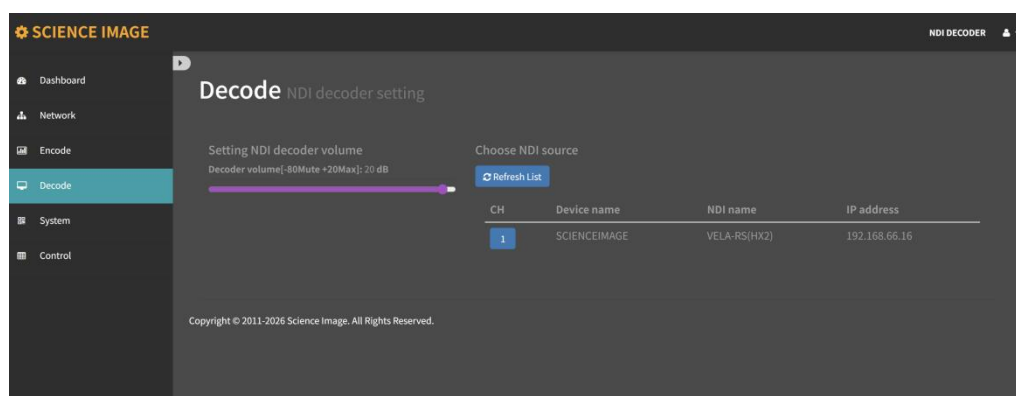
Each channel’s SDI input and output of Studio Edge supports 8 channels (16 audio tracks). However, HDMI output, NDI output, and Headset output each support only 1 channel (2 audio tracks).

Therefore, when the SDI input carries multi-channel audio, users can select—via the Web UI—the specific audio channel to be output through HDMI, Headset, or NDI.



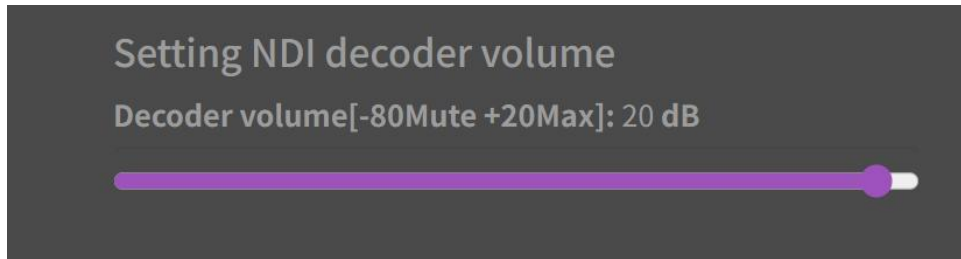
8 Decoder Settings

Changes to decoder settings can only be made when the device is operating in Decoder mode. To switch to Decoder mode, please refer to the "Working Mode Switch" section in System Settings.



8.1 NDI Decoder Audio Volume Setting

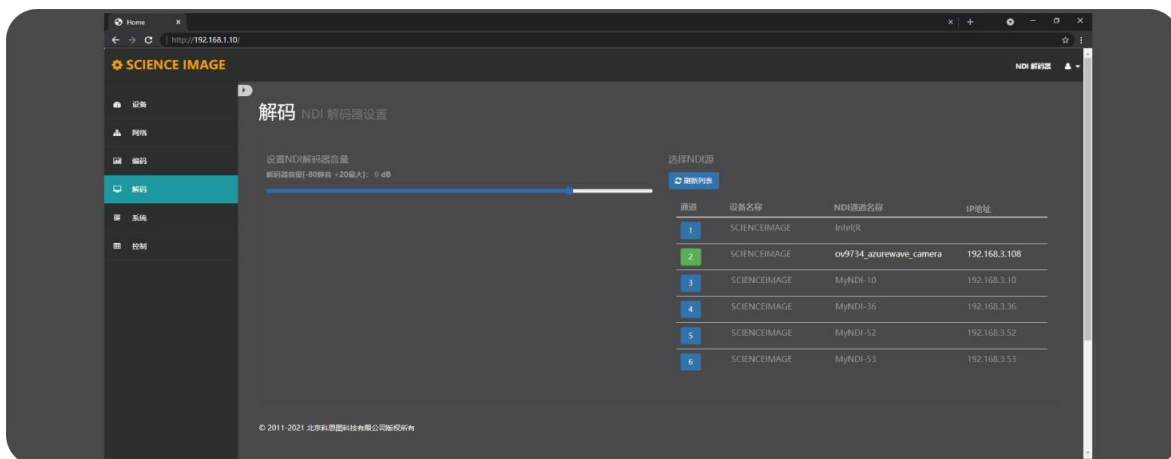
In Decoder mode, this page displays the "NDI Decoder Volume" setting. The "Decoder Volume" control adjusts the audio level of the decoded output sent to display devices, such as monitors or other connected audio-visual equipment.



8.2 Selecting an NDI Decoder Source

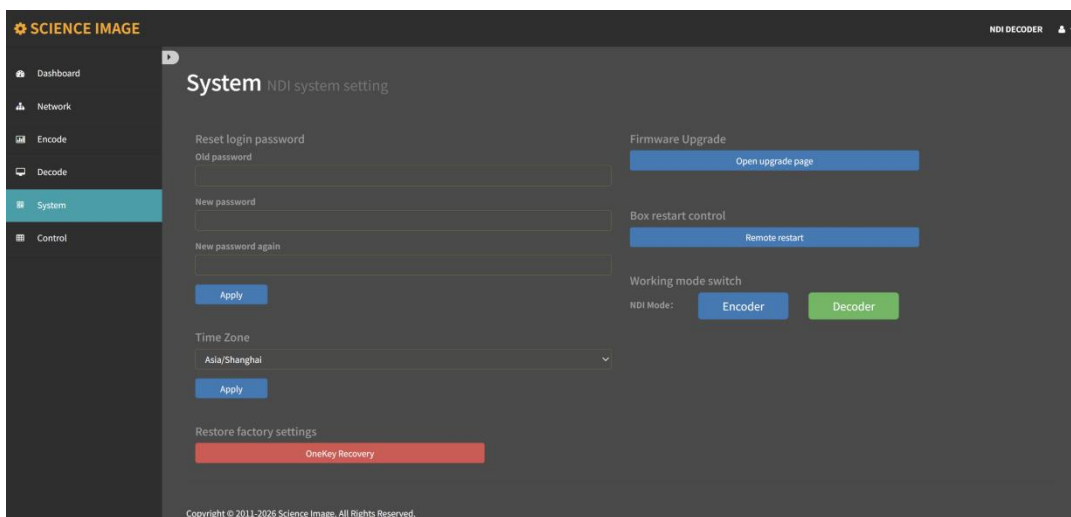
If the channel is used as a decoder, you need to select an NDI source for decoding and output. Follow these steps to configure it:

- ① Log in to the web UI of the decoding channel.
- ② Click Network.
- ③ Click Refresh List.
- ④ Click the number next to the desired NDI source to select it (the number "2" indicates the NDI source currently being decoded).
- ⑤ Once the selection is complete, the NDI source name and resolution format will be displayed on the OLED screen. At this point, both SDI and HDMI outputs will carry the selected NDI signal.



9 System Settings

The following is the "System" page:



9.1 Reset Login Password

To change the login password, click Apply. The new password will take effect at the next login.

A dark gray rectangular form titled "Reset login password". It contains three input fields: "Old password", "New password", and "New password again". Below the input fields is a blue button labeled "Apply".

Reset login password

Old password

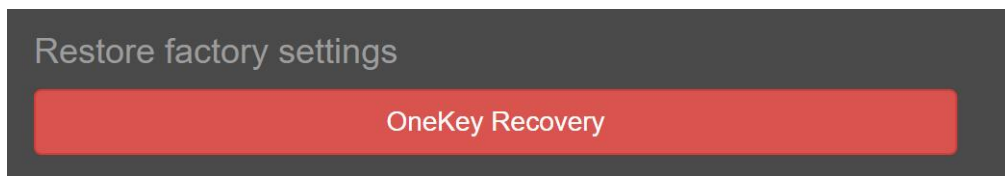
New password

New password again

Apply

9.2 Restore Default Settings

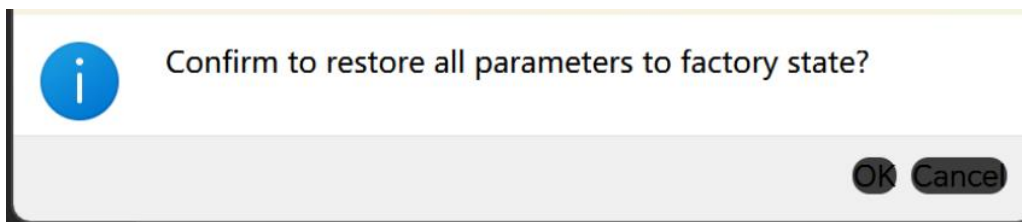
You can restore all Web UI parameters to their factory defaults with a single click on the "OneKey Recovery" button in the Web UI.

A dark gray rectangular button with a red bar across the middle. The text "Restore factory settings" is at the top, and "OneKey Recovery" is on the red bar.

Restore factory settings

OneKey Recovery

After clicking "OneKey Recovery," the following confirmation dialog will appear. Click OK to proceed. The device will automatically restart, and all Web UI settings will be reset to their system default values after reboot.

A white rectangular dialog box with a blue information icon on the left. The text "Confirm to restore all parameters to factory state?" is in the center. At the bottom right are two buttons: "OK" and "Cancel".

Confirm to restore all parameters to factory state?

OK Cancel

9.3 Firmware Upgrade

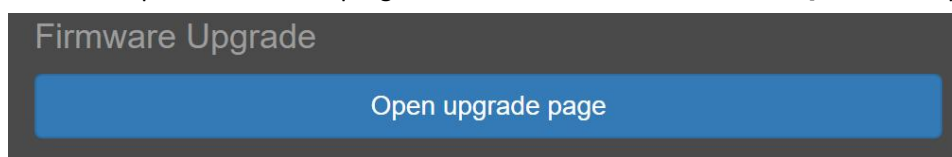
Users can download the latest firmware from the official website:

<https://www.science-image.com/support/download>

After downloading the firmware file, you can access the upgrade page in either of the following ways:

On the [System] page, click the [Open Upgrade Page] button.

Click the human-shaped icon in the top-right corner of the Web UI, then select [Firmware Upgrade].

A dark gray rectangular button with a blue bar across the middle. The text "Firmware Upgrade" is at the top, and "Open upgrade page" is on the blue bar.

Firmware Upgrade

Open upgrade page

After entering the upgrade page, click the [Choose File] button and select the firmware file to be upgraded (e.g., siup-ndi-20201220b.si).

A few seconds later, the system will verify the selected file and display a message indicating whether it is valid. If the file is correct, a confirmation message “Firmware file verified – ready to upgrade” will appear, and the [Start Upgrade] button will turn green. Click this [Start Upgrade] button to begin the firmware update process.

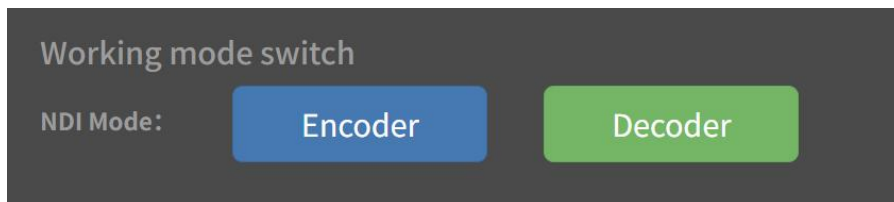


The upgrade process takes approximately 3 minutes. A progress bar will be displayed during the update. Note that the progress may pause around 10% for a short period before continuing. Once the upgrade is complete, the device will automatically restart.

Note: Do not power off or interrupt the device during the upgrade. Doing so may corrupt system files and prevent the device from booting properly.

9.4 Encoder/Decoder Operating Mode Switch

Click either "Encoder" or "Decoder" to switch to the corresponding mode immediately. The default mode is Encoder.

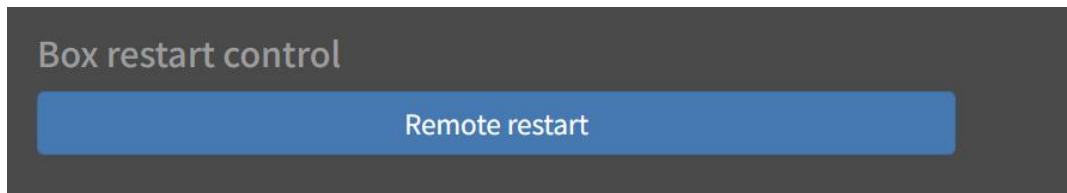


The first line of the product's OLED screen displays the current operating mode: “NDI Encoder” indicates Encoder mode, and “NDI Decoder” indicates Decoder mode, as shown in the figure below:



9.5 Device Reboot

Click the Remote Restart button on the System page to initiate a system restart for the controlled device.



9.6 Hardware Factory Reset

If you forget the password and cannot access the Studio Edge web interface for the channels, you can perform a hardware factory reset using the Reset (or Restore) pinhole button on the device.

Follow these steps:

- ① Use a SIM eject tool or paperclip to press and hold the Reset (or Restore) button for the corresponding channel;
- ② Press the independent power switch to supply power to this channel.
- ③ Watch the OLED screen. After approximately 3 seconds, the message "System Recover" will appear—release the Reset (or Restore) button at this point.
- ④ After approximately 15 seconds, the Tally light above the OLED screen for the corresponding channel will flash red.
- ⑤ Wait about 20 minutes. When the OLED screen displays "Burning: 100%", manually power off the device, then power it back on.
- ⑥ After reboot, log in to the channel's web interface and upgrade it to your previously used firmware version (refer to Section 9.3 for upgrade instructions).



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