iTrans UC-HUB402

USB and HDMI Camera Mixer Hub with NDI

User Manual V1.0

Contents

SAFETY INSTRUCTIONS

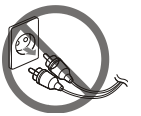
1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

6. Clean this apparatus only with dry cloth.

2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.

7. Unplug this apparatus during lightning storms or when unused for long periods of time.

3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect the power cord from being walked on or pinched particularly at plugs.

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Only use attachments / accessories specified by the manufacturer.

5. Do not place sources of naked flames, such as lighted candles, on the unit.

10. Refer all servicing to qualified service personnel.

1. INTRODUCTION

1.1 OVERVIEW

The **iTrans UC-HUB402** is a four-input multi-camera switcher designed for professional AV applications such as conferencing and lecture capture. It supports **two HDMI inputs** and **two USB camera inputs**, all up to **4K@30Hz**.

The device provides simultaneous **HDMI and USB video outputs**, with HDMI OUT2 mirrored to a USB HOST output for **UVC-based** workflows, while HDMI OUT1 delivers a dedicated full-screen output. Multiple display layouts are supported, including quad view and picture-in-picture.

Audio **embedding**, **de-embedding**, and matrix routing are integrated for flexible system configuration.

The device also supports up to four **NDI** video inputs and one mirrored NDI output for IP-based video workflows.

Control is available via **Web UI**, Telnet API, and RS-232. Front-panel OLED display and buttons provide local status monitoring and quick operation.

1.2 FEATURES

- Four-input multi-camera switcher with two HDMI inputs and two USB camera inputs
- Supports HDMI and USB video sources up to 4K@30Hz
- Multi-view display modes, including quad view, picture-in-picture, side-by-side, and pyramid layouts
- Simultaneous HDMI and USB video output with HDMI OUT2 mirrored to USB HOST
- Dedicated full-screen output on HDMI OUT1
- Supports up to four NDI inputs and one mirrored NDI output (video only)
- Seamless low-latency source switching
- Built-in USB 3.0 hub with two USB peripheral ports routed to USB HOST
- Integrated audio matrix with flexible audio routing, mixing, volume, and mute control
- One analog audio input and one analog audio output for external audio integration
- Front-panel OLED display for device status, IP address, and firmware information
- Front-panel control buttons for quick source switching and layout selection
- Web UI, Telnet API, and RS-232 control support
- Compatible with Windows and macOS systems

1.3 PACKAGE CONTENTS

- 1 x iTrans UC-HUB402 Unit
- 1 x 20V DC 3A Power Adapter
- 1 x AC Power Cord (EU Plug)
- 1 x 3.5mm 4-pin Phoenix Male Connector
- 4 x Wall Mount Brackets (with Screws)

1.4 SPECIFICATIONS

Technical	
Video Input	• USB IN 1–2: 2 x USB 3.0 Type-A Female (USB 3.0/2.0) • HDMI IN 3–4: 2 x HDMI Type-A (HDMI 1.4, HDCP 1.4) • LAN: 1 x RJ-45 Female Connector (H.264/H.265, NDI input)
Input Resolutions	• USB IN 1–2: - **Single input**: 3840x2160P@30Hz, 1920x1080P@60Hz, 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz - **Dual input**: 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz • HDMI IN 1–2: - 3840x2160P@30Hz, 1920x1080P@60Hz, 1920x1200P@60Hz, 1920x1080P@50Hz, 1920x1080P@30Hz, 1920x1080P@25Hz, 1920x1080P@24Hz, 1680x1050P@60Hz, 1600x1200P@60Hz, 1450x1050P@60Hz, 1440x900P@60Hz, 1366x768P@60Hz, 1360x768P@60Hz, 1280x1024P@60Hz, 1280x800P@60Hz, 1280x768P@60Hz, 1280x720P@60Hz, 1280x720P@50Hz, 1280x720P@30Hz, 1024x768P@60Hz, 800x600P@60Hz, 720x576P@50Hz, 720x480P@60Hz, 640x480P@60Hz • LAN: - **Dual stream:** 3840x2160P@30Hz, 1920x1080P@60Hz, 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz - **Quad stream:** 1920x1080P@60Hz, 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz
Video Output	• HDMI OUT 1: 1 x HDMI Type-A (HDMI 2.0, HDCP 2.2) • HDMI OUT 2: 1 x HDMI Type-A (HDMI 1.4, HDCP 2.2) • USB HOST: 1 x USB 3.0 Type-C (USB 3.0/2.0) • LAN: 1 x RJ-45 (H.264/H.265, NDI output)
Output Resolutions	• HDMI OUT 1: - 3840x2160P@60Hz, 3840x2160P@50Hz, 3840x2160P@30Hz, 3840x2160P@25Hz, 3840x2160P@24Hz, 2560x1440P@60Hz, 2560x1440P@30Hz, 1920x1080P@60Hz, 1920x1080P@50Hz, 1920x1080P@30Hz, 1680x1050P@60Hz, 1600x1200P@60Hz, 1440x900P@60Hz, 1366x768P@60Hz, 1280x1024P@60Hz, 1280x800@60Hz, 1280x720P@60Hz, 1280x720P@50Hz, 1024x768P@60Hz, 720x576P@50Hz, 720x480P@60Hz • HDMI OUT 2: - 3840x2160P@30Hz, 2560x1440P@30Hz, 1920x1080P@60Hz, 1920x1080P@50Hz, 1920x1080P@30Hz, 1680x1050P@60Hz, 1600x1200P@60Hz, 1440x900P@60Hz, 1366x768P@60Hz, 1280x1024P@60Hz, 1280x800@60Hz, 1280x720P@60Hz, 1280x720P@50Hz, 1024x768P@60Hz, 720x576P@50Hz, 720x480P@60Hz • USB HOST: - 3840x2160P@30Hz, 1920x1080P@60Hz, 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz, 640x480@30Hz, 640x360@30Hz, 320x240@30Hz • LAN: - 3840x2160P@30Hz, 1920x1080P@60Hz, 1920x1080P@30Hz, 1280x720P@60Hz, 1280x720P@30Hz
USB Protocol	• USB IN 1–2 & USB HOST: UAC, UVC • USB DEVICE: Full Features
Input Audio Port	2 x USB IN; 2 x HDMI IN; 1 x USB HOST
Input Audio Format	LPCM, 2CH
Output Audio Port	1 x HDMI; 1 x USB HOST; 2 x USB IN
Output Audio Format	LPCM, 2CH
Control Method	• Front panel OLED screen and buttons • RS232 • LAN-based control (Web UI & Telnet API)

General	
Operating Temperature/ Humidity	32–113°F (0–45°C), 10%–90% RH, non-condensing
Storage Temperature/ Humidity	-4–158°F (-20–70°C), 10%–90% RH, non-condensing
ESD Protection	Human body model: ±12kV (air-gap discharge) / ±8kV (contact discharge)
Power	20V DC 3A
Power Consumption	Max: 31.4W
Dimensions (W x H x D)	9.84" x 0.98" x 5.52" (250mm x 25mm x 140.2mm)
Net Weight	2.02lbs (0.92kg)

2. PANEL OVERVIEW

2.1 FRONT PANEL

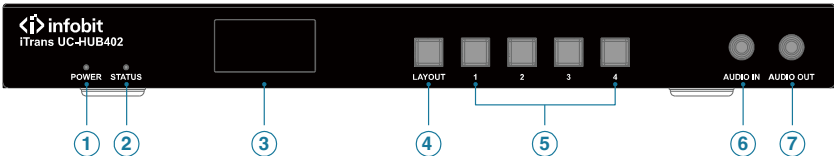


Figure 1: Front Panel

#	Name	Description
1	POWER LED	• On: The device is powered on. • Off: The device is powered off.
2	STATUS LED	• On: The device is working properly. • Off: The device is not working.
3	OLED Screen	Displays the device's IP address and firmware version.
4	LAYOUT Button	Toggle between multiple preset layouts for HDMI OUT2. For more information, refer to ***5.2 Switching Layouts with the Layout Button***.
5	1–4 Buttons	4 x Source selection buttons. Press one button to cycle through the four physical video sources—USB IN 1–2 and HDMI IN 1–2—for the corresponding window in the multi-view layout on HDMI OUT2.
6	AUDIO IN	3.5mm TRS connector. Connect to an audio source for analog audio input.
7	AUDIO OUT	3.5mm TRS connector. Connect to an audio receiver for analog audio output.

2.2 REAR PANEL

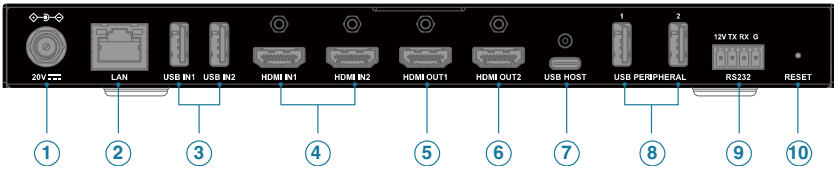


Figure 2: Rear Panel

#	Name	Description
1	20V	Connect to 20V DC 3A (or higher) power via the power adapter provided.
2	LAN	Connect to a Gigabit Ethernet switch for device management (via Web UI or Telnet API) and NDI traffic transmission.
3	USB IN (1–2)	2 x USB 3.0 Type-A female connectors. Connect to USB cameras for camera source input. Note: Each port supplies up to 1A of current.
4	HDMI IN (1–2)	Connect to HDMI sources.
5	HDMI OUT 1	Connect to an HDMI display.
6	HDMI OUT 2	Connect to an HDMI display to output video sources in either single-view or multi-view mode.

#	Name	Description
7	USB HOST	Connect to a USB-C computer for USB video output. This port mirrors the HDMI OUT2 output and supports UVC and UAC specifications. DisplayPort Alternate Mode (DP Alt mode) is not supported.
8	USB PERIPHERAL	2 x USB 3.0 Type-A female connectors. Connect to USB peripheral devices. These ports are routed to the USB HOST port via the built-in USB hub. Note: Each port supplies up to 1 A of current.
9	RS232	Connect to an RS-232 controller for device management or to an RS-232 peripheral for peripheral control. • **12V**: Connect for 12V DC 0.5A output. • **RX**: Connect to TX terminal. • **TX**: Connect to RX terminal. • **G**: Connect to ground.
10	RESET	• Long press for 10 seconds: Restore factory defaults. • Five short presses within 15 seconds: Restore IP address and Web UI login password. • Short press once: Display OSD information on the screen.

3. INSTALLATION

Note: Disconnect the device from the power source before installation.

Attaching the Wall Mount Brackets

1. Attach the two wall mount brackets to one side of the enclosure using the provided screws, as shown in the figure below.

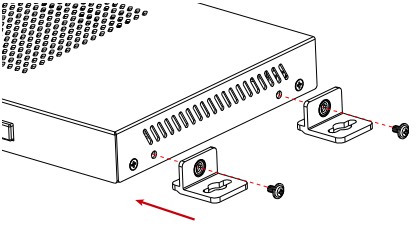


Figure 3: Bracket Installation on the Device

2. Repeat the above step for the other side of the device.
3. Mount the device with the brackets at the desired location using user-supplied screws (not included).

4. TYPICAL APPLICATION

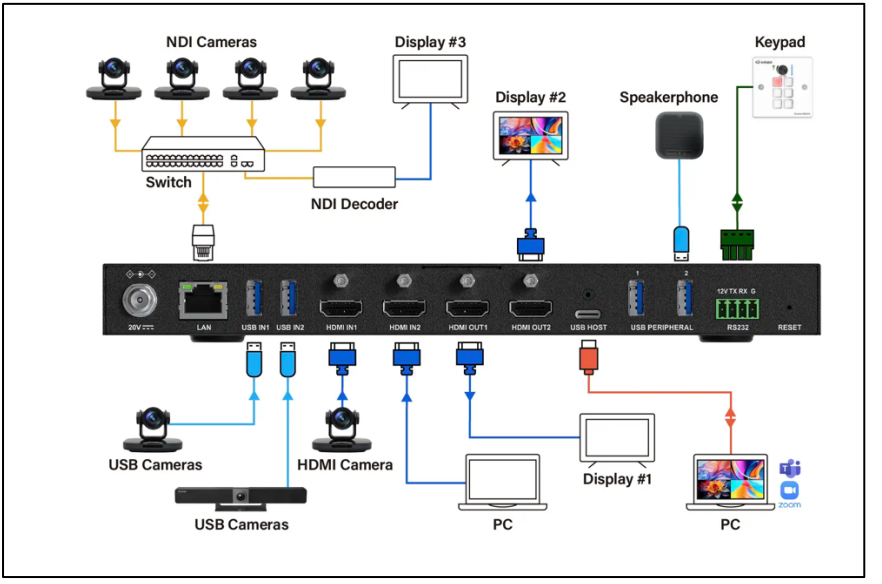


Figure 4:Application Example

Application Notes

- Connect to two USB cameras and two HDMI sources.
- HDMI OUT1 outputs the selected input source in single-view mode.
- HDMI OUT2 and USB HOST output identical video, supporting up to quad-view layouts.
- Control via RS-232 or LAN (Web UI and Telnet API).
- Supports up to four NDI inputs and one NDI output over IP.

5. DEVICE CONTROL VIA FRONT PANEL

The front panel provides local access to device information and basic control functions, including layout selection and source switching.

5.1 IDENTIFYING THE IP ADDRESS

By default, the device automatically obtains a valid IP address from a DHCP server.

The assigned IP address is displayed on the front panel OLED screen.

Example:

```
IP Address:
169.254.1.100
Version:
V1.5.2
```

Figure 5: OLED Screen

Note: The IP address can also be viewed on a connected display, shown in the bottom-right corner of the output screen.

5.2 SWITCHING LAYOUTS WITH THE LAYOUT BUTTON

By default, HDMI OUT2 supports up to quad-view output. Press the **Layout** button on the front panel to cycle through preset display modes:

Full Screen > Picture-in-Picture > Side-by-Side > Left Big Right Small > Pyramid > Quad View

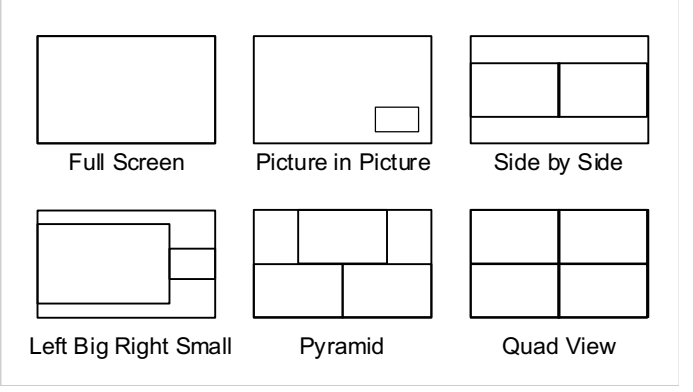


Figure 6: Preset Multi-View Layouts

5.3 SWITCHING SOURCES IN CERTAIN LAYOUTS

Buttons 1–4 are used to cycle through USB IN1, USB IN2, HDMI IN 1, and HDMI IN2 sources for the corresponding windows in the multi-view layout on HDMI OUT2.

For example, when the Picture in Picture mode is active, Button 1 controls Window 1 (the larger window), and Button 2 controls Window 2 (the smaller overlay window). Press each button to cycle through four physical video sources for its assigned window.

Note: These buttons control HDMI OUT2 only. HDMI OUT1 supports single source output, and source selection is performed via Web UI or API.

6. DEVICE CONTROL VIA WEB UI

The web UI is an intuitive software interface that enables management and control of the device via a web browser. For optimal performance, use Chrome, Safari, Microsoft Edge or Firefox browser.

6.1 ACCESSING THE WEB UI

By default, the device uses DHCP to obtain an IP address and requires a DHCP server on the network.

1. Connect the LAN port of the device to a local area network with DHCP enabled to obtain an IP address.
2. Connect the PC to the same network as the device.
3. View the device IP address on the front-panel OLED screen.
4. Enter the device IP address in a web browser and press Enter. The Login page is displayed.

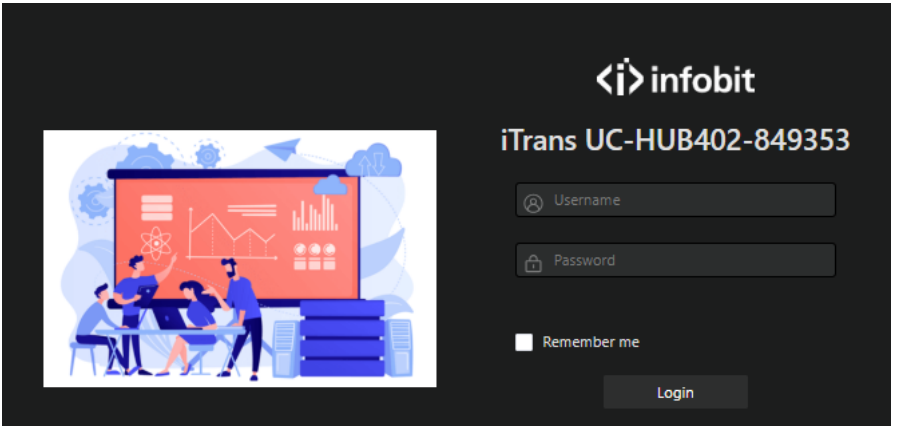


Figure 7: Login Page

5. Input the username and password, then press Enter.
   The default username and password are both set to **admin**.
   Upon first login, the system prompts a password change. Enter a new password and click **Apply** to complete the update.
   Note: The new password must be alphanumeric and 4 to 16 characters long.

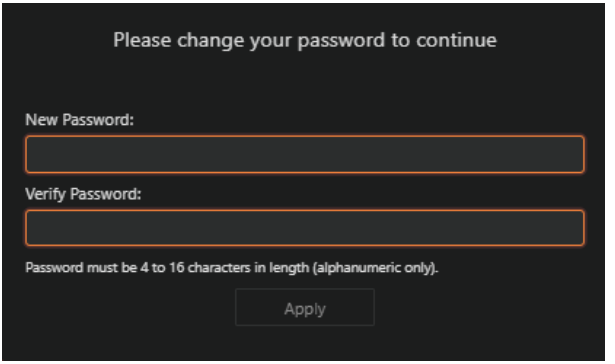


Figure 8: Change Password Dialog Box

6. After login, the main page is displayed. Select a tab from the top navigation pane to access the corresponding page.

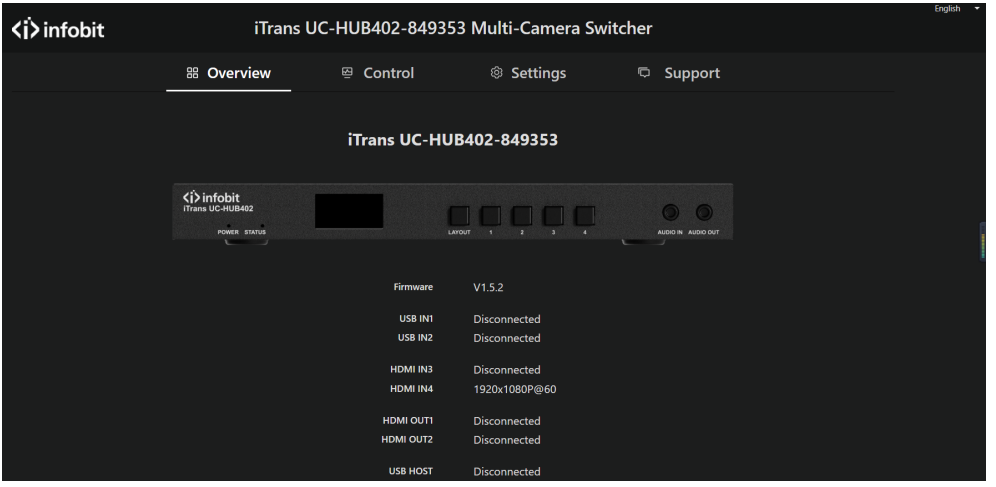


Figure 9: Main Page

Top Navigation

The top navigation provides access to four pages:

- **Overview**: Displays input and output port status.
- **Control**: Video and audio routing.
- **Settings**: Configuration of video I/O, NDI I/O, display control, and system configuration.
- **Support**: Firmware information and firmware update functions.

Language Selection

The Web UI supports English and Chinese, with English set as the default. To switch languages,

use the dropdown menu in the top-right corner of the interface.

6.2 OVERVIEW

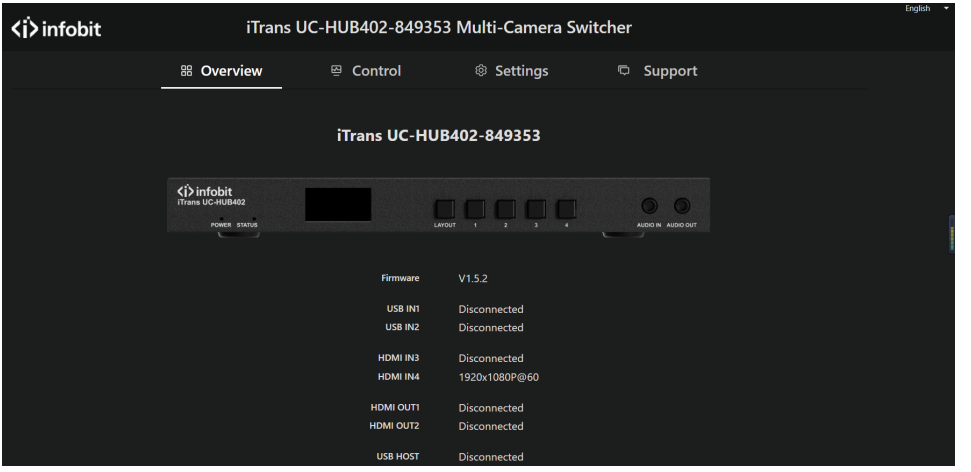
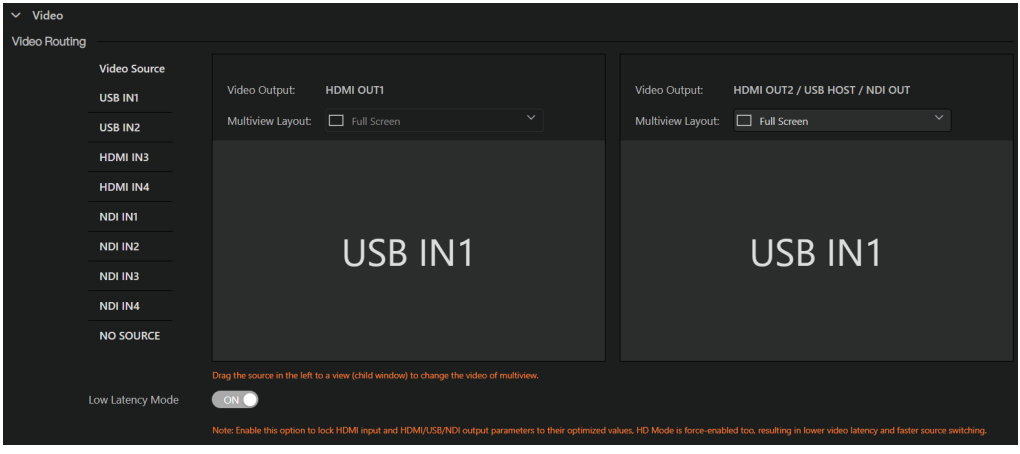


Figure 10: Overview

The Overview page shows the current firmware version, connection status and resolution for each video input and output port.

6.3 CONTROL

6.3.1 VIDEO



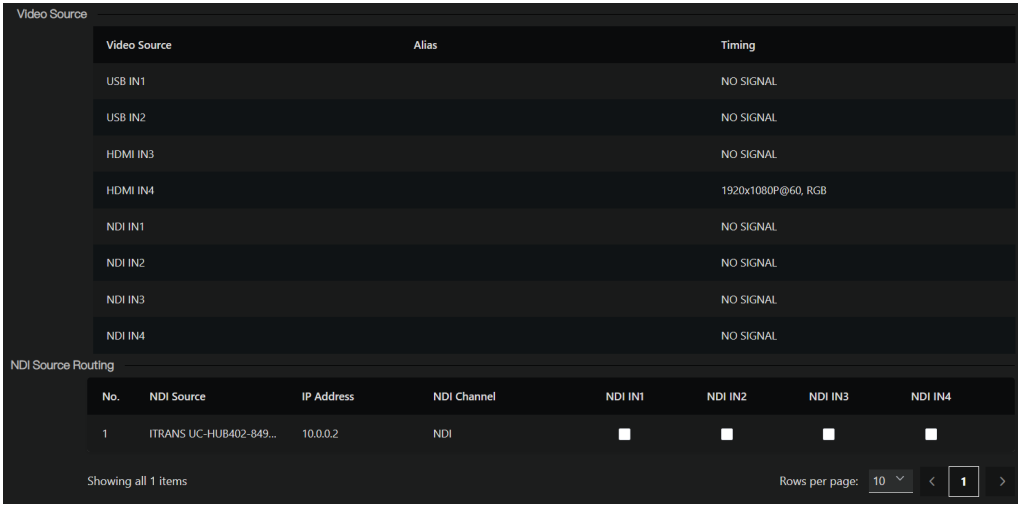


Figure 11: Video Section

The **Video** section comprises three subsections—Video Routing, Video Source and NDI Source Routing.

Video Routing

In this section, you could assign a certain video source to the corresponding output port, HDMI OUT1, as well as HDMI OUT2 and USB HOST (HDMI OUT2 and USB HOST output identical video content).

- To select a layout (single view or multi-view) for USB HOST/HDMI OUT2/NDI OUT, click a desired option from the dropdown menu.

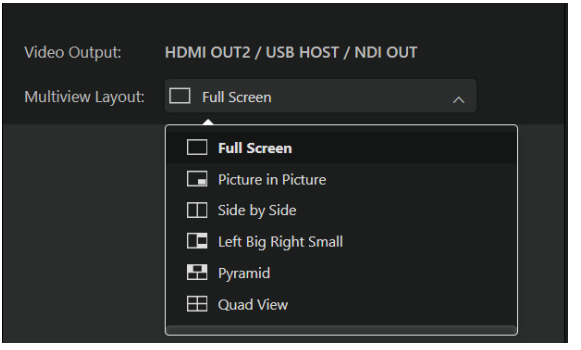


Figure 12: Selecting a Layout for USB HOST/HDMI OUT2/NDI OUT

- To assign one or more video sources for HDMI OUT1 (supports single-view only) or HDMI OUT2/USB HOST/NDI OUT, drag a desired source on the left to the corresponding window

of the output port.

- **Low Latency Mode**: Enable or disable the low latency mode.
  Default setting: On
  When enabled, the device adjusts automatically video-related parameters for minimal latency and the fastest video switching. Specifically:
  - HDMI output resolution is forced to 1920 x 1080p@60Hz.
  - HD mode for USB Host is forced enabled.
  - The output resolution, I-Frame interval, and bitrate of the NDI main stream are locked to optimized values (user-defined settings are disabled). Corresponding prompts will appear in the Web UI.

Video Source

This section lists each video source channels, and their timing / signal state.

NDI Source Routing

This section displays available NDI sources on the same network and allows routing them to the switcher's NDI input channels by selecting the corresponding checkbox(es). The switcher supports up to four NDI input channels. Offline NDI sources can also be removed from the list by clicking the Delete (trash bin) icon.

6.3.2 AUDIO

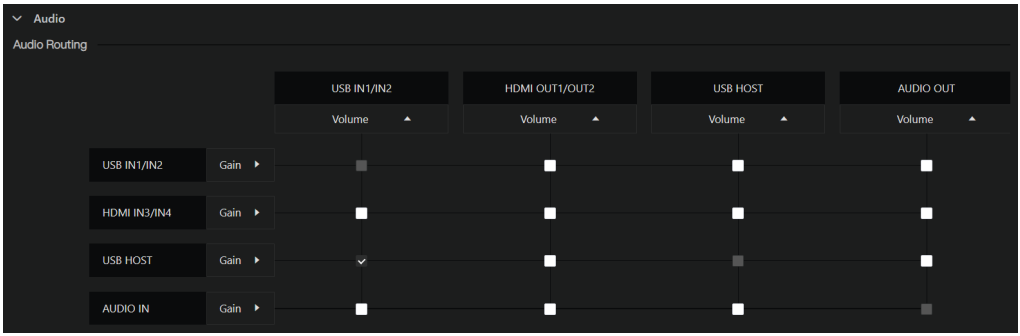


Figure 13: Audio Routing Matrix

This section allows audio routing between audio input and output ports.

- To route an audio input channel to one or more audio output channels, check the corresponding box in the routing matrix. The box changes from blank to solid blue with a check mark once the routing relationship is established successfully.

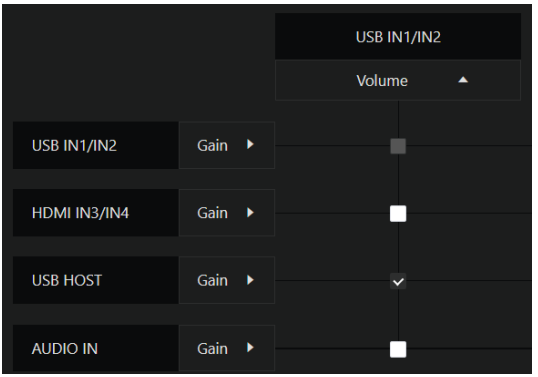


Figure 14: Routing an Audio Source to an Output

- To remove an audio route, clear the corresponding box so that it returns to blank.
- To configure the audio gain for an audio source:
  Click the **Gain** button next to an audio input source, for example, **USB IN1/IN2**, the following configuration items will appear below the audio routing matrix.

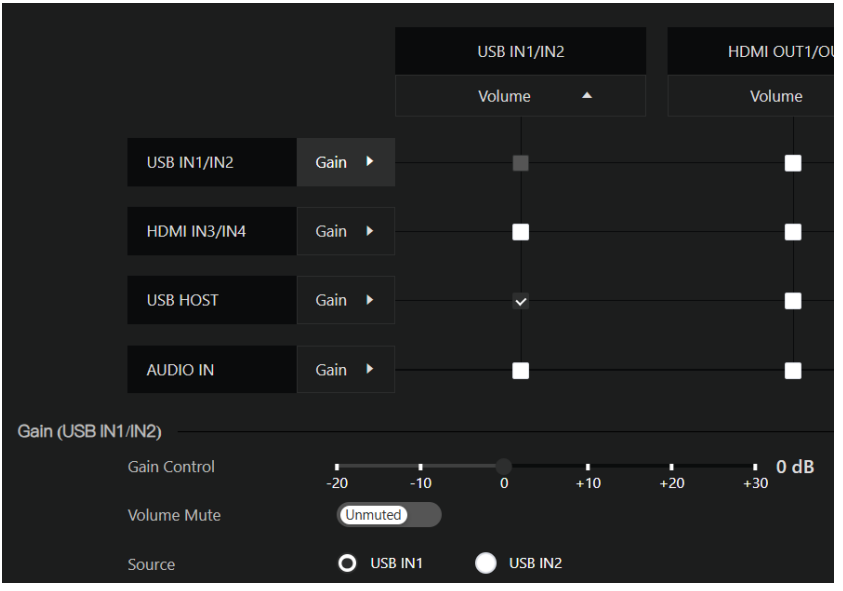


Figure 15: Configuring Audio Volume of an Audio Input

- **Gain Control**: Drag the slider to adjust the input audio volume.
  Default setting: 0 dB
- **Volume Mute**: Mute or unmute the input audio.
  Default setting: Unmuted
- **Source:** Select the audio source between two audio channels. This configuration item

applies to USB IN1/IN2 and HDMI IN3/IN4 only.

- To configure the audio volume for an audio output:

  Click the **Volume** button under an audio output, for example, **HDMI OUT1/OUT2**, the following configuration items will appear below the audio routing matrix.

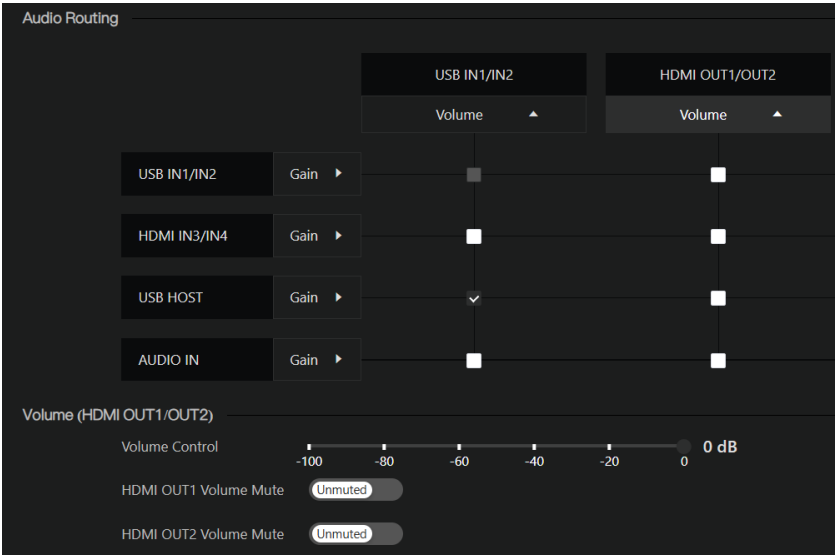


Figure 16: Configuring Audio Volume of an Audio Output

- **Volume Control**: Drag the slider to adjust the output audio volume.

  Default setting: 0 dB
- **Mute**: Mute or unmute the output audio.

  Default setting: Unmuted

  Note: Only HDMI OUT1 and HDMI OUT2 support individual mute control. USB IN1/IN2 does not support this feature.

6.4 SETTINGS

6.4.1 GENERAL SETTINGS

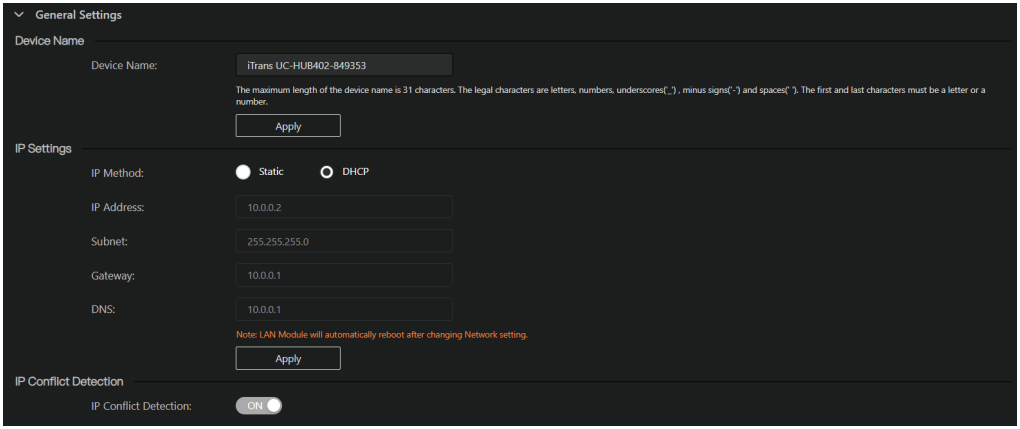


Figure 17: General Settings Section

Device Name

- **Device Name:** Define a new device name.
  Default setting: iTrans UC-HUB402-xxxxxx ("xxxxxx" represents the last six hexadecimal digits of the device MAC address—e.g., 849353 results in *iTrans UC-HUB402-849353*)
  Note: The device name must be 1 to 31 characters long. Only letters, numbers, spaces, underscores ("_") or hyphens ("-") are supported. The first and last characters must be letters or numbers).
- **Apply**: Apply current settings.

IP Settings

- **IP Method**: Select the IP mode.
  - **Static**: Manually specify the IP address, subnet mask, gateway, and DNS server.
  - **DHCP**: The device automatically obtains a valid IP address from the DHCP server on the network.

  Default setting: DHCP
- **Apply**: Apply the current settings.
- **Refresh**: Refresh and show the current settings.

Note: The device automatically reboots after the IP settings are changed.

IP Conflict Detection

- **IP Conflict Detection:** Enable or disable the IP conflict detection.
  When enabled, the switcher displays an on-screen notification if a connected PC is configured with the same IP address as the switcher while both devices are on the same network.

6.4.2 NTP SETTINGS

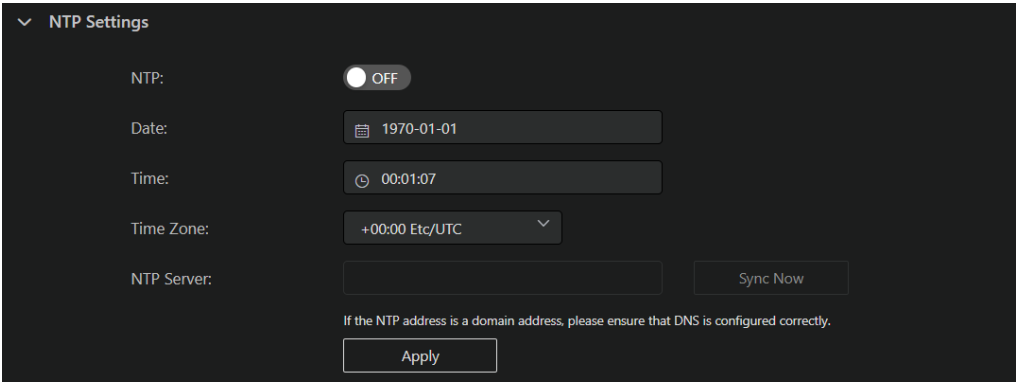


Figure 18: NTP Settings Section

The section provides settings to configure the Network Time Protocol (NTP), allowing the device to automatically synchronize its date and time with an NTP server.

- **NTP**: Enable or disable the NTP feature.
  - **Enable**: When enabled, the device automatically synchronizes the date with the configured NTP server when powered on and connected to a network. The NTP server can be any server on Internet or a local server with an RTC chip or battery. (Recommended setting, since the device's date resets to factory defaults on each boot if NTP is disabled.)

  Default setting: Off
- **Date**: Set the date manually when NTP is disabled. If no NTP server is configured or the device is offline, the date will start from 1970-01-01 at each reboot.
- **Time**: Set the time manually when NTP is disabled.
- **Time Zone**: Select a time zone from the dropdown list.
- **NTP Server**: Enter the address of the NTP server.
  - **Sync Now**: Click to synchronize the device's date with the NTP server immediately.

  Note: If a domain name is used, ensure that DNS is configured correctly.
- **Apply**: Apply the current settings.

6.4.3 VIDEO INPUT

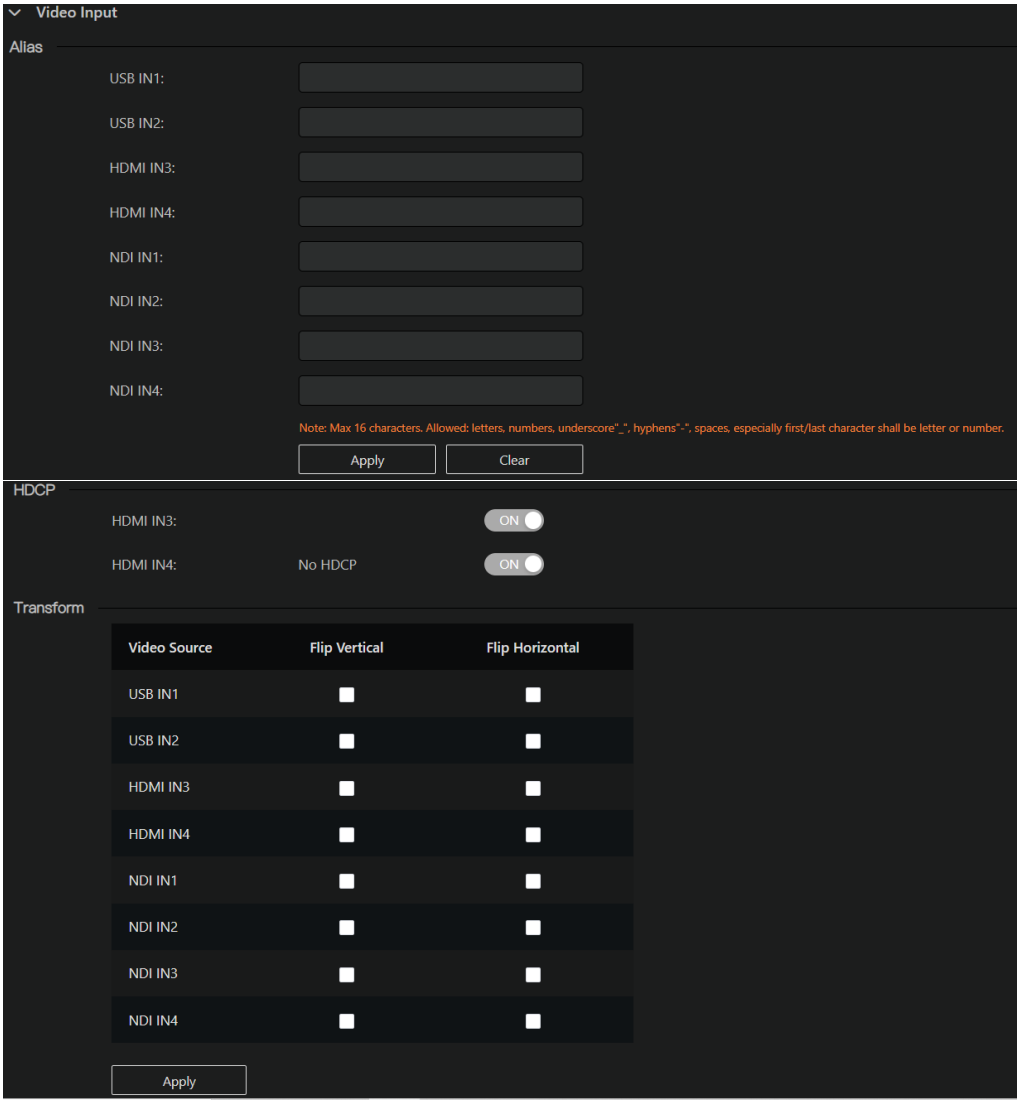


Figure 19: Video Input Section

This section provides options to configure aliases for input video channels, flip input video sources, and enable or disable HDCP support for HDMI IN 1–2.

Alias

Enter a custom alias for the corresponding input video channel, if required.

- **Alias** requirements: Up to 16 characters long, only letters, numbers, spaces, underscores (“_”) or hyphens (“-”) are supported; the first and last characters shall be letters or numbers).
- **Apply**: Apply the current settings.
- **Clear**: Discard the current settings.

HDCP
HDMI IN 3/4: Enable or disable HDCP support for the corresponding HDMI input.
Default setting: On

Transform
In this section, select the corresponding checkbox to flip the selected input video vertically and/or horizontally.

- **Apply**: Apply the current settings.

6.4.4 VIDEO OUTPUT

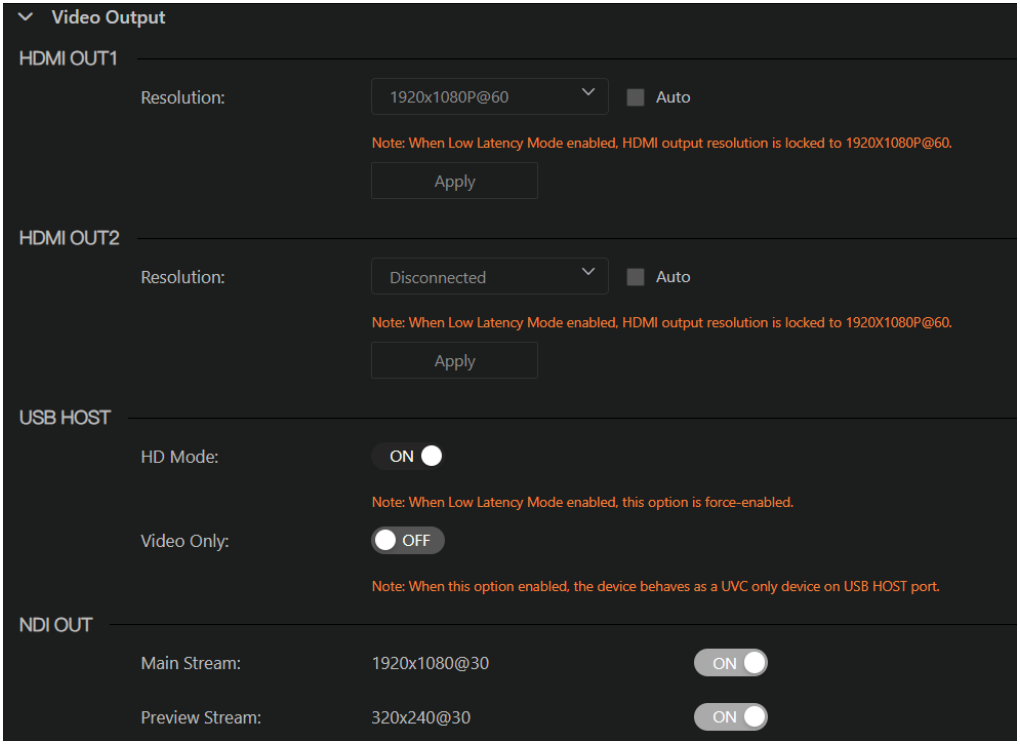


Figure 20: Video Output Section

This section provides options to configure resolution and HDCP support function for the video output channels.

HDMI OUT1 / HDMI OUT2

- **Resolution**: Configure output resolution for the selected output port.
  - **Auto**: Allow the output port to select the most appropriate output resolution automatically based on the EDID it is reading from the connected display.
  - Resolution list: Select a fixed resolution the video source will be scaled to from the dropdown menu.

  Default setting: Auto
  Note:
  When Low Latency mode is enabled on the device (default setting), the HDMI OUT 1–2

resolutions are forced to 1920x1080P@60Hz. To toggle the Low Latency mode on or off, navigate to *Control* > *Video* on the Web UI.

USB HOST

- **HD Mode**: Toggle HD mode on or off for the USB HOST port.
  - **On**: Enable HD mode.
    When set to On, the USB HOST will support the following resolutions (720P@30 and above):
    - 3840*2160P@30Hz / 1080P@30Hz / 720P@30Hz
  - **Off**: Disable HD mode.
    When set to Off, the USB HOST will support the following resolutions:
    - 3840*2160P@30Hz / 1080P@30Hz / 720P@30Hz / 640*480P @30Hz / 640*360P@30Hz / 320*240P@30Hz

  Default setting: On

  Note:

  - When Low Latency mode is enabled on the device (default setting), HD mode for the USB HOST is forced on. To toggle the Low Latency mode on/off, go to *Control* > *Video* on the Web UI.

NDI OUT

- **Main Stream**: Displays the current output resolution of the NDI main stream, and provides a button to toggle NDI main stream output on or off.
  Default setting: On
- **Preview Stream**: Displays the current output resolution of the NDI preview stream, and provides a button to toggle NDI preview stream output on or off.
  Default setting: On

6.4.5 NDI IN SETTINGS

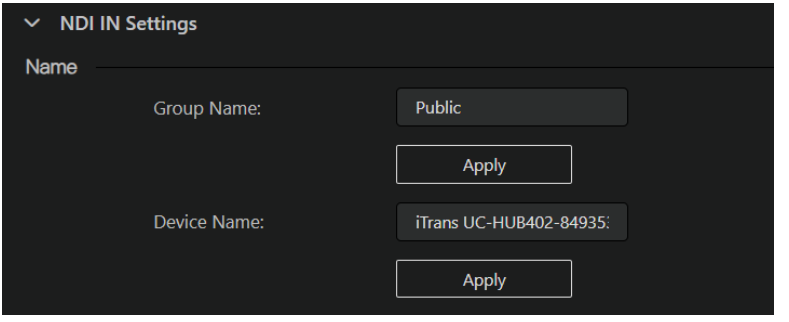


Figure 21: NDI IN Settings Section

This section provides options to configure the NDI group and device name used for source discovery.

- **Group Name**: Determine which group the receiving module of this device belongs to for NDI source discovery. Only devices within the same group name can discover each other.
  - **Public***:* The default group name assigned to the receiving module. The receiving module using the Public group can discover other NDI transmitters with the same group name.
  - **Custom group name**: A user-defined group name that limits discovery to devices sharing the same group name, providing more control in large networks.

Default setting: Public

- **Device Name**: Define the name the receiving module uses on the NDI network.
  Note:
  - This name is how the NDI receiving module will be identified by other NDI sources.
  - Customizing helps identify the device more easily in multi-device environments.

  Default setting: iTrans UC-HUB402-xxxxxx (“xxxxxx” represents the last six hexadecimal digits of the device MAC address—e.g., 849353 results in iTrans UC-HUB402-849353)

6.4.6 NDI OUT SETTINGS

This section provides options to configure the group name, device name and channel ID for NDI streaming, as well as the encoding parameters for the main and preview NDI streams.

Name

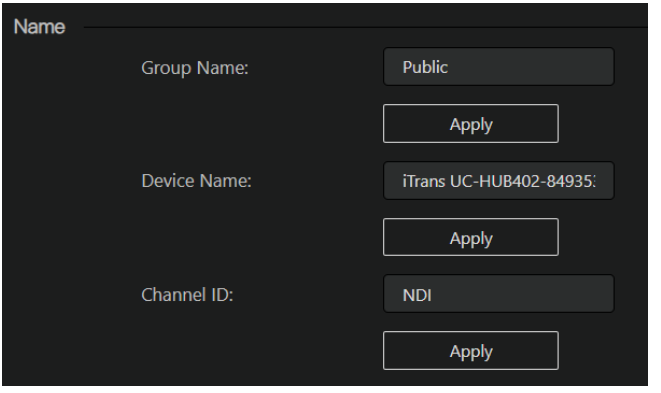


Figure 22: Name Configuration for NDI OUT

- **Group Name**: Define the group to which the transmitting module broadcasts its NDI streams. Only receivers within the same group can discover these streams.
  - **Public***:* The default group name for the transmitting module. By default, streams broadcasted under the Public group are discoverable by all receivers assigned to Public.
  - **Custom group name**: A user-defined group name that restricts stream visibility to receivers sharing the same group name, enhancing network organization and security.

  Default setting: Public

- **Device Name**: To define the name the transmitting module uses when streaming on the NDI network.
  Note:
  - This name is how the NDI transmitting module will be identified by other NDI-enabled receivers.
  - Customizing this name makes it easier to identify this device in environments with multiple streams.

  Default setting: iTrans UC-HUB402-xxxxxx (“xxxxxx” represents the last six hexadecimal digits of the device MAC address—e.g., 849353 results in iTrans UC-HUB402-849353)

- **Channel ID**: Define a custom label for the NDI output stream from this device.
  Note:
  - This ID helps receivers distinguish the stream, especially in environments with

multiple devices or sources.
  - The device supports only one NDI output stream.

  Default setting: NDI
- **Apply**: Apply the current settings.

Main Stream

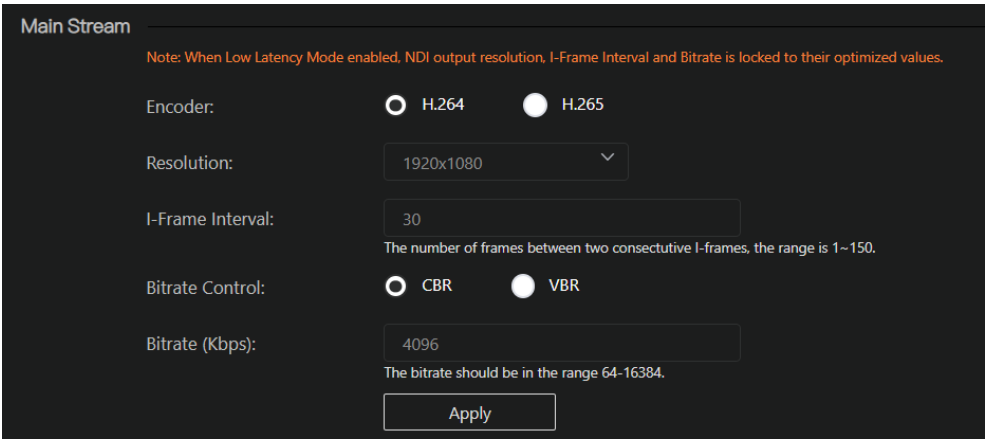


Figure 23: Main Stream Configuration for NDI OUT

- **Encoder:** Select the encoding protocol between H.264 or H.265 for the main stream.
  Default setting: H.264
- **Resolution**: Select the desired resolution from the dropdown menu for the NDI main stream.
  Available options: 1280x720, 1920x1080, 3840x2160
  Default setting: 1920x1080
  Note: When Low Latency mode is enabled on the device (default setting), the NDI main stream output resolution is forced to 1920x1080P@60Hz. To toggle the Low Latency mode on or off, go to *Control* > *Video* on the Web UI.
- **I-Frame Interval**: Set the interval (in frames) between keyframes (I-frames). Lower values improve seek accuracy but increase bandwidth usage.
  Available range: 1–150
  Default setting: 30
  Note: When Low Latency mode is enabled on the device (default setting), the NDI main stream I-frame Interval is forced to 30. To toggle the Low Latency mode on or off, go to *Control* > *Video* on the Web UI.
- **Bitrate Control**: Choose the bitrate control method.
  - **CBR** (Constant Bitrate)*:* Maintain consistent bandwidth usage.
  - **VBR** (Variable Bitrate): Adjust bitrate dynamically for quality optimization.

  Default setting: CBR
- **Bitrate (kbps)**: Set the encoding bitrate in kilobits per second.
  Available range: 64–16384
  Default setting: 4096
  - **Apply:** Apply current settings.

  Note: When Low Latency mode is enabled on the device (default setting), NDI main stream bitrate is forced to 4096. To toggle the Low Latency mode on/off, go to *Control* > *Video* on the Web UI.

Preview Stream

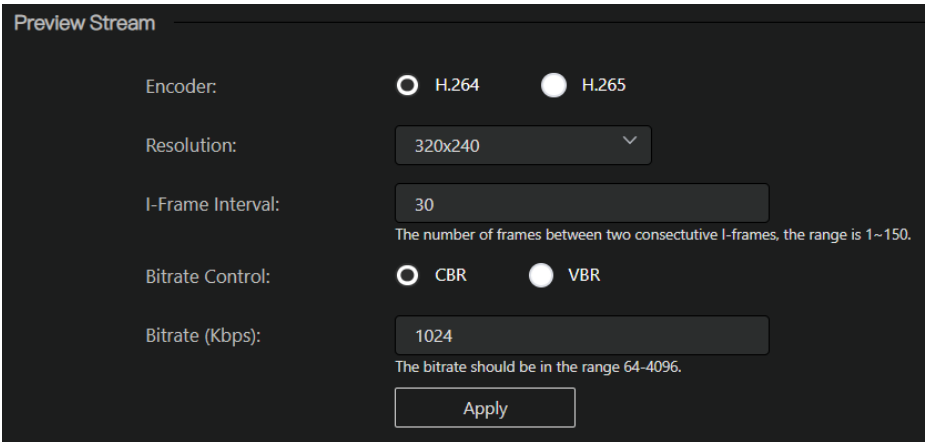


Figure 24: Preview Stream Configuration for NDI OUT

- **Encoder:** Select the encoding protocol between H.264 or H.265 for the preview stream.
  Default setting: H.264

- **Resolution**: Select the desired resolution from the dropdown menu for the NDI preview stream.
  Available options: 320x240, 640x360
  Default setting: 320x240

- I-**Frame Interval**: Set the interval (in frames) between keyframes (I-frames). Lower values improve seek accuracy but increase bandwidth usage.
  Available range: 1–150
  Default setting: 30

- **Bitrate Control**: To choose the bitrate control method.
  - **CBR** (Constant Bitrate)*:* Maintains consistent bandwidth usage.
  - **VBR** (Variable Bitrate): Adjusts bitrate dynamically for quality optimization.

  Default setting: CBR

- **Bitrate (Kbps)**: Set the encoding bitrate in kilobits per second.
  Available range: 64–4096
  Default setting: 1024
  Apply: Apply current settings.

6.4.7 DISPLAY CONTROL

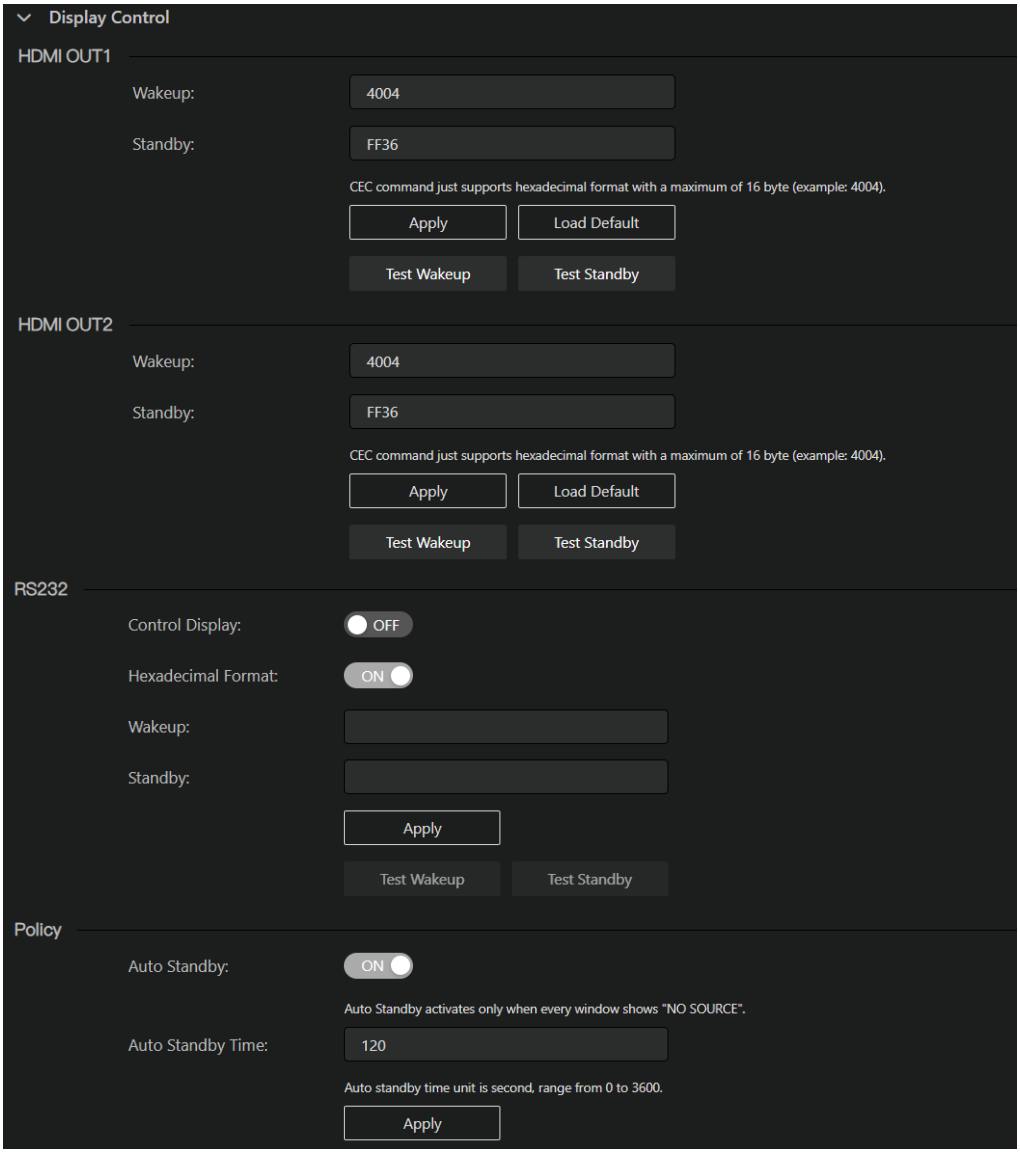


Figure 25: Display Control Settings

This section provides options to configure display control settings via HDMI CEC and RS232, including power commands, command format, and auto-standby policy.

HDMI OUT1/HDMI OUT2

- **Wakeup**: Enter the CEC wakeup command for the connected display device in hexadecimal format.
  Refer to your display device's user guide for supported CEC commands.
  Default setting: 40 04

- **Standby**: Enter the CEC standby command of the controlled display device in hex format.
  Refer to your display device's user guide for supported CEC commands.
  Default setting: ff 36
- **Apply**: Save and apply current settings.
- **Load Default**: Discard current settings and load default values.
- **Test Wakeup**: Send the Wakeup command to wake the display up from standby mode (for testing purposes).
- **Test Standby**: Send the Standby command to switch the display to standby mode (for testing purposes).

RS232

- **Control Display**: Toggle to enable or disable RS-232 data passthrough between the switcher and RS-232 peripheral.
  Note:
  - When enabled, RS-232 data will be passed through to the display. Make sure the RS232 settings match the connected display's requirements.

Parameter	Value	Abbreviation
Baud Rate	115200bps	115200
Data Bits	8bits	8
Parity	None	n
Stop Bits	1	1

Table 1: Default RS232 Parameter Settings

  Default setting: Off

- **Hexadecimal Format**: Toggle to enable or disable hexadecimal input format for RS-232 commands.
  - When enabled, make sure the Standby and Wakeup commands are manually converted into their hexadecimal representations before input.
    For example, an RS-232 wake up command in hexadecimal format could be: `50 57 52 20 4F 4E 0D 0A`

  Default setting: On

- **Wakeup**: Enter the RS-232 wakeup command for the connected display device. Leave it blank to disable this function.
  Refer to your display device's user guide for supported RS-232 commands.
  Default setting: Blank (not set)
- **Standby**: Enter the RS-232 standby command for the connected display device. Leave it blank to disable this function.
  Refer to your display device's user guide for supported RS-232 commands.
  Default setting: Blank (not set)
- **Apply**: Save and apply current settings.
- **Test Wakeup**: Send the Wakeup command to wake the display up from standby mode (for testing purposes).
- **Test Standby**: Send the Standby command to switch the display to standby mode (for testing purposes).

Policy

- **Auto Standby**: Toggle to enable or disable Auto Standby function.
  When enabled, the device will enter standby mode automatically if there is no valid signal input for a specified period.
  Default setting: On

- **Auto Standby Time**: Set the timeout period in seconds after which the device enters standby mode due to inactivity.
  If Auto Standby Time is set to 0, the device will enter standby mode immediately when no signal input is detected.
  Available range: 0–3600
  Default setting: 120
- **Apply**: Save and apply current settings.

6.4.8 SYSTEM SETTINGS

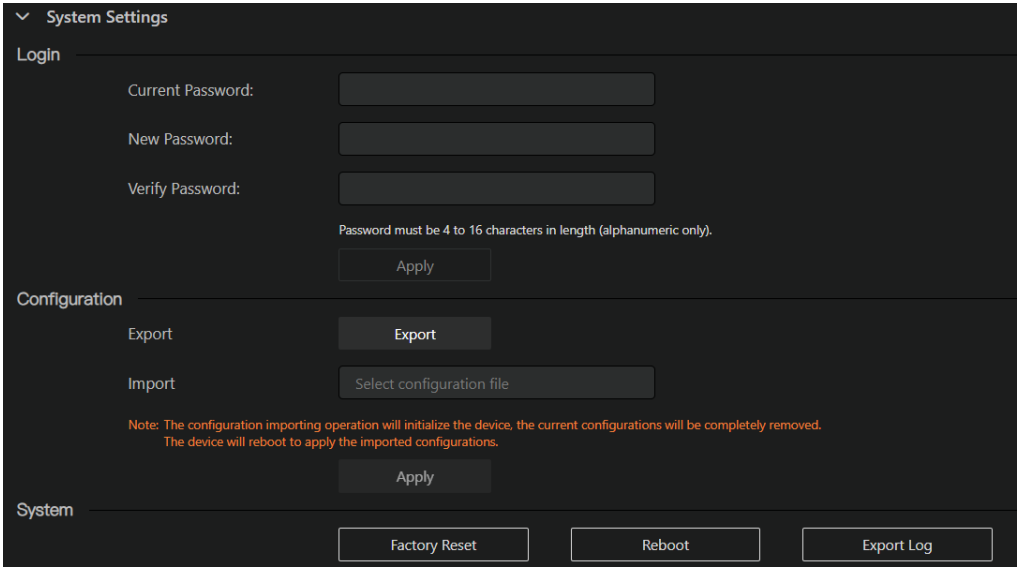


Figure 26: System Settings Section

This section provides options to change login password, import or export the system configuration file, and perform system operations.

Login
- **Current Password**: Enter the current login password.
- **New Password / Verify Password**: Enter and confirm the new login password.

Note: The password must be 4 to 16 characters long and contain only letters and numbers.

Configuration
- **Export**: Export the system configuration file to the connected PC.
- **Import**: Select a configuration file from the connected PC and import it to the device.

Note: Importing a configuration file overwrites the existing system configuration. The device then reboots to apply the new settings.

System
- **Factory Reset**: Restore the device to factory default settings. This function can also be performed by pressing and holding the Reset button on the front panel for 10 seconds.
- **Reboot**: Reboot the device.
  Note: After the device reboots, wait approximately 40 seconds before refreshing the browser and logging back in to the Web UI.
- **Export Log**: Export the system log.

6.5 SUPPORT

6.5.1 DEVICE INFORMATION

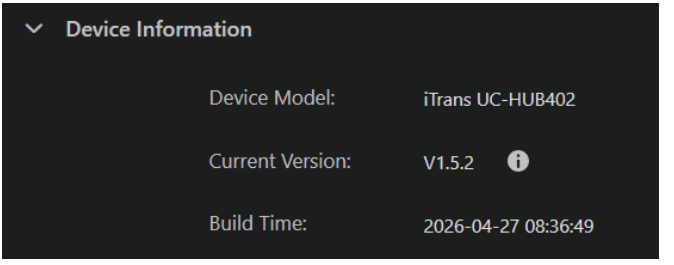


Figure 27: Device Information Section

This section displays the device model, current firmware version and build time.

6.5.2 FIRMWARE UPDATE

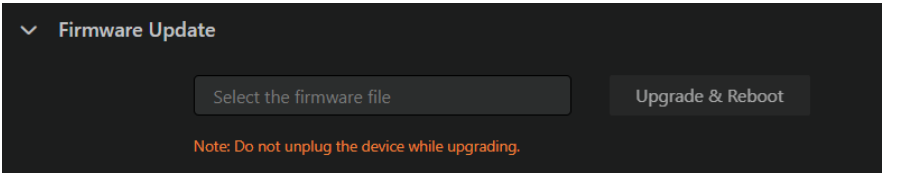


Figure 28: Firmware Update

This section provides operation option to perform firmware updates.

Firmware Update Steps

1. Click **Select the firmware file** to browse for the firmware upgrade file on the PC.
   Note: A valid firmware file must have the `.bin` extension.
2. Click **Upgrade & Reboot** to upload the file and start the upgrade process.

Note:

- DO NOT disconnect the device from power source during the update process.
- The device will automatically reboot after the firmware update is complete.