iTrans U2HN

4K USB TO NDI & HDMI CONVERTER

User Manual V1.0



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Important 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.



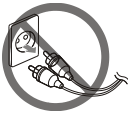
2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



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 U2HN** is a professional USB Camera converter designed for small and medium-sized meeting rooms and commercial AV applications. It converts **USB camera signals** into **HDMI and NDI** outputs, providing a flexible solution for video conferencing, live streaming, and IP-based video workflows.

The device features one USB 3.0 input port, supporting up to **4K@30Hz** MJPEG video decoding, one HDMI output port supporting up to 4K@30Hz resolution, and one NDI output port supporting up to 4K@30fps video transmission over the network. The integrated LAN port supports **PoE** for flexible installation, with DC power input prioritized over PoE power supply.

With support for Telnet API and **Web UI** control, the device allows easy configuration, remote management, and system integration.

1.2 Features

- Converts **USB camera signals** to **HDMI** and **NDI** outputs simultaneously.
- Supports USB 3.0 input with up to **4K@30Hz** MJPEG video decoding.
- Provides HDMI output up to 4K@30Hz and NDI output up to 4K@30fps.
- Supports **PoE** power supply through LAN port, with DC input prioritized over PoE.
- Supports **Telnet API** and **Web UI control** for easy configuration and system integration.
- Designed for medium-large sized meeting rooms, conferencing, and commercial AV applications.

1.3 Package Contents

- 1 x **iTrans U2HN** Converter
- 1 x DC 12V/2A Power Adapter with US, UK, EU and AU Pins
- 4 x Mounting Brackets (with Screws)

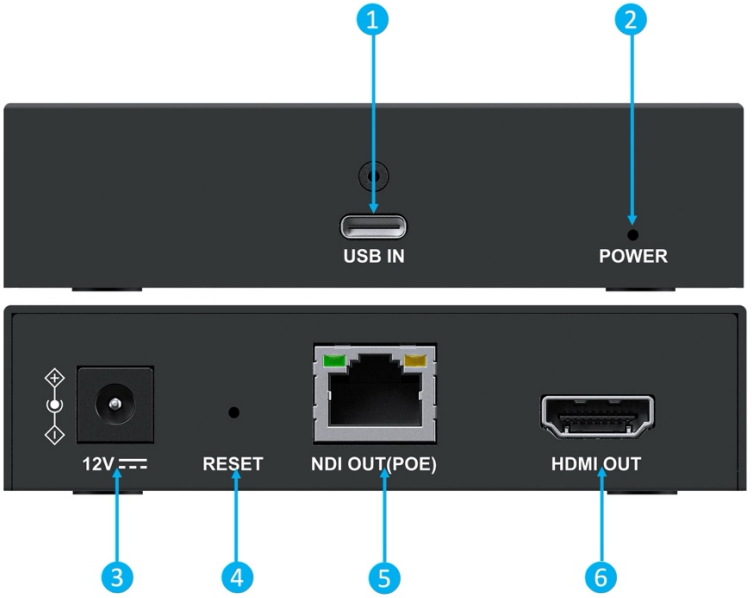
1.4 Specifications

Video & Audio	
Input & Output Port	1 x USB-C IN, 1 x HDMI OUT, 1 x NDI OUT (PoE), 1 x RESET, 1 x DC 12V IN
Input / Output Resolution Supported	**USB IN**: MJPEG 3840x2160P@30fps; 1920x1080P@60fps; 1920x1080P@30fps; 1280x720P@60fps; 1280x720P@30fps; 640x480@30fps; 640x360@30fps 320x240@30fps **HDMI OUT**: 3840x2160P[8], 3840x2160P[6], 3840x2160P[5], 3840x2160P[3], 3840x2160P[2], 2560x1440P[8], 2560x1440P[5], 1920x1080P[8], 1920x1080P[5], 1920x1080P[5], 1680x1050P[8], 1600x1200P[8], 1440x900P[8], 1366x768P[8], 1280x1024P[8], 1280x800[8], 1280x720P[8], 1280x720P[6], 1024x768P[8], 800x600P[8], 720x480P[8], 640x480P[8] 1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = at 60 Hz **NDI OUT**: Mainstream: H.264/H.265 3840x2160@30fps/60fps, 1920x1080@30fps/60fps; 1280x720@30fps/60fps; Preview stream: H.264/H.265 640x360@30fps/60fps, 320x240@30fps/60fps
Audio Format Supported	PCM 2.0

General	
Operating Temperature	0°C ~ 40°C (32°F to 104°F), 10% to 90%, non-condensing
Storage Temperature	-20°C ~ 60°C (-4°F to 140°F), 10% to 90%, non-condensing
Power Supply	DC12V, 2A
Power Consumption	Powered via local DC power IN port: Low-latency mode: 5.592W; 4K full-loaded: 6.816W. Powered via PoE:

General	
	Low-latency mode: 7.5W 4K full-loaded: 9.1W
Dimension (Width x Height x Depth)	100mm x 25mm x 155.2mm / 3.94” x 0.98” x 6.11”
Net Weight	0.44kg/0.97lb

2. Panel Overview



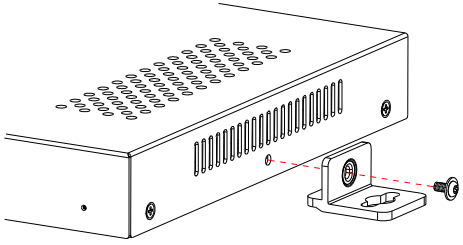
#	Name	Description
1	USB IN	USB 3.0 Type-C port. Connect to a USB camera or USB capture.
2	POWER LED	• Lighting white: The device is powered on. • Off: The device is powered off. • Blinking slowly: The device is in standby mode. • Blinking quickly: The device is in upgrading process or the device is restoring factory settings.
3	12V	Connect to a DC 12V/2A power adapter.
4	RESET	• Hold and press the button for about 10s: Reset the device to factory defaults. The POWER LED flashes

#	Name	Description
		rapidly, turns off briefly, and then remains solid on. • Short press the button for 5 times continuously: Reset the device's IP mode, API login password and web login password (default IP mode: DHCP, default password: admin). • Short press the button once, the connected display shows the converter's device name, source, and IP address.
5	NDI	RJ45 port. 10/100/1000Mbps Ethernet. Connect to a network for the following functions: • PoE power supply (if connect to a Ethernet switch supports PoE); • Access Web UI; • Telnet API control; • NDI OUT.
6	HDMI OUT	Connect to an HDMI display.

3. Installation

Note: Before installation, ensure the device is disconnected from the power source.

1. Attach the bracket to one side of the enclosure using the screws provided. The bracket is attached to the enclosure as shown.



2. Repeat step 1 for the other side of the enclosure.
3. Attach the brackets to the surface or location desired using screws (not included in the package).

4. Typical Applications

Warnings:

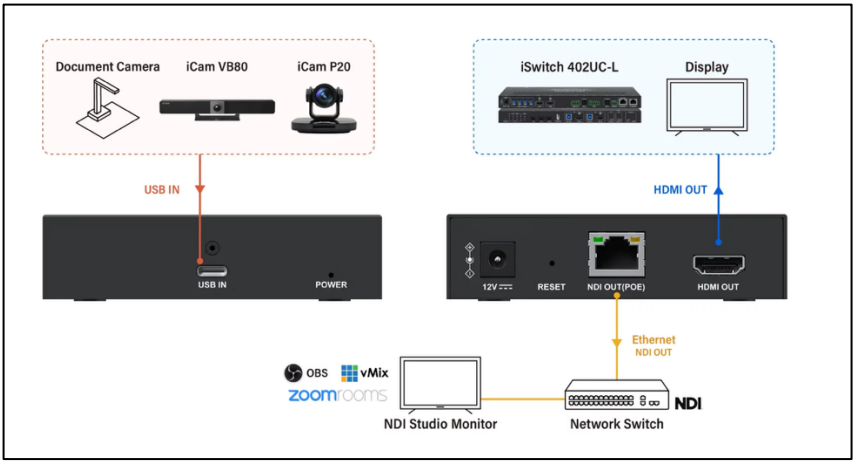
- Before wiring, disconnect the power from all devices.
- During wiring, connect and disconnect the cables gently.

USB IN device: USB Camera/Videobar

HDMI OUT: TV/ other wired input sources

The setup includes a USB camera, an HDMI monitor/switcher, and a network switch. The **iTrans U2HN** connects to the USB camera and provides both HDMI and NDI outputs, with the NDI output mirroring the HDMI output. Output resolution can be configured via API or the web interface. The NDI output is compatible with the following devices and applications for discovery and display:

NDI Tools, **OBS**, **Zoom Rooms**, **vMix**, and other NDI decoders.



Notes on DC IN and PoE Power Supply:

- DC power has the highest priority. When both DC and PoE+ power are available, the device is powered by DC.

- If DC power is disconnected while both DC and PoE+ are connected, the device will restart and switch to PoE+ power.
- If DC power is connected while the device is powered by PoE+, the device switches to DC power without interruption or reboot.

5. LAN Control

The device equips a LAN port for telnet and web UI control.

5.1 Obtain IP Address

Users can obtain the device's IP address by briefly pressing the RESET button once or connecting an HDMI display. The IP address will then be shown on the display's screen.

The default IP mode of the device is DHCP. If the device fails to obtain an IP address via DHCP, it will automatically switch to AutoIP, and generates a default **IP address: 169.254.1.100.**

5.2 Telnet Control

Connect a control PC to the network LAN port of the device. Before you intend to control the device through telnet API, users shall establish connection between this device and your computer.
The form of the command for telnet connection is below:
telnet ip (port)

- ip: The device's IP address.
- port: The device's port number, this is non-required for some Telnet control tools. Default setting is **23**.

For example, if the device's **IP address is 192.168.11.143**, the command for telnet connection shall be the following:

telnet 192.168.11.143

5.3 Web UI Control

The Web UI designed for the device can be accessed through a browser with latest version, e.g., Chrome, Safari, Firefox, Opera, IE10+, etc.

The default IP mode of the device is DHCP. If the device fails to obtain an IP address via DHCP, it will automatically switch to AutoIP, and generates a default **IP address: 169.254.1.100**.

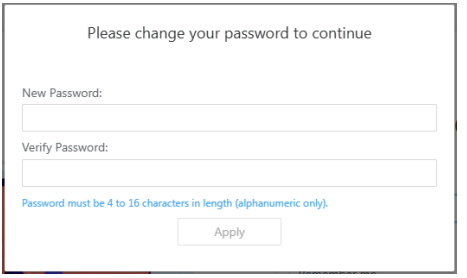
Default login password for Web UI is **"admin".**

5.3.1 Get IP

1. Connect the LAN port of the device to the Ethernet switch with DHCP server, and connect the PC to the same Ethernet switch.
2. Get the IP address (see "Obtain IP Address" section).
3. Input the IP address obtained in the previous step in the browser and press "Enter" key on keyboard. The following page can be access in:

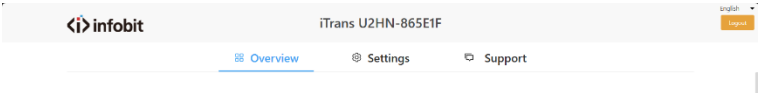


4. Input the password to login the web UI. The default password is "admin".
5. When login web UI first time, after clicking "Login", users will enter the following window to change login password. Input new password and click "Apply" to enter the main page.



Input the new password and click “Apply” to enter the main page.

Note: Password must be 4 to 16 characters in length (alphanumeric only).



5.3.2 Introduction

Language Selection: You can select the Web UI display language—English or Chinese—in the top-right corner.



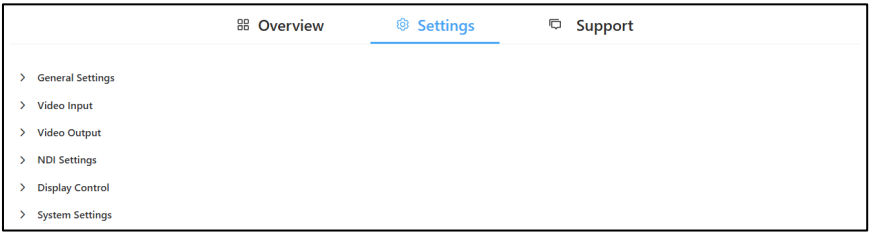


: Click to logout the web UI and back to Login page.

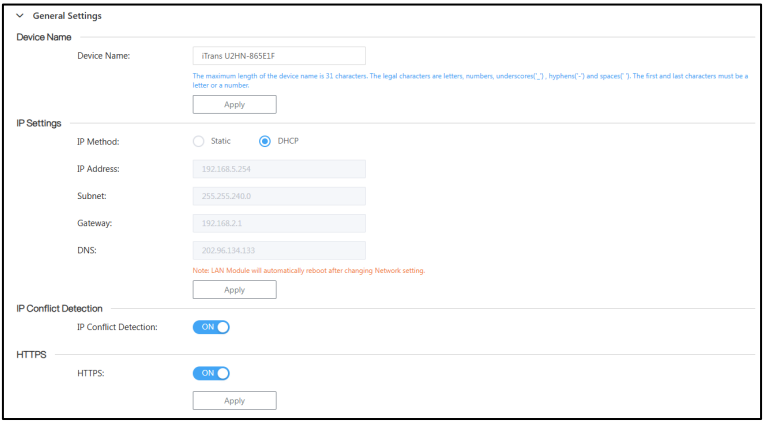
1. Overview

This section shows the device’s diagram, and the information of USB IN, HDMI OUT and NDI OUT.

2. Settings



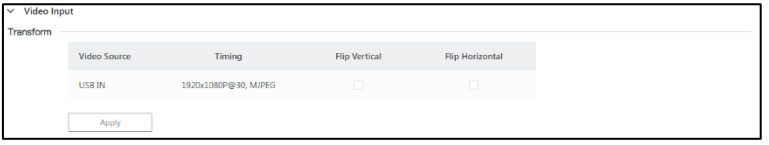
1) General Settings



UI Elements	Description
Device Name	Set device name. Input the name and click “Apply” to take effect. **Note**: The maximum length of the device name is 31 characters. The legal characters are letters, numbers, underscores ('_'), hyphens ('-') and spaces (' '). The first character must be a letter or a number.
IP Settings	Set IP mode. • **DHCP**: When enabled, the IP address of the Matrix is assigned automatically by the DHCP server connected. • **Static**: When enabled, set up the IP address manually. • **Apply**: Click to enable the network setting. **Note:** • When "Static" is selected, please ensure your PC is in the same network segment as the camera. • Please wait for 2-3 minutes for the camera's LAN module to reboot and reconnect after the network setting is changed.

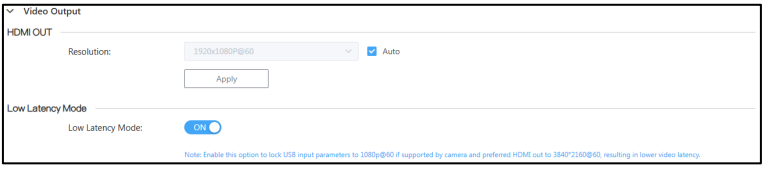
UI Elements	Description
IP Conflict Detection	This section allows users to set IP conflict detection function to on/off. The default setting is on.
HTTPS	Click to enable / disable HTTPS connection, and click “Apply” to take effect. Default setting: ON.

2) Video Input



UI Elements	Description
Timing	Displays timing information for the USB IN device.
Flip Vertical	Click the checkbox to flip the camera’s image vertically. Default setting: Unchecked (don’t flip).
Flip Horizontal	Click the checkbox to flip the camera’s image horizontally. Default setting: Unchecked (don’t flip).

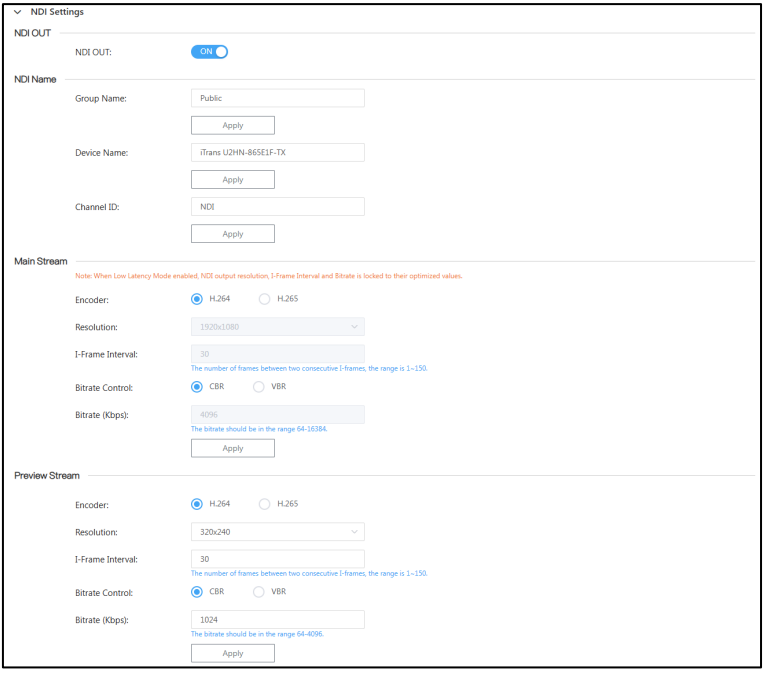
3) Video Output



UI Elements	Description
HDMI OUT	Resolution: Set output resolution. Default setting: Auto. When disable “Auto”, select output resolution from the drop-down menu, and click “Apply” to take effect.
Low Latency Mode	Enable or disable low latency mode. Default setting: Enabled. • **Enabled**: USB IN is fixed at 1080p@60fps to reduce transmission latency. HDMI OUT defaults to Auto mode (up to 4K@60Hz) and supports manual resolution configuration. NDI OUT follows the source resolution. For 4K camera sources, USB IN outputs 1080p@30fps since 4K@60fps is not supported. • **Disabled**: USB IN defaults to 4K@30fps.

UI Elements	Description
	Note: When Low Latency Mode enabled, NDI output resolution, I-Frame Interval and Bitrate is locked to their optimized values.

4) NDI Settings



This section allows users to enable / disable NDI output, and configure main stream and preview stream parameters.

UI Elements	Description
NDI OUT	Click to enable or disable NDI OUT. Default setting: ON.
NDI Name	• **Group Name**: Set the group name to which the NDI device belongs. Click “Apply” to take effect. Default: Public. Only devices or software within the same NDI Group can discover and access the video stream. • **Device Name**: Input a device name and click “Apply” to take effect. Default: **iTrans U2HN-xxxxxx-TX** (xxxxxx represents the last 6 digits of the MAC address).

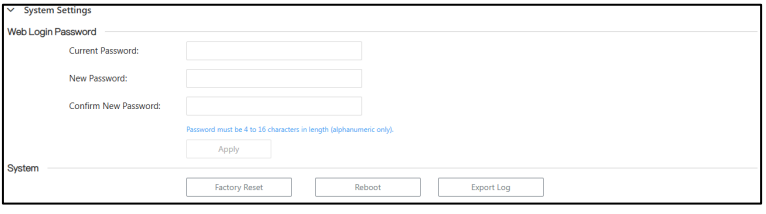
UI Elements	Description
	This name will appear in NDI-enabled software to identify the device. **Note**: Maximum 64 characters. Allowed characters include letters, numbers, underscores ("_"), hyphens ("-"), and spaces. The first and last character must be a letter or number. **Channel ID**: Input a channel ID for setting the NDI channel identifier. • **Apply**: Click "Apply" to take effect.
Main Stream	**Note**: When Low Latency Mode is enabled, NDI output resolution, I-Frame Interval and Bitrate is locked to their optimized values. When Low Latency Mode is disabled: • **Encoder:** Click the check box before H.264 and H.265 to select encoder of the main stream. Default setting: H.264. • **Resolution:** Select resolution from the drop-down menu for the main stream. • **I-Frame Interval**: Input an I-frame interval. The number of frames between two consecutive I-frames, the range is 1~150. • **Bitrate Control**: Click the check box to select bitrate control mode, CBR or VBR. Default setting: CBR. • **Bitrate (Kbps)**: Input a bitrate rate. The main stream bitrate should be in the range 64-16384, and the preview stream bitrate should be in the range 64-4096. • **Apply**: Click "Apply" to take effect.
Preview Stream	• **Encoder:** Click the check box before H.264 and H.265 to select encoder of the Preview stream. Default setting: H.264. • **Resolution:** Select resolution from the drop-down menu for the Preview stream. • **I-Frame Interval**: Input an I-frame interval. The number of frames between two consecutive I-frames, the range is 1~150. • **Bitrate Control**: Click the check box to select bitrate control mode, CBR or VBR. Default setting: CBR. • **Bitrate (Kbps)**: Input a bitrate rate. The preview stream bitrate should be in the range 64-4096. **Apply**: Click "Apply" to take effect.

5) Display Control



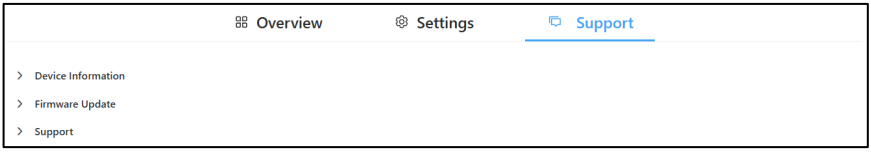
UI Elements	Description
Policy	• **Auto Standby**: Click to enable or disable auto standby function. Default setting: ON. • **Auto Standby Time**: Set the delay time to enter standby mode. Default setting: 60s. Range: 0~3600s. • **Apply**: Click “Apply” to take effect.

6) System Settings

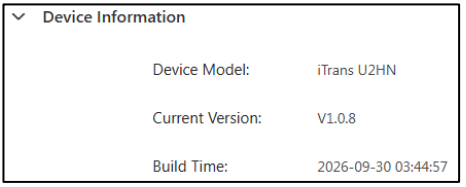


UI Elements	Description
Login	This section is used to change web login password. Note: Password must be 4 to 16 characters in length (alphanumeric only). Default password: admin. **Apply**: Click “Apply” to take effect.
System	• **Factory Reset:** Click to set the device to factory defaults. Please wait 40s to re-access Web UI by refreshing the browser. • **Reboot:** Click to reboot the device. • **Export Log:** Click to export the log file to local PC.

3. Support

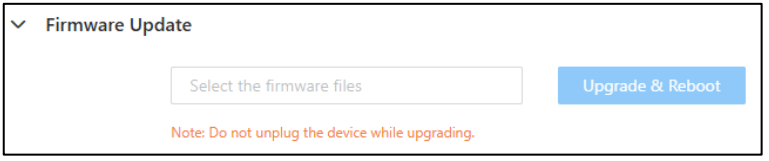


- Device Information



This section shows the device's information, including device model, current version and build time.

- Firmware Update

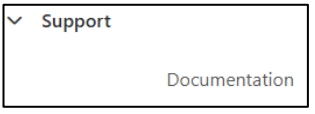


This section allows users to upgrade firmware.

Click "Select the firmware files" bar to upload the upgrade file with latest version from local PC, and then click "Upgrade & Reboot" to upgrade firmware. When the upgrade completes, the device will automatically reboot.

Note: Do not unplug the device during upgrading process.

- Support



Click on the "Documentation" to go to the official website.