iTrans H2UN

4K HDMI TO USB OR NDI CAPTURE/ 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.



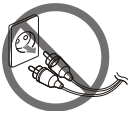
2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



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 H2UN** is an HDMI capture and NDI streaming converter that captures HDMI video signals and converts them into a USB 3.0 UVC/UAC stream or NDI network streams. It supports up to 4K@30Hz HDMI input and loop-through output, and provides USB Type-C power input, PoE power supply, Web UI control, and network API control through the LAN port. It is ideal for applications such as video conferencing, live streaming, recording, and professional AV systems.

1.2 Features

- Supports HDMI video capture and conversion to USB 3.0 UVC/UAC output or NDI network streams.
- Supports HDMI input and loop-through output up to 4K@30Hz.
- Supports USB 3.0 Type-C output with multiple video formats, including MJPEG, H.264, H.265, and NV12.
- Supports NDI streaming over a 10/100Mbps Ethernet connection.
- Supports PoE power supply through the LAN port and USB Type-C 5V/1A power input.
- Supports Web UI control and network API (Telnet) control.
- Supports USB and NDI output priority switching, with USB output taking priority over NDI output.
- Provides HDMI loop-through output for local monitoring.
- Compact design with a 1/4" mounting screw hole for flexible installation.

1.3 Package Contents

- 1 x iTrans H2UN Converter
- 1 x USB 3.2 Gen1 Type-C to Type-A cable (L = 1.8m)

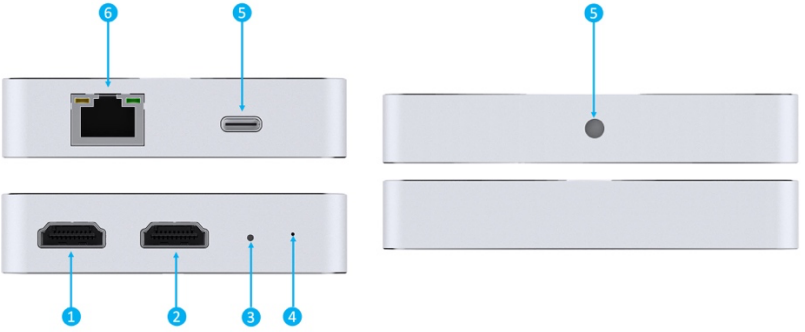
1.4 Specifications

Video & Audio	
Input & Output Port	1 x HDMI IN, 1 x HDMI OUT, 1 x NDI OUT (PoE), 1 x USB OUT
Input / Output Resolution Supported	**HDMI IN/OUT:** Up to 4K@30Hz 4:4:4, 1080p@60Hz 4:4:4 **USB OUT**: MJPEG / H.264 / H.265: 320x240@30fps, 640x360@30fps, 640x480@30fps, 1280x720@30fps/60fps, 1920x1080@30fps/60fps, 2560x1440@30fps, 3840x2160@30fps NV12: 320x240@30fps, 640x360@30fps, 640x480@30fps, 1280x720@30fps*, 1920x1080@30fps* **Note**: "*" indicates the resolution is not supported by USB 2.0. **NDI OUT**: Main stream: H.264/H.265, follows HDMI IN resolution, supports 4K@30fps 4:4:4, and 1080p@60fps 4:4:4; Preview stream: H.264/H.265; When the main stream's resolution is 4K@30fps, there's no preview stream. When the main stream's resolution is 1080p@60fps, the preview stream is fixed 640x360@30fps.
USB Protocol	UVC / UAC compliant
Audio Format Supported	PCM 2.0
Compatible Operating Systems	Windows 10 or above/ Mac OS 12 or above

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	Powered via USB-C (5V/1A); Powered via LAN (PoE)
Power Consumption	Powered via local DC power IN port: Low-latency mode: 5.592W;

General	
	4K full-loaded: 6.816W. Powered via PoE: Low-latency mode: 7.5W 4K full-loaded: 9.1W
Dimension (Width x Height x Depth)	108.4mm x 20mm x 78mm / 4.27” x 0.79” x 3.07”
Net Weight	0.16kg

2. Panel Overview



#	Name	Description
1	HDMI IN	Connect to an HDMI source, such as HDMI camera, PC.
2	HDMI OUT	Connect to an HDMI display for local monitoring.
3	RESET	• Hold and press the button for about 10s: Reset the device to factory defaults. The POWER LED flashes 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.
4	POWER LED	• Blinking white briefly, then off: The device is powering on. • Solid white: Valid input source is detected. • Breathing white: Invalid input source detected.

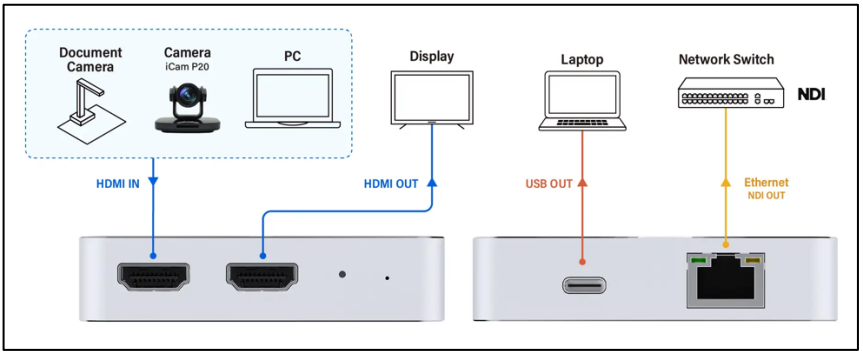
#	Name	Description
		• Blinking rapidly: The device is in upgrading process. • Off: The device is power off.
5	USB OUT +5V	USB 3.2 Gen1 Type-C port. Outputs captured HDMI video as UVC/UAC stream to a USB host device. Supports 5V/1A power for the device.
6	NDI OUT (POE)	RJ45 port. 10/100Mbps Ethernet. 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.
7	Screw Hole	1/4"-20 nut. Connect to a standard tripod.

3. Typical Applications

Warnings:

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

In this scenario, various HDMI source devices, such as HDMI cameras and in-room PCs, can be connected to the converter. The HDMI signals are converted into NDI streams and transmitted to an NDI receiver or a Zoom Rooms client. Additionally, the converter can connect to a laptop via the USB OUT port for remote conferencing. When connected in this way, the converter appears on the laptop as a virtual USB camera.



USB OUT Instructions:

When connected to a USB host, the device will be recognized as a UVC camera and UAC audio device.

Name displayed on the connected laptop: **iTrans H2UN**.

Video output priority instruction:

USB OUT and NDI OUT are mutually exclusive. USB OUT has higher priority.

When USB OUT is active, enabling NDI OUT will not enable NDI output and an OSD message will be displayed (OSD Message: "Please enable NDI and disable USB video output.").

When NDI OUT is active, enabling USB OUT will disable NDI output and switch the video output to USB OUT.

4. LAN Control

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

4.1 Obtain IP Address

Users can obtain the device's IP address by briefly pressing the RESET button once or connecting an HDMI display to HDMI OUT port. 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.**

4.2 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

4.3 Web UI Control

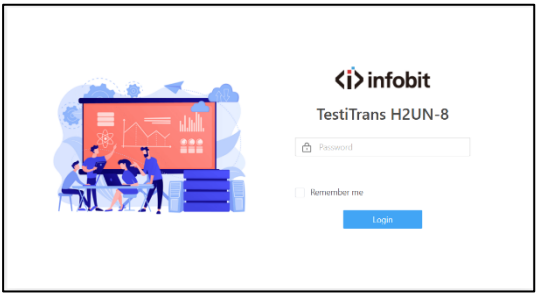
The Web UI designed for the device can be accessed through a browser with latest version, e.g., Chrome, Safari, Firefox, Opera, IE10+, etc.

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.**

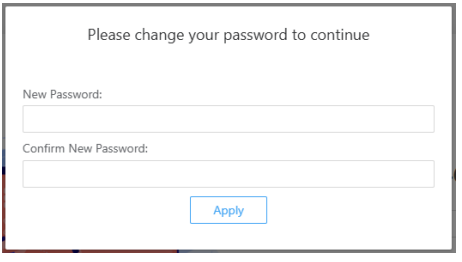
Default login password for Web UI is **"admin"**.

4.3.1 Get Access to Web UI

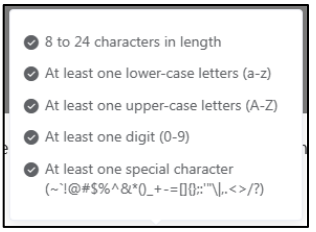
1. Connect the LAN port of the device to the Ethernet switch with DHCP server, and connect the PC to the same Ethernet switch.
2. Get the IP address (see “Obtain IP Address” section).
3. Input the IP address obtained in the previous step in the browser and press “Enter” key on keyboard. The following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



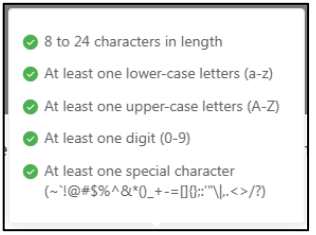
4. Input the password to login the web UI. The default password is “admin”.
5. When login web UI first time, after clicking “Login”, users will enter the following window to change login password. Input new password and click “Apply” to enter the main page.



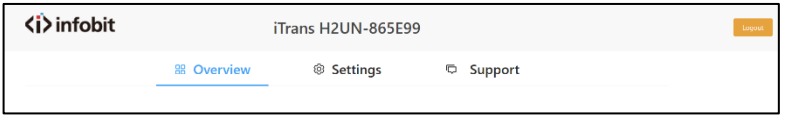
Click the box it will display the password requirements.



As the new password meets each requirement, the corresponding checkmark preceding that requirement turns green. When all checkmarks appear green, it indicates that the new password meets all requirements.



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



4.3.2 Web UI Introduction

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

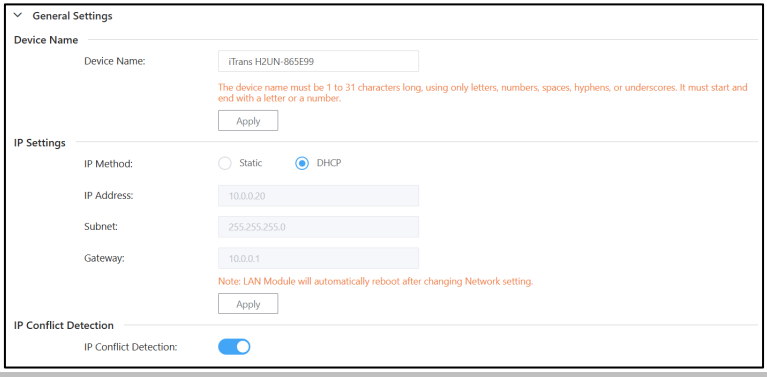
1. Overview

This section shows the device’s diagram, firmware version and device name.

2. Settings

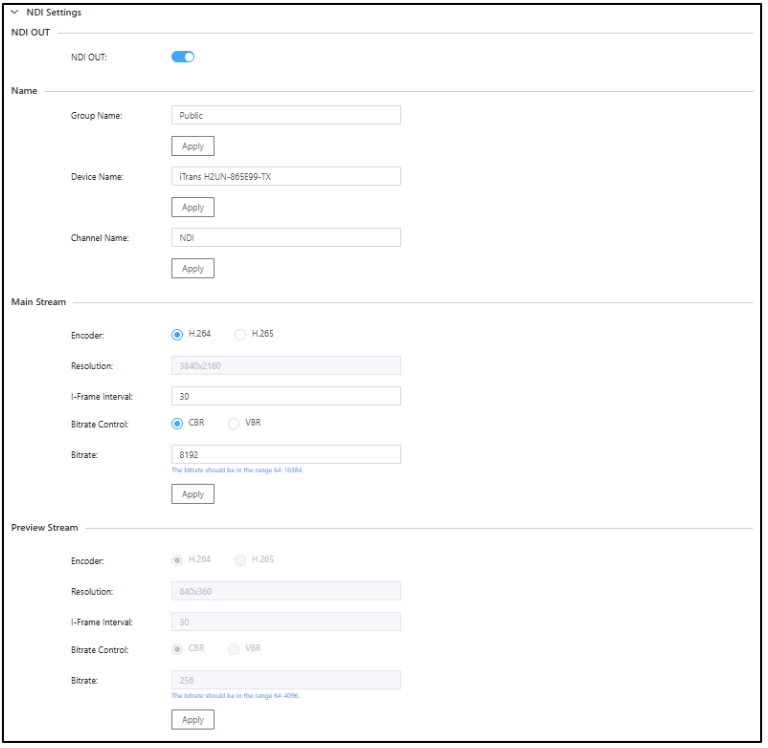


1) General Settings



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 device. • Please wait for 2-3 minutes for the device's LAN module to reboot and reconnect after the network setting is changed.
IP Conflict Detection	This section allows users to set IP conflict detection function to on/off. The default setting is on.

2) NDI Settings



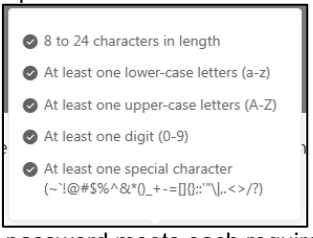
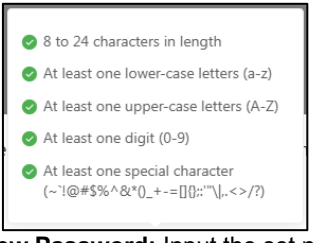
This section allows users to enable / disable NDI output, and configure main stream and preview stream parameters.

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 H2UN-xxxxxx-TX** (xxxxxx represents the last 6 digits of the MAC address). 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.

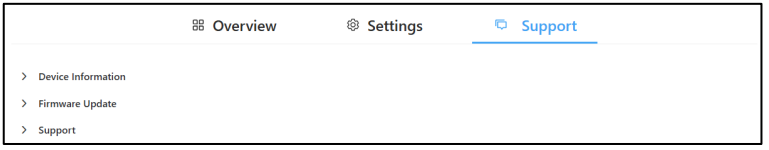
UI Elements	Description
	• **Channel Name**: Input a channel name. Default value: NDI. When a device provides multiple video streams, it can be used to distinguish between the different streams. • **Apply**: Click “Apply” to take effect.
Main Stream	• **Encoder:** Click the check box before H.264 and H.265 to select encoder of the main stream. Default setting: H.264. • **Resolution:** The main stream’s resolution follows the HDMI IN. • **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:** Preview stream’s resolution. When the main stream is set to 4K@30fps, no preview stream is available (the preview stream OSD displays: "Main stream resolution is 3840x2160@30fps, and preview stream transmission is not currently supported"). When the main stream is set to 1080p@60fps, the NDI preview stream is fixed at 640x360@30fps, with H.264 (default) or H.265 selectable and other parameters configurable; in this case, the recommended HDMI IN EDID is 1080p@60Hz—if this is not supported, it defaults to 1080p@30Hz, with the HDMI output also set to 1080p@30Hz. • **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.

3) System Settings

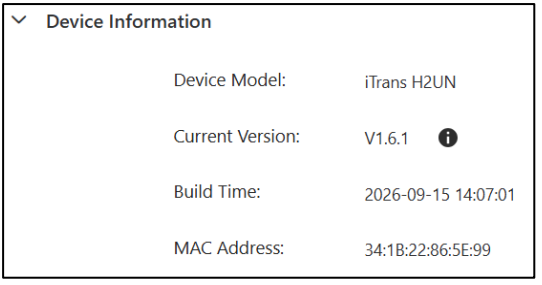


UI Elements	Description
Web Login Password	This section allows users to change login password. The default password is “admin”. • **Current Password:** Input the current web login password. • **New Password:** Click the box it will display the password requirements.  As the new password meets each requirement, the corresponding checkmark preceding that requirement turns green. When all checkmarks appear green, it indicates that the new password meets all requirements.  • **Confirm New Password:** Input the set new password again. • **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

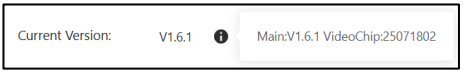


- Device Information

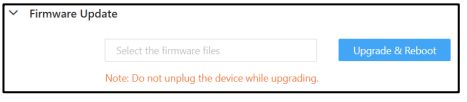


This section shows the device's information, including device model, current version and build time.

Move the mouse to the icon ⓘ in Current Version line, it will show the version of each module.



- Firmware Update

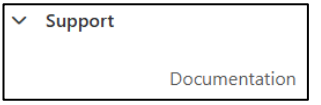


This section allows users to upgrade firmware.

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.