



Advanced AES67 150m HDMI Receiver HE-2150UMA-R



User Manual

Thank you for purchasing this product.

Please read this manual carefully before use to ensure optimal performance and safety.

Please retain this manual for future reference.

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This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

European Community Compliance Statement (Class A)

This product is herewith confirmed to comply with the requirements set out in the Council Directives on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility Directive 2014/30/EU.

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Contents

What's in the box?	3
Overview	3
Features	3
Panel Description	4
Front Panel	4
Back Panel	4
IR Cable Definition	5
Operation Guide	5
Getting to start	5
AES67Link Installation	6
Using AES67Link	7
Device Discovery	7
Language Selection	8
Menu	9
Routing	12
Network Info	12
Device Info	13
Device Level	13
Device Details	14
Device Config	14
Stream	16
DSP	18
Volume	22
Latency	23
Clock Log	24
Status	24
Advanced Functions	25
Custom DSP Function	25
DSP Function Design	25
Protocol	30
Technical Specifications	31
Warranty	33

What's in the box?

HE-2150UMA-R	x 1
5pin-3.5mm Phoenix Connector (male)	x 1
3pin-3.5mm Phoenix Connector (male)	x 1
Mounting Ear	x 2
Machine Screw (M3*4)	x 4
Interchangeable 24V 1A Adapter	x 1
UK Plug	x 1
US Plug	x 1
AU Plug	x 1
EU Plug	x 1
IR Transmitter	x 1
IR Receiver	x 1
Thank you Card	x 1

Notice

The contents of this manual are subject to change without prior notice as part of continuous product improvement. All updates will be incorporated into subsequent versions of this documentation, ensuring users have access to the most current information regarding product features and procedures.

Overview

Taska **HE-2150UMA-R** is a 4K long-range HDMI Receiver. It leverages an optimized version of HDBaseT technology. It allows you to reliably transmit high-definition audio, video, and control signals over a single CAT6/6a cable. It supports stunning video quality up to 4K@60Hz 4:4:4 and can extend your signal up to 120 meters for 4K content and 150 meters for 1080p content.

Its innovative bi-directional Power over Cable (PoC) design offers superior installation flexibility. This feature allows you to power both units from either the transmitter or receiver side using just one power adapter, simplifying setup and reducing cable clutter.

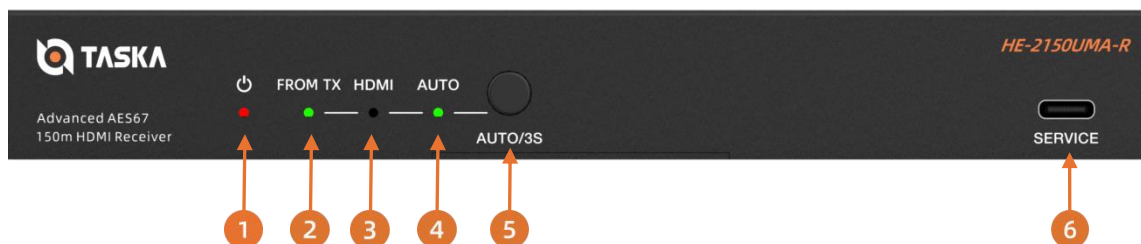
It offers flexible features like bidirectional IR and RS-232 control for managing your devices from a distance. It also includes advanced audio options such as output to analog stereo or AES67 network, making it a complete and versatile solution for any home or professional installation.

Features

- 4K HDMI Network Cable Extender, supports 1080P at a maximum distance of 150 meters and 4K at a maximum distance of 120 meters.
- Compatible with HDMI 2.0b, HDCP 2.2/HDCP 1.4, and DVI 1.0, with a maximum bandwidth of 18Gbps.
- The receiver supports one TX input and one local HDMI input, with auto-switching (HDMI 5V detection).
- AES67 network port supports PoE+ for powering the extender.
- The receiver supports audio stripping through analog L/R output.
- Bidirectional IR, RS-232, and CEC pass-through.
- HDR, HDR 10+, Dolby Vision, and HLG pass-through.
- Bidirectional PoC (Power over Cable) functionality.
- Designed for easy installation.

Panel Description

Front Panel



No.	Name	Function Description
1	POWER LED	The red LED will light on when the device is powered on.
2	FROM TX LED	The green LED will light on when the FROM TX input port is selected as the signal input channel.
3	HDMI LED	The green LED will light on when the HDMI input port is selected as the signal input channel.
4	AUTO LED	The green LED will light on when the Auto-Switching Mode is enabled.
5	AUTO/3S Button	- Press the button to select input channel. - Press and hold the button for 3 seconds to enable/disable the Auto-Switching Mode.
6	Service Port	The USB-C port, used for software upgrade and API commands control, operates at a fixed baud rate of 115200.

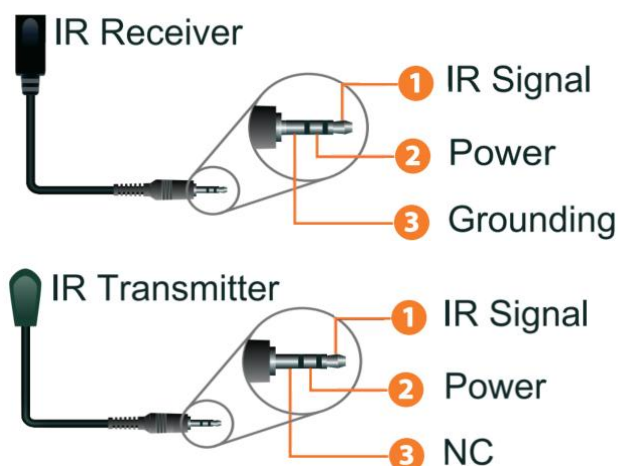
Back Panel



No.	Name	Function Description
7	DC 24V	DC 24V/1A Power Input. This is the DC power input port.
8	Data Signal Indicator	Signal Status Indicator. Flashing: Video signal is being transmitted. Off: No video signal is present.
9	FROM TX port	FROM TX Signal Input Port. Connect this port to the TO RX port on the transmitter using a CAT6/6A cable. This connection supports bidirectional PoC (Power over Cable) functionality.
10	Link Signal Indicator	Device Link Status Indicator. Solid On: Transmitter and receiver are properly connected. Flashing: The connection between transmitter and receiver is poor or unstable. Off: Transmitter and receiver are not connected.
11	HDMI IN port	HDMI Input. Connect to an HDMI signal source device via an HDMI cable.
12	HDMI OUT port	HDMI Output. Connect to an HDMI display device via an HDMI cable.
13	IR IN port	IR Input. Connect to an IR receiver which is bundled.

No.	Name	Function Description
14	IR OUT port	IR Output. Connect to an IR transmitter which is bundled.
15	RS-232 port	Serial Control Port. Used for RS-232 signal pass-through.
16	AUDIO OUT port	Analog Audio Output. Supports both balanced and unbalanced audio output. • Balanced Output (Max. 2Vrms): Connect to L+, L-, GND, R+, R-. • Unbalanced Output (Max. 1Vrms): Connect to (L+, GND, R+) or (L-, GND, R-).
17	AES67 port (PoE)	Dante Port with PoE+. Supporting Power over Ethernet (PoE+).Used for following two functions: ① AES67 audio port. ② Web GUI access and TCP/IP control port.

IR Cable Definition



Operation Guide

Getting to start

Since there is no Web UI for the **HE-2150UMA-R**, your configuration workflow for its AES67 functions is entirely dependent on external software. The process will follow these key steps:

- ① **Connect the Device:** Ensure the **HE-2150UMA-R** is powered on and connected to your network (its IP mode is typically set to **DHCP** by default for easy discovery).
- ② **Install the Software:** You must download and install the **AES67Link** software from the manufacturer's official website onto a computer on the same network.
- ③ **Access via AES67Link:** Open the **AES67Link** application. It should discover the **HE-2150UMA-R** on the network, allowing you to configure its AES67 audio streams, manage subscriptions, and control its audio functions directly from the software interface.

AES67Link Installation

① Launch the Installer

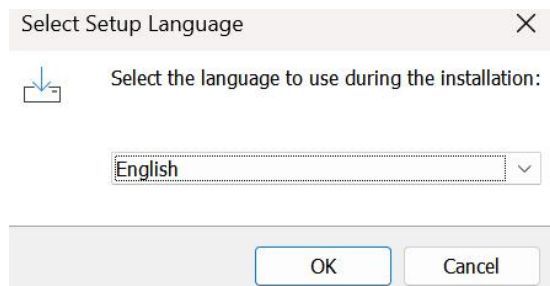
Locate the downloaded **AES67Link** installation package on your computer. Double-click the file to begin the installation process.

 AES67Link_Gui_setup_X.X.X.X

Note: X.X.X.X is the version number.

② Select Installation Language

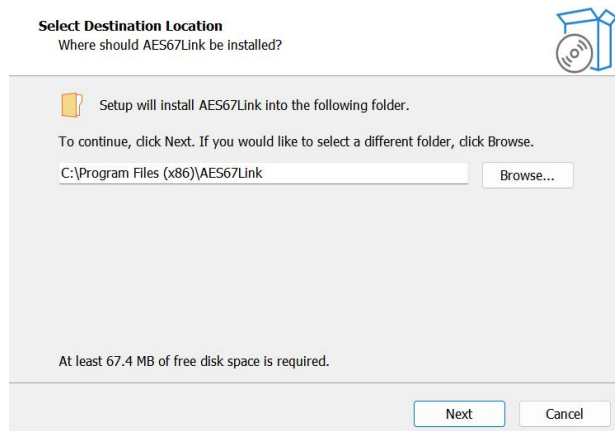
At the start of the setup wizard, you will be prompted to choose an installation language. The software supports both **Simplified Chinese** and **English**.



Note: If your antivirus or security software displays a warning, this is typically a false positive. To proceed, select options such as **"Trust"**, **"Allow"**, or **"Run anyway"** within your security software's prompt.

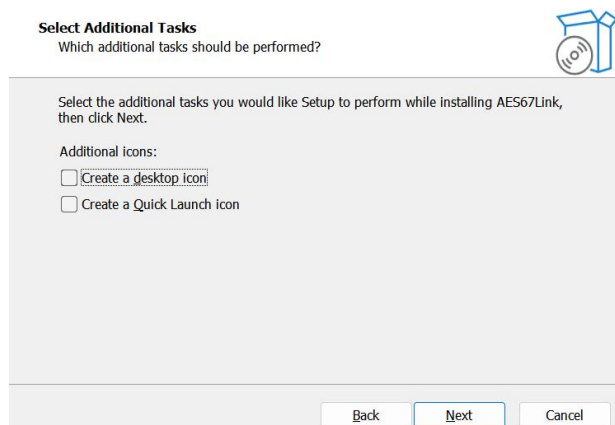
③ Choose Installation Path

The installer will allow you to select a destination folder for the software. You may accept the default path or specify a custom one.



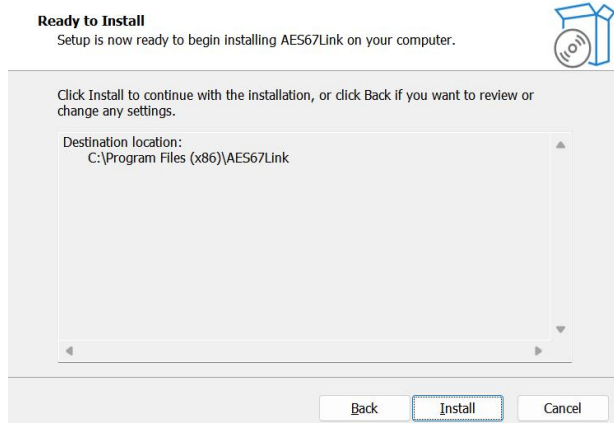
④ Create Shortcuts

You will be asked whether to create desktop and/or start menu shortcuts. Check the boxes according to your preference.



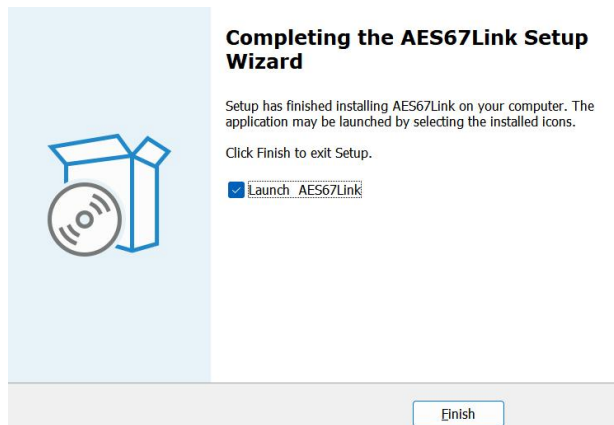
⑤ Complete the Installation

Review your selections and keep clicking "**Next**" to proceed through the remaining screens. Finally, click "**Install**" and wait for the progress bar to complete.



⑥ Launch the Application (Optional)

Upon successful installation, a final screen will typically appear with an option such as "**Launch AES67Link**". Check this box if you wish to start the software immediately, then click "**Finish**".



Using AES67Link

Device Discovery

The **AES67Link** software communicates with devices through the local area network (LAN). The initial setup requires selecting the correct network interface on your computer.

Before starting the discovery process, ensure the following conditions are met:

- The **HE-2150UMA-R** device is powered on.
- The device is connected to a local area network (LAN) via an Ethernet cable.
- The computer running the **AES67Link** software is connected to **the same LAN**.
- Ensure any firewall software on the computer is configured to allow the **AES67Link** application to communicate over the network (ports may need to be open).

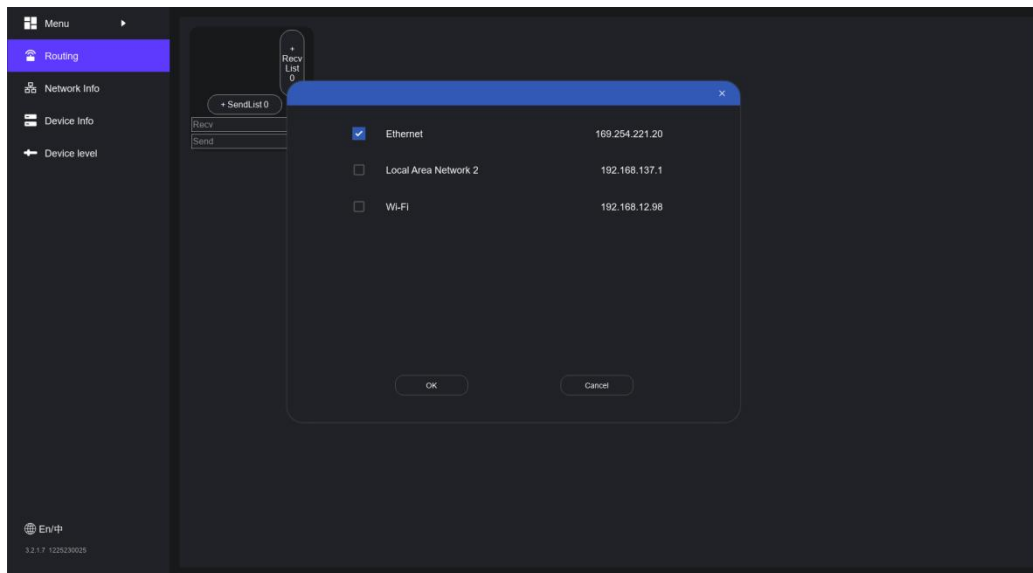
Launch the Software

Open the **AES67Link** application.

Select Network Adapter

Upon startup, if your computer has **multiple active network adapters** (e.g., Ethernet, Wi-Fi, VPN), a dialog box will prompt you to **manually specify which network adapter to use** for discovery. Choose the adapter that corresponds to the LAN where your device is connected.

Note: If the computer has **only one active network connection**, the software will **select it by default** and this step may not appear.

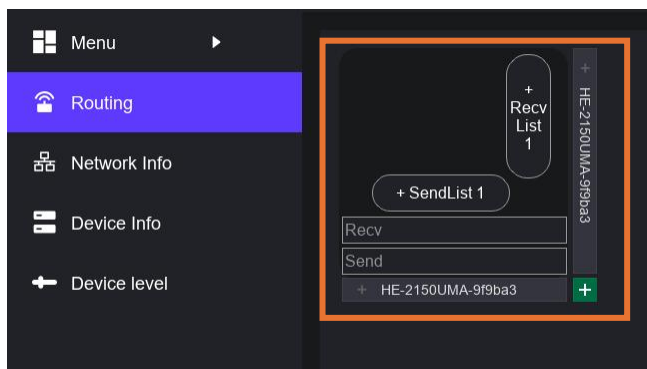


Automatic Discovery

After the network interface is selected, the software automatically scans the corresponding LAN for devices. Please wait for approximately **5 to 10 seconds** for the discovery process to complete.

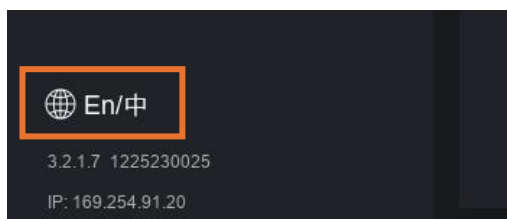
View Device List

Successfully discovered devices will be listed in the main interface. Your **HE-2150UMA-R** should appear here.



Language Selection

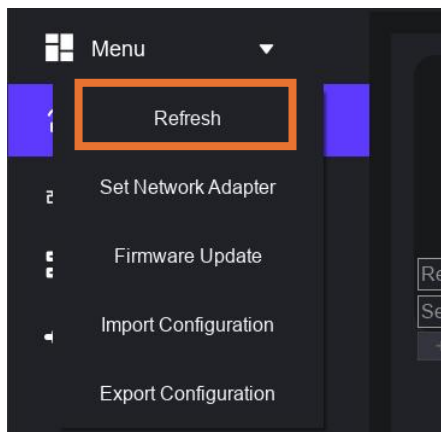
A language icon in the **lower-left corner** of the software window toggles the interface between **English** and **Simplified Chinese**. Click it to switch language. The change takes effect immediately.



Menu

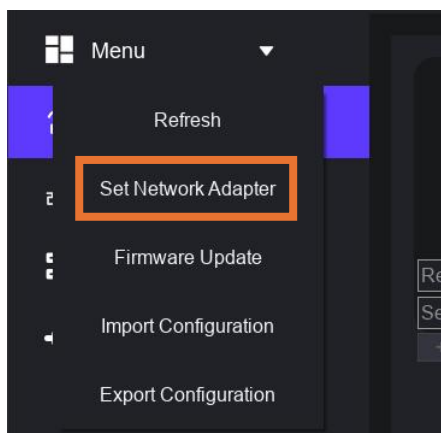
Refresh

To manually update the list of discovered devices, click **Menu > Refresh**.



Set Network Adapter

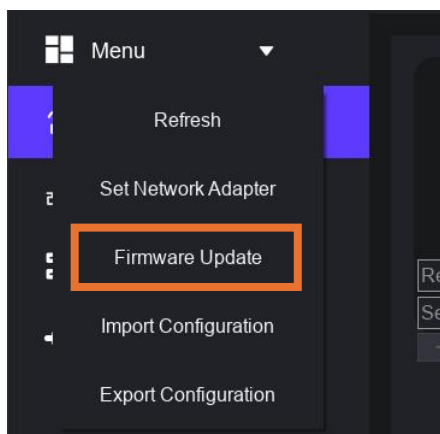
If your computer's network connection changes, manually re-select the correct network adapter for device discovery via **Menu > Set Network Adapter**.



Firmware Update

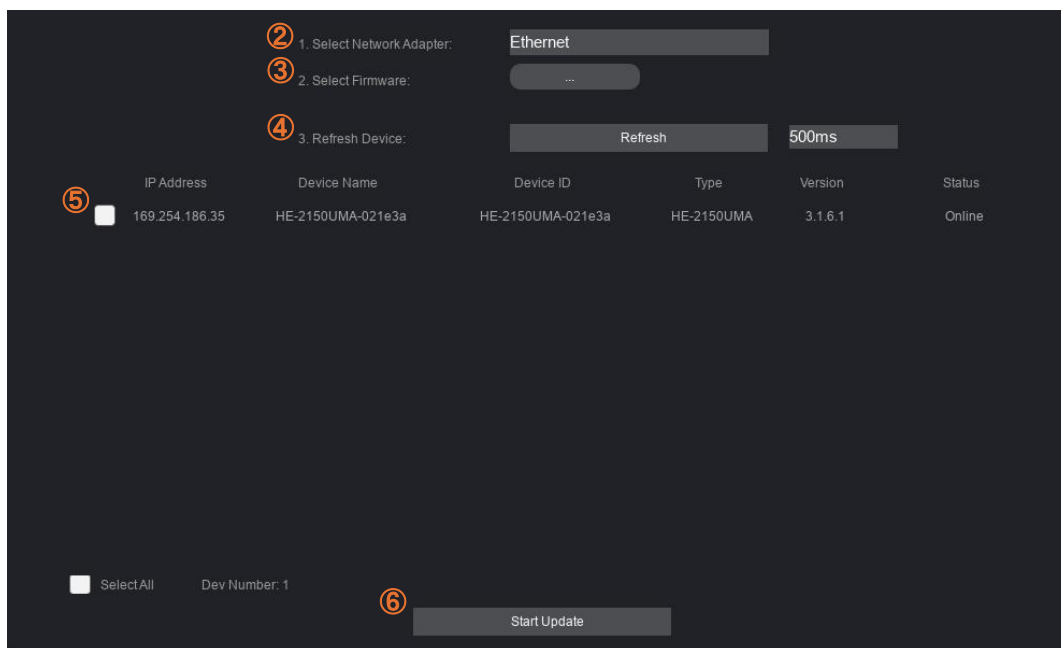
To upgrade the firmware of your device, follow these steps:

- ① **Open Upgrade Interface:** In the software menu, click **Menu > Firmware Update**.



- ② **Select Network Adapter:** If your computer has only one network card, it is selected by default.
If you have multiple network cards, select the one connected to the same Local Area Network (LAN) as your device. Devices on a different network will not be found.
- ③ **Load Firmware File:** Click to open a file browser dialog. Here, you must locate and choose the correct firmware upgrade package for your device model.
Caution: Select the original compressed file; **do not unzip** the update package before this step.
- ④ **Discover Devices:** Click the **"Refresh"** button to initiate a network scan. The software will search the selected network and list all discoverable devices. If any expected devices are missing from the initial list, click the **"Refresh"** button a few more times to ensure a complete scan.
- ⑤ **Select Target Device:** Identify the specific device(s) you wish to update from the list of discovered units. Distinguish between devices by verifying their **IP Address**, **Device Name**, and unique **Device ID**. Once identified, select the target device(s) from the list.
- ⑥ **Start the Update:** Click the **"Start Update"** button to begin uploading and installing the new firmware. Closely monitor the progress indicators in the **"Status"** column.

Caution: Do not close the software or power off the device during the update.



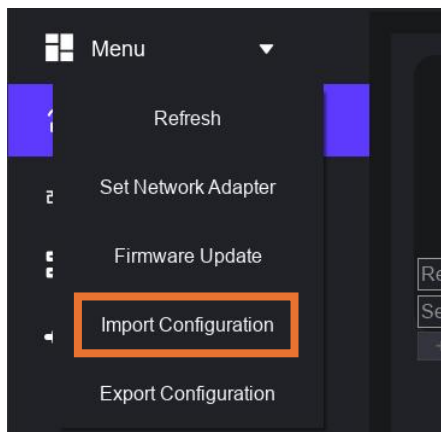
The screenshot shows the TASKA software interface. On the left, a sidebar contains numbered steps: 1. Select Network Adapter, 2. Select Firmware, 3. Refresh Device, 4. Discover Devices, and 5. Select Target Device. The main area displays a table of discovered devices. The table has columns for IP Address, Device Name, Device ID, Type, Version, and Status. A single device is listed with IP Address 169.254.186.35, Device Name HE-2150UMA-021e3a, Device ID HE-2150UMA-021e3a, Type HE-2150UMA, Version 3.1.6.1, and Status Online. Below the table, there is a 'Select All' checkbox and 'Dev Number: 1'. At the bottom, there is a 'Start Update' button.

IP Address	Device Name	Device ID	Type	Version	Status
169.254.186.35	HE-2150UMA-021e3a	HE-2150UMA-021e3a	HE-2150UMA	3.1.6.1	Online

Once the status shows completion, the device will automatically restart. The update is now finished.

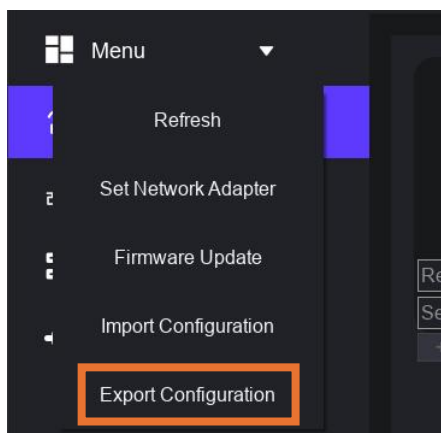
Import Configuration

To load a saved configuration, click **Menu** → **Import Configuration** to open a dialog, browse for a previously saved configuration file, and apply its settings to the device.

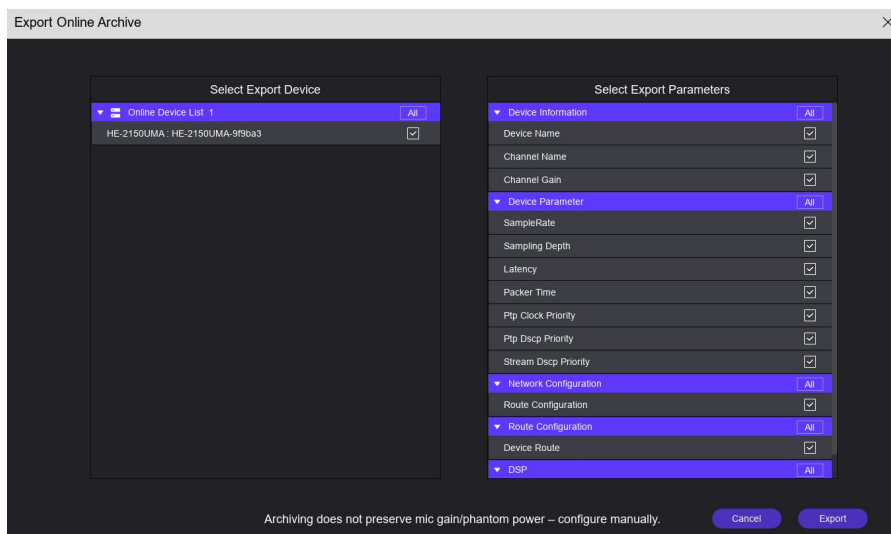


Export Configuration

To back up the current device settings, click **Menu** → **Export Configuration** to save all current device settings to a configuration file on your computer.



You can select specific devices and their individual parameters for backup. After selecting all desired items from the list, click the “**Export**” button. A dialog will appear, prompting you to choose a storage path and file name for the backup file.



Routing

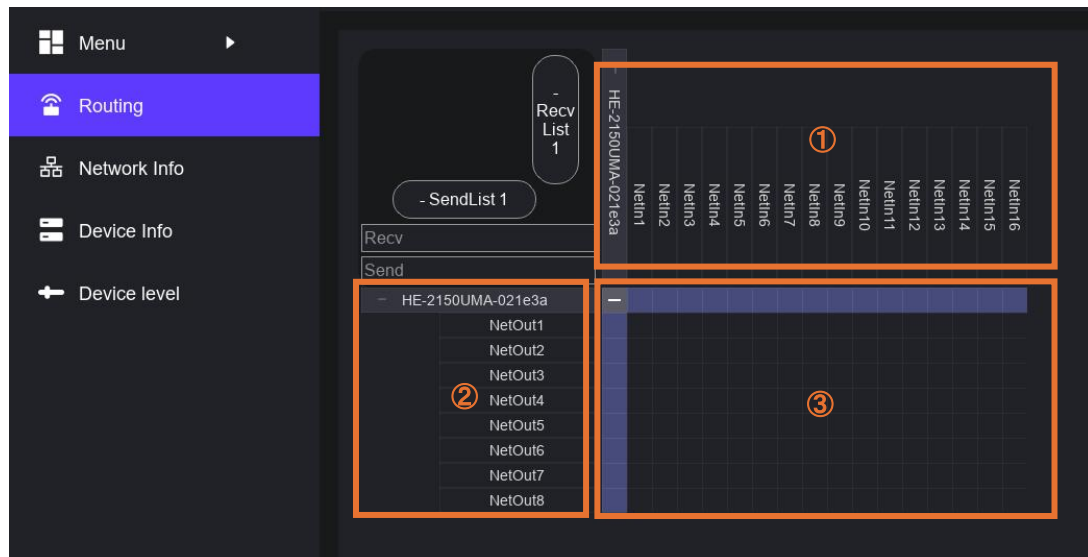
The routing interface is dedicated to configuring the audio stream paths between network channels. All channels displayed in this interface represent network input and output streams.

The interface is divided into three functional areas:

- ① **RecvList:** This panel lists all receiving devices discovered on the network. Expanding a device entry reveals its available **network receiving channels**.
- ② **SendList:** This panel lists all transmitting devices discovered on the network. Expanding a device entry reveals its available **network sending channels**.
- ③ **Routing Matrix:** This is the core routing grid. Each checkbox at the intersection of a sending channel and a receiving channel represents a potential audio connection.

Checked: A signal route is active. The audio from the selected sending channel will be transmitted to the corresponding receiving channel.

Unchecked: No signal is routed between those specific channels.



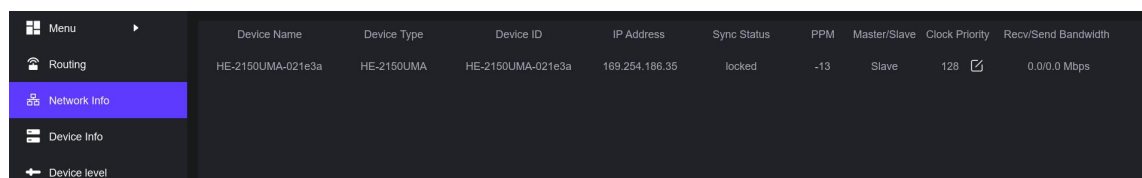
Network Info

Click the "Network Info" column on the left side of the software interface to view the following detail's for the selected device.

Note: The information on this page refreshes automatically every 5 to 10 seconds.

- ① **Device Name:** The display name of the device. This can be modified in the "Device Config" section.
- ② **Device Type:** Indicates the model or class of the device. Different types correspond to different product functions and channel counts.
- ③ **Device ID:** A unique, unchangeable identifier for the device. This value cannot be modified or duplicated.
- ④ **IP Address:** The current IP address of the device on the network.
- ⑤ **Sync Status:** Indicates whether the device is locked to the network clock. After connecting to the network, a device will automatically attempt to synchronize with the master clock, a process that typically completes within about 1 minute.
- ⑥ **PPM (Parts Per Million):** A measure of clock alignment accuracy between master and slave devices. The value should generally remain within a range of ± 70 ppm for stable operation.
- ⑦ **Master/Slave:** Shows the device's role based on the PTP v2 protocol. There is only one active master device in a LAN. Devices from other manufacturers that also use PTP may participate in the master clock election.

- ⑧ **Clock Priority:** A value from 0 to 255 used in master clock selection. A smaller number indicates a higher priority. The system automatically elects the device with the highest priority (lowest number) as the master. This value can be manually configured to force a device to become the master, except for virtual sound cards and certain special devices which display "NA" and cannot be modified.
- ⑨ **Recv/Send Bandwidth:** Displays the **current incoming/outgoing network bandwidth utilization** for the selected device. This value represents the total data rate of all audio streams being received/transmitted by this device from the network.



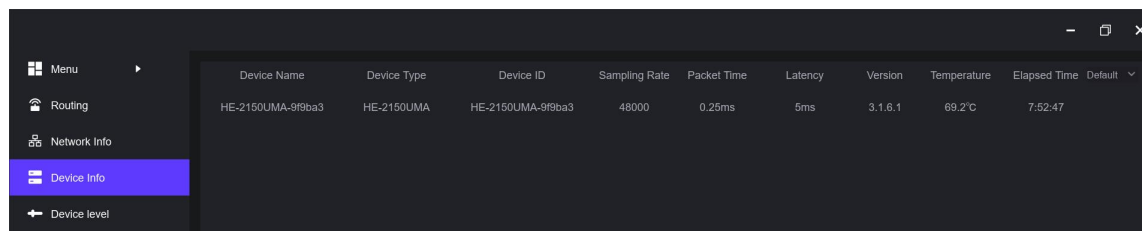
Device Name	Device Type	Device ID	IP Address	Sync Status	PPM	Master/Slave	Clock Priority	Recv/Send Bandwidth
HE-2150UMA-021e3a	HE-2150UMA	HE-2150UMA-021e3a	169.254.186.35	locked	-13	Slave	128	0.0/0.0 Mbps

Device Info

Click the "Device Info" tab or column on the left side of the software interface to view the following operational parameters for all connected devices.

- ① **Device Name:** The display name of the device. This can be modified in the "Device Config" section.
- ② **Device Type:** Indicates the model or class of the device. Different types correspond to different product functions and channel counts.
- ③ **Device ID:** A unique, unchangeable identifier for the device. This value cannot be modified or duplicated.
- ④ **Sampling Rate:** Displays the current audio sampling rate of the device. **Consistent sampling rates are required for audio transmission between devices.** This parameter can be modified in the "Device Config" section.
- ⑤ **Packet Time:** A configurable parameter for the size/timing of network audio data packets, which affects latency and network efficiency. It can be modified in the "Device Config" section.
- ⑥ **Latency:** A configurable parameter that sets the target latency for audio transmission over the network. It can be modified in the "Device Config" section.
- ⑦ **Version:** Displays the firmware version number of the physical device. For a virtual sound card, its version must be checked within its own dedicated software; the firmware field on this page will show "NA".
- ⑧ **Temperature:** Monitors the temperature of the device's core component. During normal operation, the temperature should remain **below 75°C**. If it exceeds **80°C**, you should investigate the cooling system and ventilation.
- ⑨ **Elapsed Time:** Displays the continuous uptime of the device since its last power cycle.

The list of devices can be sorted by this value in ascending or descending order.



Device Name	Device Type	Device ID	Sampling Rate	Packet Time	Latency	Version	Temperature	Elapsed Time	Default
HE-2150UMA-9f9ba3	HE-2150UMA	HE-2150UMA-9f9ba3	48000	0.25ms	5ms	3.1.6.1	69.2°C	7:52:47	

Device Level

Click the "Device Level" tab or column on the left side of the software interface to view real-time audio level meters for the selected device. This display is organized by the following signal types:

- ① **Device Name:** Same as the definition in "Network Info" and "Device Info" sections.
- ② **Analog Input:** Displays the signal level for the device's local analog input channels.

③ **Network Input:** Displays the signal level for the network audio input streams received by the device.

④ **Analog Output:** Displays the signal level for the device's local analog output channels.

⑤ **Network Output:** Displays the signal level for the network audio output streams transmitted by the device.

Each of the four signal types above can support displaying levels for up to 32 channels. If a device has fewer channels, the actual number is shown.

Levels are displayed as **dBFS** values when a signal is present. A "-" (dash) is displayed when the signal level is below the detection threshold, indicating no active signal. Different channel values are separated by a "/" (slash).

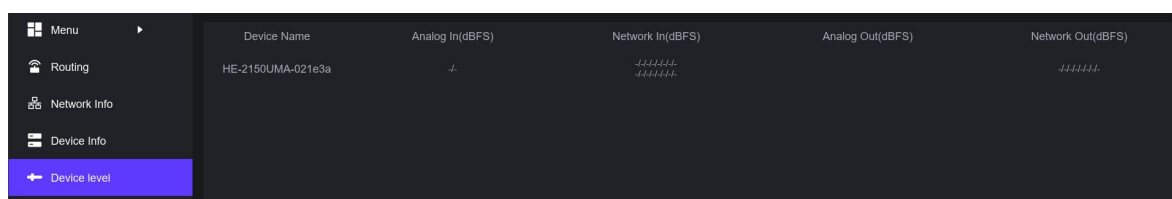
Channels are arranged in a grid with a maximum of **4 rows** and **8 columns**:

Row 1: Channels 1-8

Row 2: Channels 9-16

Row 3: Channels 17-24

Row 4: Channels 25-32



Device Name	Analog In(dBFS)	Network In(dBFS)	Analog Out(dBFS)	Network Out(dBFS)
HE-2150UMA-021e3a	-	+++++	+++++	+++++

Device Details

You can access the detailed configuration page for any device from several main interfaces. In the **"Routing"**, **"Network Info"**, **"Device Info"**, or **"Device Level"** pages, simply **double-click the device's name or its entire row**. This action will open the **"Device Details"** pop-up window.

Device Config

Device Information

- ① **Device Name:** The editable display name for the device. It should not exceed **32 characters**. By default, it is initially the same as the Device ID.
- ② **Device ID:** The unique, fixed identifier for the device. **This field cannot be modified.**
- ③ **Device Type:** Indicates the model or type of the device. **This field cannot be modified.**
- ④ **Sample Rate:** The audio sampling rate. Available options depend on the device type, and for some types, this value can be modified here.
- ⑤ **Latency:** The network delay parameter (in milliseconds). A smaller value results in lower latency but places higher demands on the sending device and network stability.
 - 1ms:** Use for the lowest possible latency, requiring an excellent sending device and network.
 - 2ms:** A low-latency option that provides a good balance between performance and network tolerance.
 - 5ms:** The **default** setting, offering a robust balance of performance and compatibility.
 - 6ms:** Provides the best compatibility with varied sending devices and network conditions.

Note: If the sending device is a virtual sound card, do not set this to 1ms, as it depends on the computer's system timing. Use 2ms, 5ms or 6ms instead.
- ⑥ **Packet Time:** The size/timing parameter for network audio data packets (in milliseconds). **The configured Latency must be no less than 4 times the Packet Time.**
 - Example 1: If Packet Time = 0.25 ms, then Latency can be 1 ms or 2 ms, etc. (≥ 1 ms).
 - Example 2: If Packet Time = 1 ms, then Latency must be 4 ms or greater (e.g., 5 ms, 6 ms), and cannot be set to 1 ms or 2 ms.
- ⑦ **Sample Bit Depth:** The audio bit depth, typically selectable from 16-bit, 24-bit(Default), or 32-bit.
- ⑧ **Device Lock:** This section configures access permissions for different functional modules of the device.

Route (Audio Routing): Controls permissions for the audio routing matrix.

Normal: Users can view and modify all routing connections.

ReadOnly: Users can view the current routing configuration but cannot make any changes.

Dev (Device Configuration): Controls permissions for core device parameters (e.g., Name, IP, Sample Rate).

Normal: Users can view and modify all device settings.

ReadOnly: Users can view device settings but cannot modify them.

Invisible: The entire device configuration section is hidden from the user's view.

DSP (Audio Processing): Controls permissions for digital signal processing settings and details.

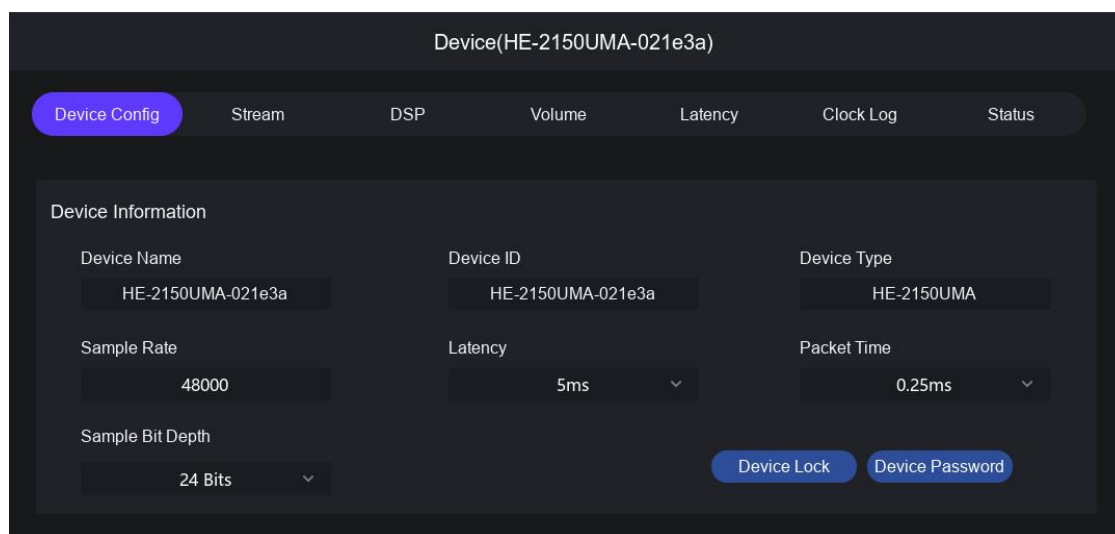
Normal: Users have full access to view and modify all DSP parameters.

ReadOnly: Users can view main DSP settings but cannot modify them.

DetailReadOnly: Users can view detail DSP function block setting, but cannot modify them.

Invisible: All DSP-related settings and status information are hidden from the user.

⑨ **Device Password:** User can set or modify the password.



Device Address

These settings configure the network identity and addressing method of the device.

① **IP Address:** Displays the current IP address of the device.

② **DHCP Settings:** Defines how the device obtains its IP address. It supports two modes:

Automatic IP (DHCP Client): The device automatically requests an IP address from a DHCP server on the network.

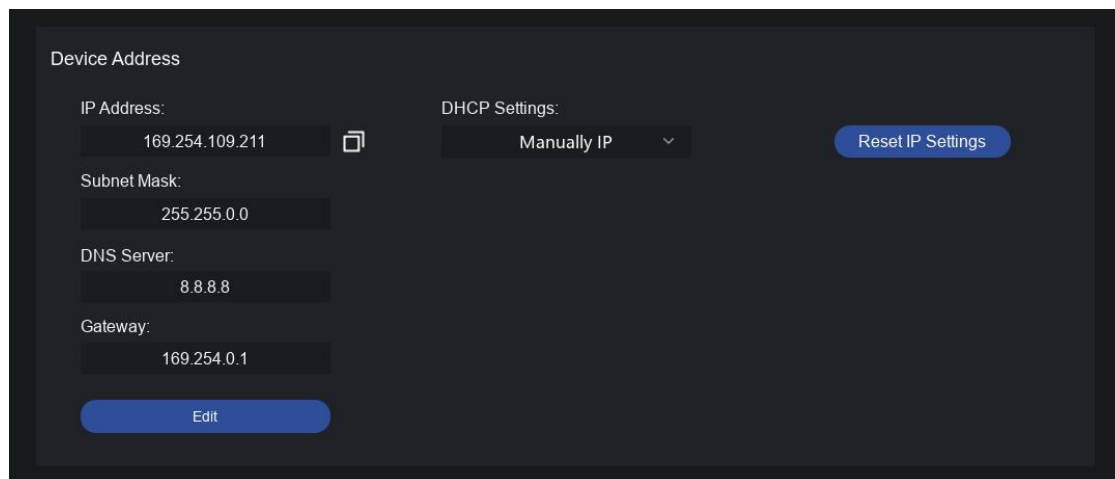
Manually IP (Static IP): You manually assign a fixed IP address to the device.

Procedure for Manually IP (Static IP) Configuration:

- Click the **"Edit"** button to enable editing of the network fields.
- Enter the specified values into the corresponding input boxes for:
 - IP Address
 - Subnet Mask
 - DNS Server (if applicable)
 - Gateway
- Click the **"Apply"** button to save the new settings.

Reset IP Settings

If incorrect manual IP settings make the device unreachable, click "**Reset IP Settings**". This forces the device to switch back to **Automatic IP** (DHCP) mode so it can be rediscovered on the network.



Stream

Unicast Stream

This page displays the real-time records and status of the device's unicast audio stream reception, transmission, and routing. The data is updated each time the "Device Details" page is opened.

① **rxChArr(rtpChId)** - Channel Routing Record

This column shows the routing assignment for each of the device's **receiving (input) channels**.

rtpChArr: The device's local receiving channel number, starting from 0 (which represents physical/logical Channel 1).

rtpChId: The index number pointing to a **Routing Record** in the ② **rtpChArr(srcDevId, srcChId)** list below. This defines the source of the audio for this channel.

Examples:

0(-1): Receiving Channel 1 has no **Routing record** (is not receiving any network stream).

4(4): Receiving Channel 5 is routed to receive audio from the source defined in rtpChArr at **Routing record 4**.

Note: Routing records are auto-generated/deleted when you check/uncheck boxes in the main Routing interface. Manual maintenance is generally not required. To delete a persistent record (e.g., if a source device is offline), **double-click its entry in this column**.

② **rtpChArr(srcDevId, srcChId)** - Routing Record List

This list defines all available audio **Routing records** that can be routed to.

srcDevId: The unique **Device ID** of the sending device.

srcChId: The **output channel index** on that sending device, starting from 0 (Channel 1).

③ **ucastArrRx(active, srclp)** - Unicast streams being received

Lists the **unicast streams currently being received** by this device.

active: Status indicator (1=Active, 0=Inactive).

srclp: The IP address of the device sending this unicast stream.

④ **mcastArrRx(active, srclp)** - Multicast streams being received

Lists the **multicast streams currently being received** by this device.

active: Status indicator (1=Active, 0=Inactive).

srclp: The multicast group IP address for this stream.

⑤ **ucastArrTx(dstIp)** - Unicast streams being transmitted

Lists the **unicast streams currently being transmitted** by this device to specific receivers.

dstIp: The IP address of the target receiving device.

⑥ **mcastArrTx(dstIp, name)** - Multicast streams being transmitted

Lists the **multicast streams currently being transmitted** by this device.

dstIp: The multicast group IP address.

name: The descriptive name assigned to this multicast stream.

Device Config Stream DSP Volume Latency Clock Log Status					
Unicast Stream Multicast Stream					
rxChArr(rtpChId)	rtpChArr(srcDevId,srcChId)	ucastArrTx(active,srcIp)	mcastArrTx(active,srcIp)	ucastArrTx(dstIp)	mcastArrTx(dstIp,name)
0(-1)	0(HE-2150UMA-9f9ba3, 1)	0(0, 0.0.0.0)	0(0, 0.0.0.0)	0(0.0.0.0)	0(0.0.0.0,)
1(-1)	1(-1)	1(0, 0.0.0.0)	1(0, 0.0.0.0)	1(0.0.0.0)	1(0.0.0.0,)
2(0)	2(-1)	2(0, 0.0.0.0)	2(0, 0.0.0.0)	2(0.0.0.0)	2(0.0.0.0,)
3(-1)	3(-1)	3(0, 0.0.0.0)	3(0, 0.0.0.0)	3(0.0.0.0)	3(0.0.0.0,)
4(-1)	4(-1)	4(0, 0.0.0.0)	4(0, 0.0.0.0)	4(0.0.0.0)	4(0.0.0.0,)
5(-1)	5(-1)	5(0, 0.0.0.0)	5(0, 0.0.0.0)	5(0.0.0.0)	5(0.0.0.0,)
6(-1)	6(-1)	6(0, 0.0.0.0)	6(0, 0.0.0.0)	6(0.0.0.0)	6(0.0.0.0,)
7(-1)	7(-1)	7(0, 0.0.0.0)	7(0, 0.0.0.0)	7(0.0.0.0)	7(0.0.0.0,)
8(-1)	8(-1)	8(0, 0.0.0.0)	8(0, 0.0.0.0)		
9(-1)	9(-1)	9(0, 0.0.0.0)	9(0, 0.0.0.0)		
10(-1)	10(-1)	10(0, 0.0.0.0)	10(0, 0.0.0.0)		
11(-1)	11(-1)	11(0, 0.0.0.0)	11(0, 0.0.0.0)		
12(-1)	12(-1)	12(0, 0.0.0.0)	12(0, 0.0.0.0)		
13(-1)	13(-1)	13(0, 0.0.0.0)	13(0, 0.0.0.0)		
14(-1)	14(-1)	14(0, 0.0.0.0)	14(0, 0.0.0.0)		
15(-1)	15(-1)	15(0, 0.0.0.0)	15(0, 0.0.0.0)		

Multicast Stream

This page allows you to create, view, and delete multicast audio streams transmitted by the device. The device supports creating a **maximum of 4 multicast streams** simultaneously.

Managing Created Streams

The table lists all currently active multicast streams.

View: You can see the details (Name, IP:Port, Channels) of each created stream.

Delete: To remove a multicast stream, **select its entry in the list** and then use the **"Delete"** button. This action stops the transmission immediately.

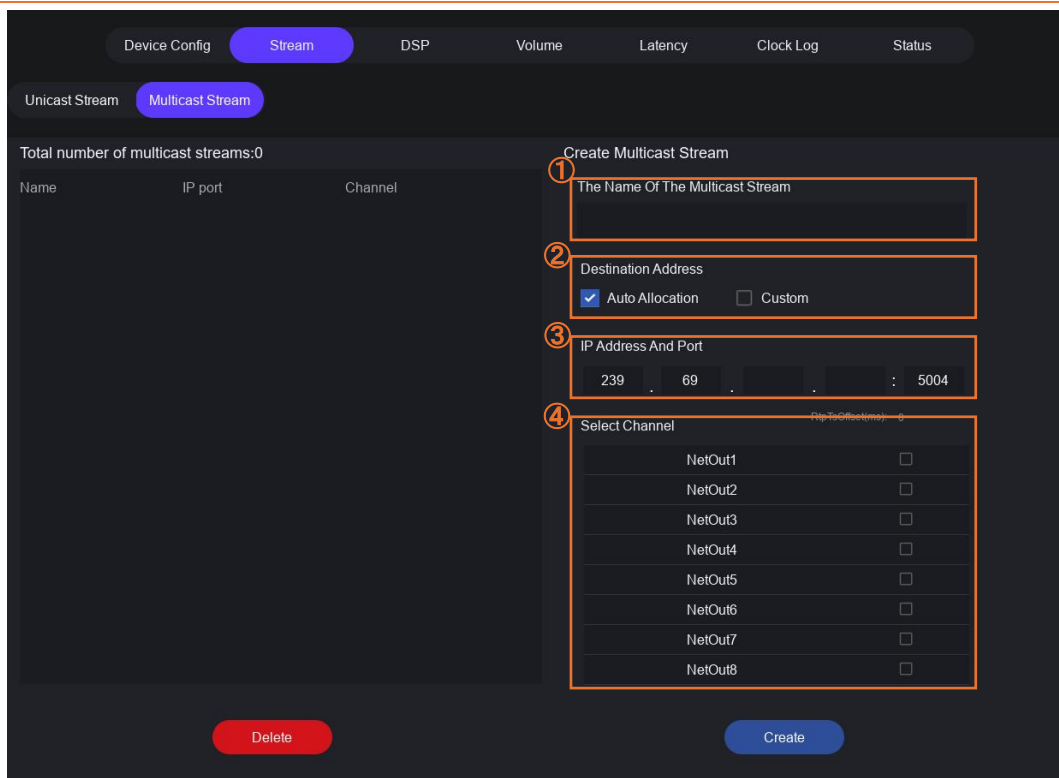
Creating a Multicast Stream

When creating a new stream, configure the following parameters:

- ① **Multicast Stream Name**: A descriptive name for the stream for easy identification. The name should not exceed 32 characters.
- ② **Destination Address**: For the IP address, you can choose **"Auto Allocation"** to let the system assign one automatically or select **"Custom"** to manually specify an IP address.
- ③ **IP Address and Port**: If **"Custom"** is selected, **you must enter a valid multicast IP address within the range of 224.0.0.0 to 239.255.255.255.**

Note: The UDP port is fixed at 5004 and cannot be modified.

- ④ **Select Channel**: Choose which of the device's sending (output) channels to include in this multicast stream. All selected channels will be transmitted via the defined multicast address.



After configuring all parameters, click the **"Create"** button to establish the multicast stream.

DSP

Diagram

This diagram provides an overview of the Digital Signal Processing (DSP) status for all input and output channels. Different channels may have different DSP function sets available.

The interface is divided into several functional areas for each channel:

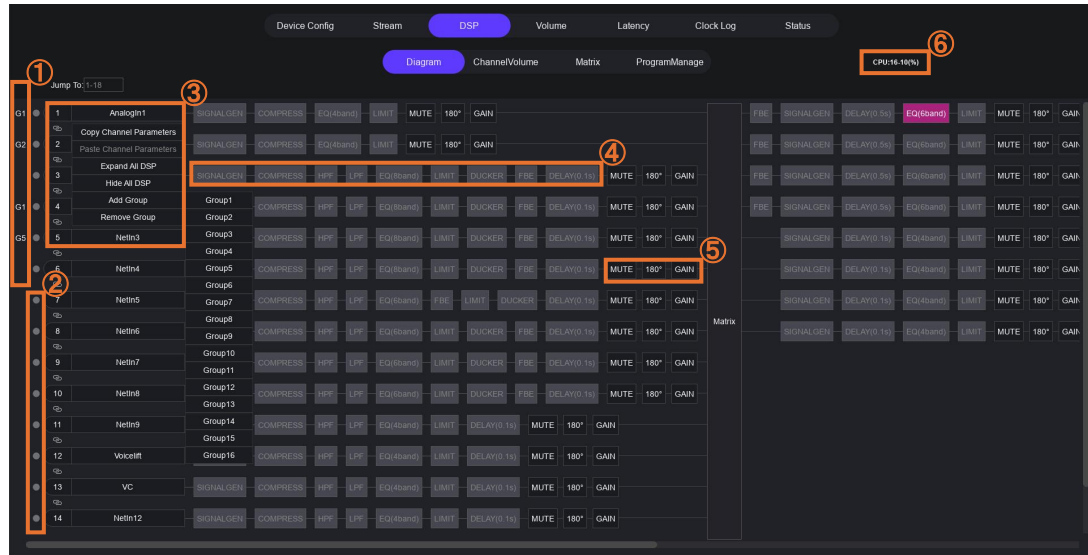
- ① **Channel Group:** Displays the group that the channel has been assigned to. A channel will appear here after it joins a specific processing group.
- ② **Channel Status:** Shows the status for the channel's audio signal.
 - Green:** Indicates the presence of an audio signal (active).
 - Gray:** Indicates no audio signal is present.
- ③ **Channel Number and Name:** You can assign a custom name to any channel for easier identification. The name must be **no more than 32 characters** in length. Right-clicking opens a menu allowing you to **Copy/Paste channel parameters**, **Expand/Hide DSP Details** and **Join/Cancel a channel group**.
- ④ **DSP Function Status:** Represents the various DSP processing blocks available for this channel.
 - Bright Color:** The DSP function is **enabled** and actively processing (not in bypass).
 - Gray:** The function is **disabled** or in **bypass mode** (no processing).
 Right-clicking opens a menu allowing you to **toggle DSP Block Bypass status** or **Copy/Paste the parameters** of that specific DSP function.
- ⑤ **Channel Control:** Contains quick-access controls for the channel.
 - Mute** and **Phase Inversion** can be toggled with a **single click**.
 - Gain adjustment** is accessed by **clicking** the gain control, which opens a parameter window.

⑥ **System Status:** Displays the device's current CPU usage rate.

Enabling DSP functions (bright color in ④) increases CPU usage.

Disabling functions or using bypass mode (gray in ④) reduces CPU usage.

Important: The CPU usage rate should **not exceed 85%** for stable operation.



To configure the detailed parameters of any DSP function, **double-click its corresponding function box**.

A detailed parameter settings page will pop up for that specific function.

You can open multiple detailed setting pages simultaneously for different functions or channels.



Channel Volume

This page provides a focused view for monitoring and controlling the level, mute, and phase of individual channels or groups.

Input/Output Channel

① **Channel Name:** Displays the name of channels.

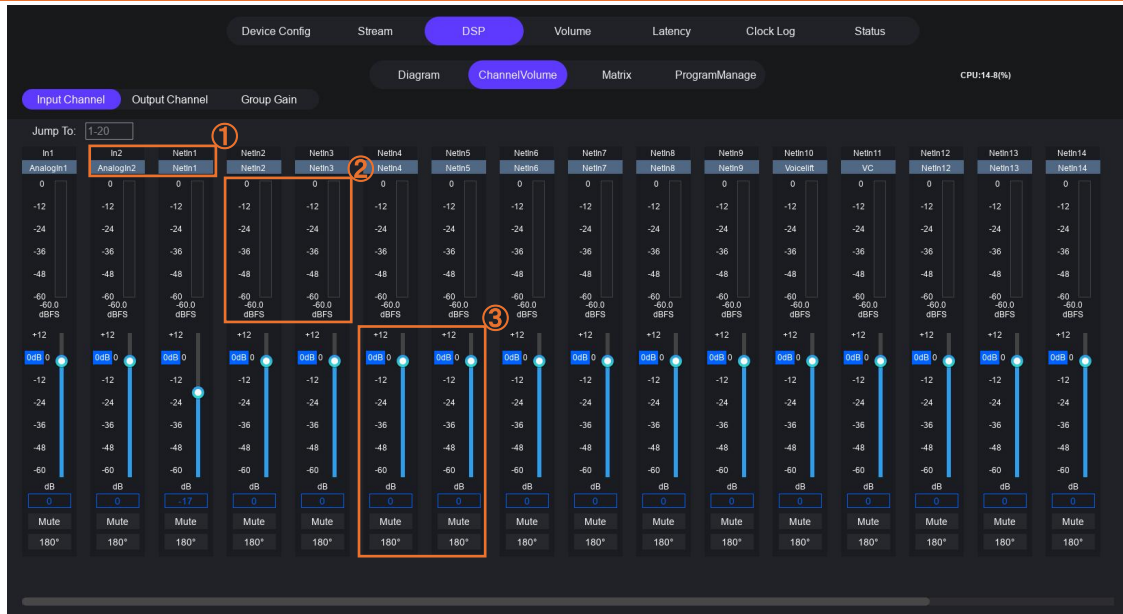
② **Level Meter:** Refreshes in real-time to show the audio level of the selected channel.

③ **Channel Controls:** Provides direct access to key channel controls.

Gain: Adjust the level.

Mute: Toggle mute on/off.

Phase Inversion: Toggle phase inversion on/off.



Group Gain

This page is dedicated to managing the gain (volume) settings for channel groups.

- ① **Group Name:** Displays and allows you to modify the name of the selected group.
- ② **Group Controls:** Provides direct access to key channel controls.

Gain: Adjust the level.

Mute: Toggle mute on/off.

- ③ **Group Members:** Shows which channels are members of the current group. This area is divided into two synchronized parts: It shows the channel type (Input/Output) and its numerical index and the corresponding channel name for easy identification.



Matrix

This page provides a comprehensive interface for configuring the audio mixing matrix between multiple input and output channels, including gain settings and level monitoring.

- ① **Batch Operations:** Provides quick-access functions for batch parameter setting across multiple channels.

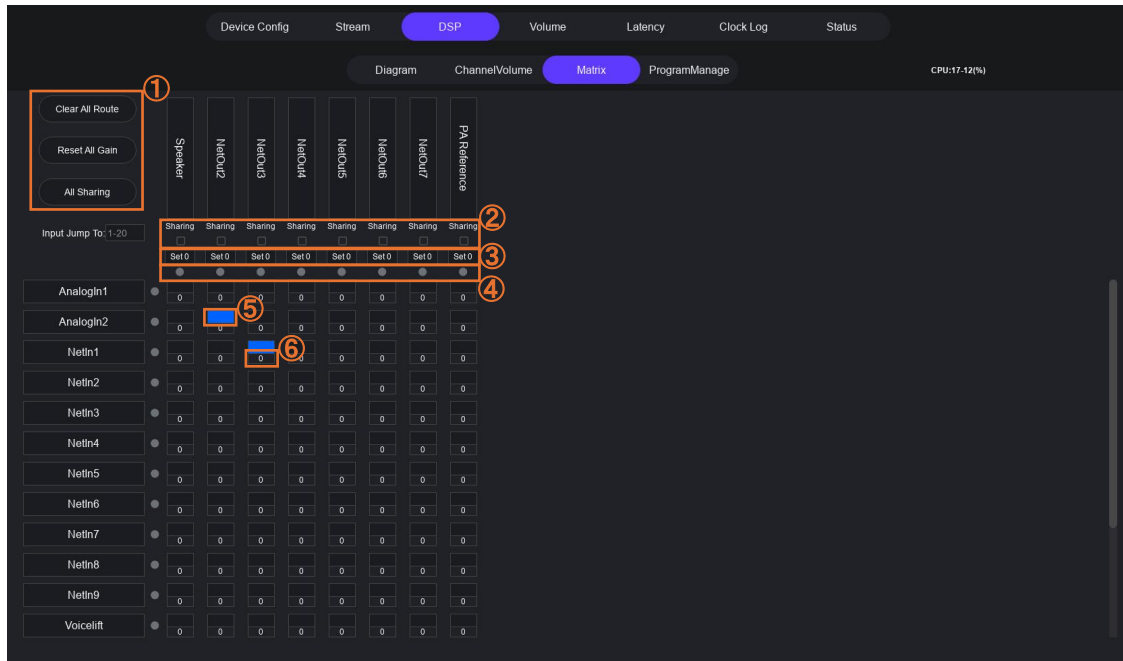
Clear All Route: Removes all existing mix assignments between inputs and outputs.

Reset All Gain: Sets the gain for all mix paths to 0dB.

All Sharing: Applies the "Sharing" mixing type (gain-sharing method) to all output channels.

- ② **Mixing Type:** Selects the mixing algorithm. If "Sharing" is selected, a gain-sharing method is applied when multiple input channels are mixed into a single output channel to prevent overloading.

- ③ **Global Reset:** The one-click gain reset function. This sets the gain of all input channels for the selected output channel to **0dB**.
- ④ **Signal Indicators:** **Indicator lights** for both input and output channels. A light **illuminates** when an audio signal is present in its corresponding channel, allowing for quick visual verification of signal activity.
- ⑤ **Mix Enable Matrix:** Indicates whether a specific input channel is mixed into a specific output channel.
- Blue** (Checked): The input channel is mixed into the output channel.
- Blank** (Unchecked): The input channel is not mixed into the output channel.
- ⑥ **Gain Matrix:** Shows and controls the individual gain value for each input-to-output mix path. Clicking on a cell in this area opens a detailed adjustment window for that specific gain setting.



Program Management

This page manages preset configurations for the entire device's state, including audio routing, DSP, and system parameters.

① Program Table:

The Program Table displays all available program configurations. It shows the **System Default** (which cannot be deleted but can be replaced using the **"Import from PC"** function) and all **user-created programs**.

② Last Loaded Program: Displays the program that was last manually loaded.

Caution: If you adjust any parameters after loading a program, those changes are not automatically saved back to the original program file. Instead, they persist as a temporary "live" state.

- Upon **shutdown and restart**, the device will resume with your modified parameters.
- However, if you **manually reload the original program** (e.g., Program A), all your modifications will be lost and replaced by the saved state of that program.
- To permanently keep your modifications in a program slot, you must manually select that slot and click **"Save Program"**.

③ Management Functions

Save Program: To keep your current parameter modifications, select a target slot in the program list and click this button. This overwrites the previous content of that slot with the current live settings.

Load Program: To apply a saved configuration, select a program from the list and click this button. This replaces all current device parameters with those from the selected program.

Delete Program: To remove a saved configuration, select a user program from the list and click this button to permanently delete it from the device. (The System Default cannot be deleted this way).

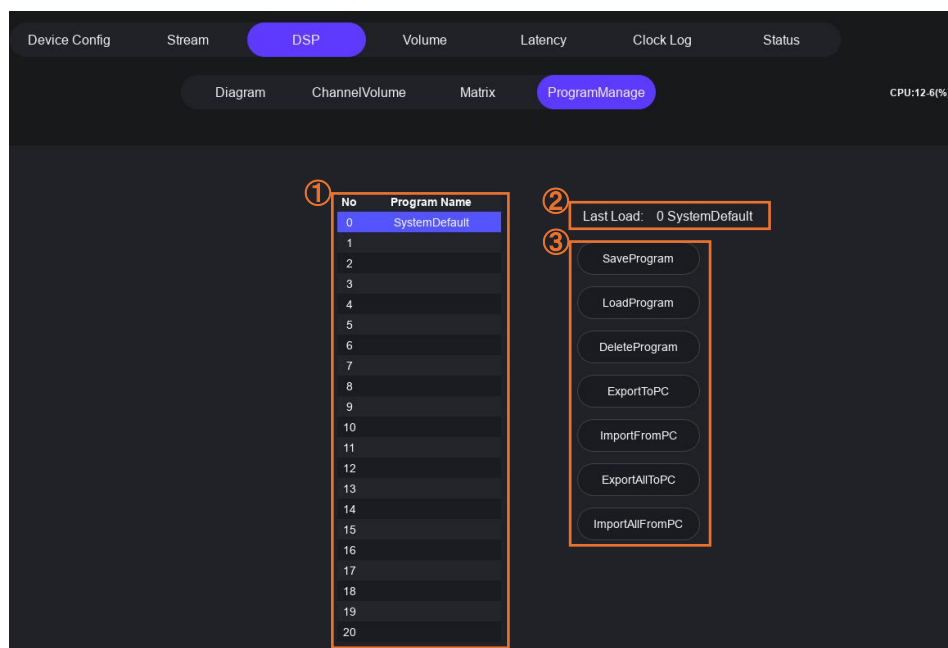
Export to PC: To back up or transfer a single program, select it from the list and click this button to save it as a file on your computer.

Import from PC: To load a program file from your computer, first select a target slot in the device's list, then click this button and choose the file. It will be imported into the selected slot.

Export All to PC: Click this button to create a single backup file containing all programs (both the System Default and User Programs) from the device.

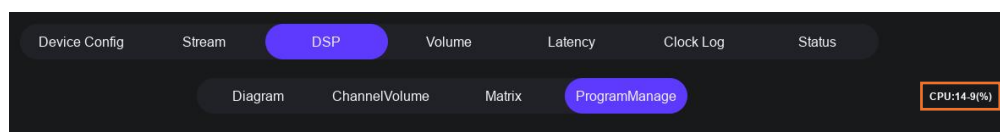
Import All from PC: Click this button to select a full backup file (created by "Export All to PC"). Importing will replace every program slot on the device.

Caution: This function overwrites all programs on the device.



CPU Usage rate

It is a critical system health indicator that must be monitored. Enabling active DSP processing functions will increase the CPU load. For stable audio operation, ensure the rate remains **below 85%**.



Volume

This page provides a focused view for monitoring and controlling the level, mute, and phase of individual channels or groups.

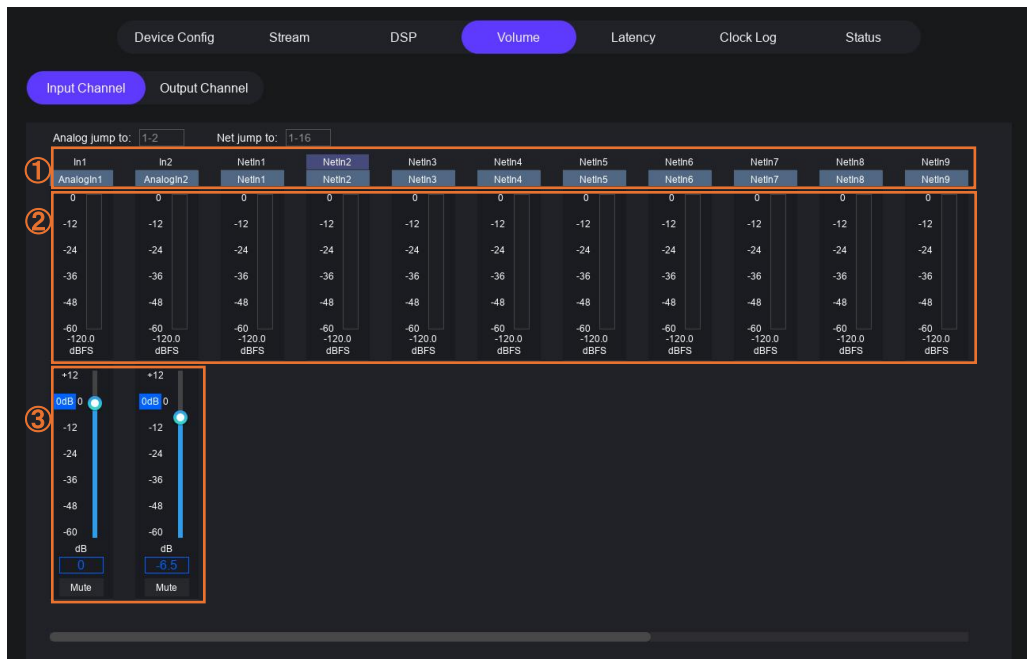
Input/Output Channel

- ① **Channel Name:** Displays the name of channels.
- ② **Level Meter:** Refreshes in real-time to show the audio level of the selected channel.
- ③ **Channel Controls:** Provides direct access to key channel controls. They are available **only for analog audio channels**.

These functions are **not applicable to network audio channels**

- **Gain:** Adjust the level.
- **Mute:** Toggle mute on/off.

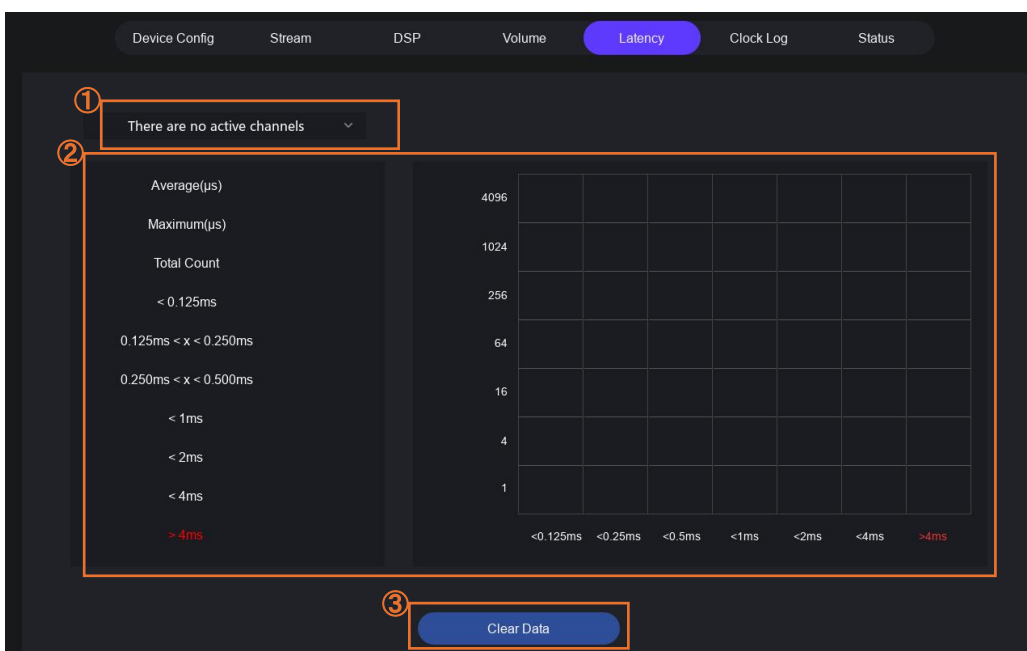
Note: The available configuration items and functions depend on the specific device model and its hardware capabilities.



Latency

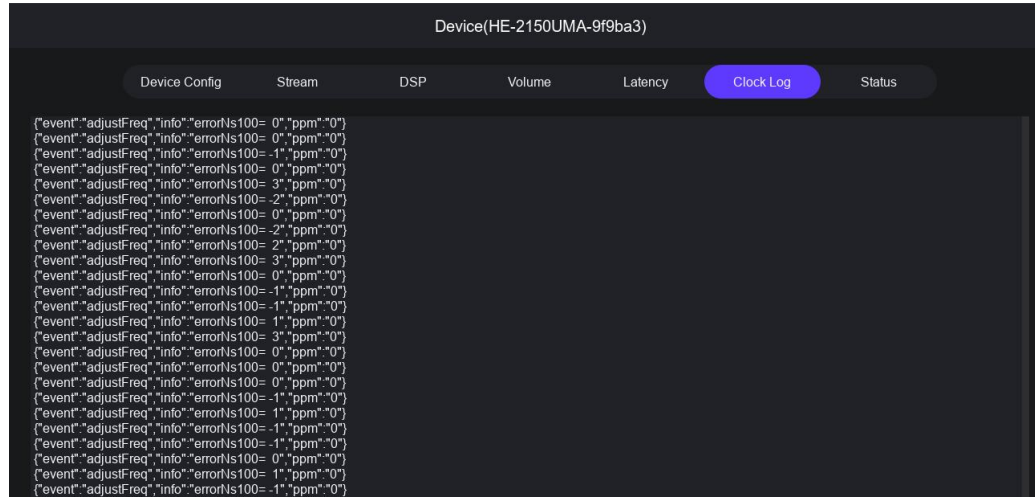
This page analyzes network audio stream latency and packet loss.

- ① **Active Channels:** Lists the active data streams; switching between them allows you to view statistics for each stream individually.
- ② **Statistical Data:** Displays the statistical data, including visual bar graphs. Red bars indicate packet loss or synchronization issues, which are normal before the device boots and synchronizes its clock. Once synchronized, the red bars should stop increasing.
- ③ **Clear Data:** Provides controls to clear the current data and restart the statistics collection. Occasional, isolated red bars are typically caused by normal network fluctuations and do not affect audio. However, if red bars persistently and intermittently increase, it indicates an underlying network or device transmission abnormality that requires troubleshooting.



Clock Log

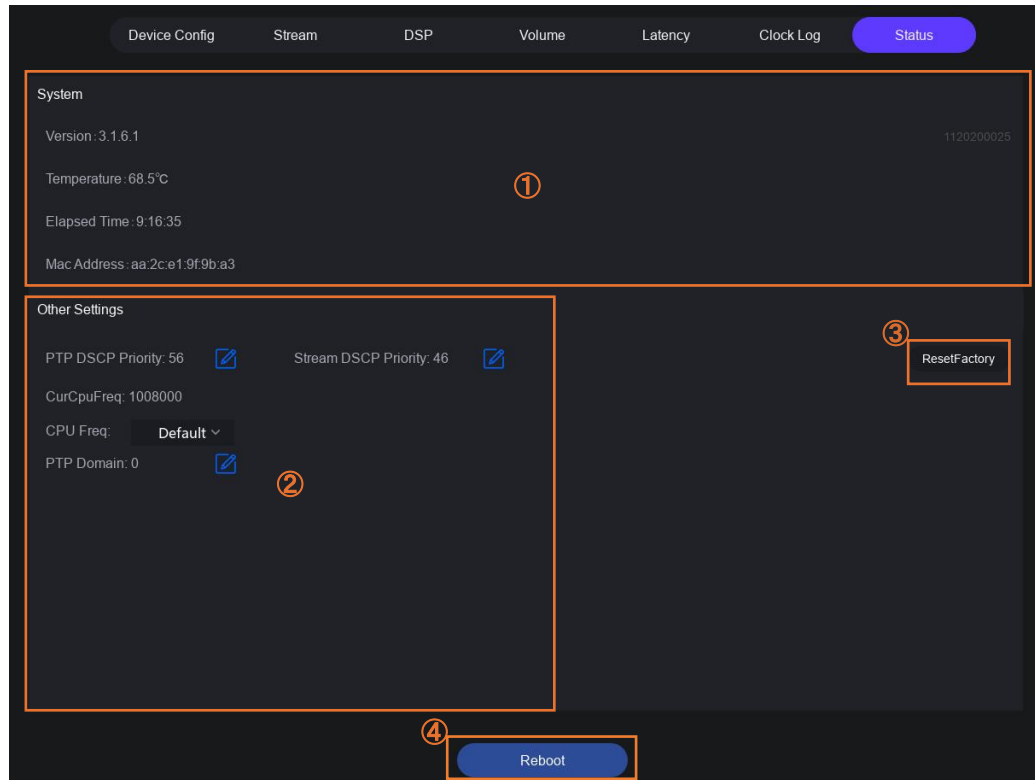
This page continuously records the device's timing and synchronization events. The log serves as diagnostic data for verifying normal clock operation and debugging purposes.



Status

- ① **System:** This page displays the device's **version information**, **operating temperature**, **system uptime**, and **MAC address**.
- ② **Other Settings:** It provides configuration settings for network traffic prioritization. Here, you can set the **PTP DSCP priority** and the **Stream DSCP priority** to manage the network quality of service. These settings prioritize clock synchronization and audio streaming packets respectively, ensuring low latency and reliable performance.
- ③ **Reset Factory:** It provides the function to restore the device to its factory default settings. This operation will reset all ④ configurations and typically requires the device to reboot.

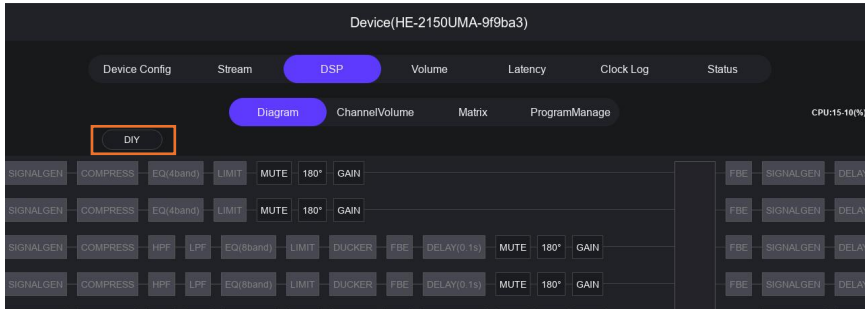
Reboot: It provides the function to restart the device.



Advanced Functions

Custom DSP Function

To access this advanced feature, go to the **"DSP - Diagram"** page. Simultaneously press and hold **Ctrl + 8**, then enter the control code **6689**. A **"DIY"** button will appear in the top-left corner of the interface. Click it to enter the custom DSP configuration page.



① Add AEC (Acoustic Echo Cancellation)

Click this button to add an **Acoustic Echo Cancellation** module as a Channel.

② Add AutoMixer

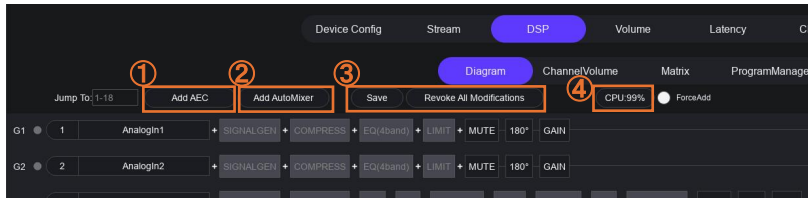
Click this button to add an **Automatic Mixer** module as a Channel.

③ Save & Revoke All Modification

Click the **"Save"** button to store all your custom DSP configurations or click **"Revoke All Modification"** to **discard** all recent changes and revert to the previous state.

④ CPU Usage Evaluation

The estimated total CPU load of all active custom DSP functions is shown. The combined load **must not exceed** the system's maximum allowable CPU occupancy rate.

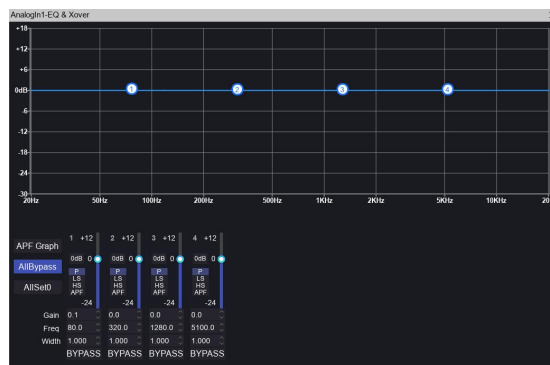


DSP Function Design

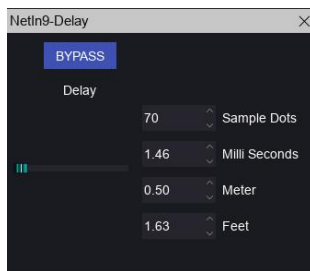
"+" Button: Click the "+" button to freely place various DSP function blocks

Function Block

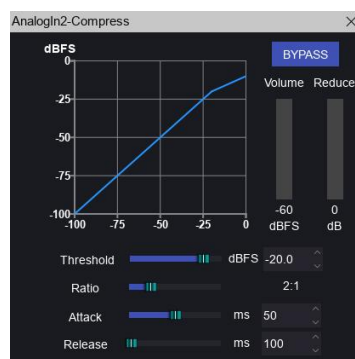
EQ: A graphic **Equalizer** that allows for adjustment of signal gain at specific frequency points. It supports a maximum of 16 frequency bands, each with an adjustable center frequency, for detailed tonal correction and acoustic tuning. Only one equalizer can be set for each channel.



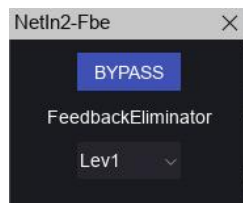
DELAY: A **Delay** unit with selectable delay times (0.1, 0.5, 1, or 2 seconds). Used for creating spatial effects or aligning audio timing in distributed systems. All channels share a delay upper limit.



COMPRESS: A **Compressor** that reduces the dynamic range of an audio signal by attenuating loud signals above a set threshold. This results in a more consistent level and increased perceived loudness.



FBE: Feedback Eliminator is an automatic feedback suppression system. It detects and attenuates ringing frequencies that cause acoustic feedback. Lev1, Lev2, Lev3 typically represent progressively more aggressive suppression algorithms or attenuation levels.



HPF: A **High-Pass Filter** that attenuates frequencies below a selected cutoff point. Commonly used to remove unwanted low-frequency rumble, wind noise, or DC offset. Only one high-pass filter can be set for each channel.

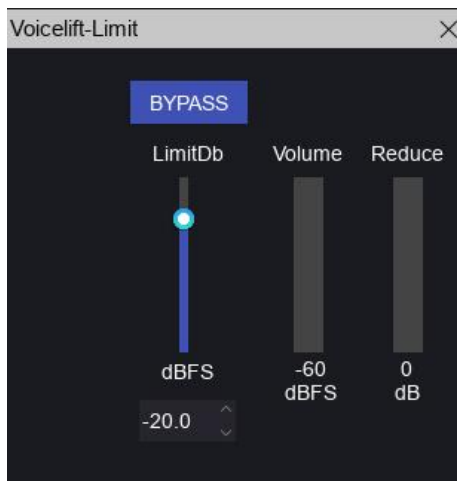
LPF: A **Low-Pass Filter** that attenuates frequencies above a selected cutoff point. Used to reduce hiss, remove high-frequency distortion, or define the upper limit of a speaker's frequency range. Only one low-pass filter can be set for each channel.



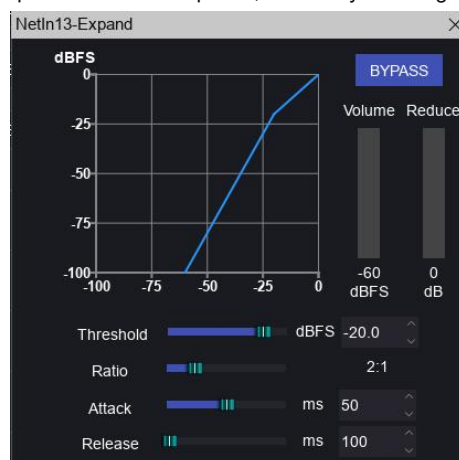
FIR: A **Finite Impulse Response** filter used for linear phase equalization, precise crossover networks, or speaker correction. The numbers (128, 256, etc.) refer to the **filter tap length**, which determines its frequency resolution and processing latency (higher taps = higher resolution & latency).



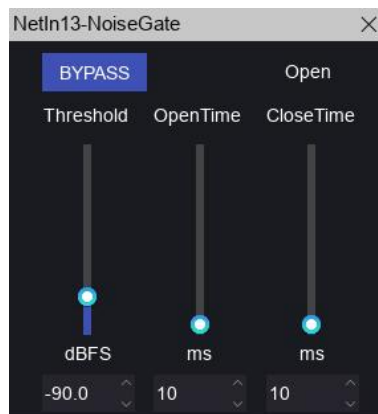
LIMIT: A **Limiter**, which is an extreme compressor with a very high ratio. It strictly prevents the signal from exceeding a set ceiling level, used for speaker protection or preventing digital clipping.



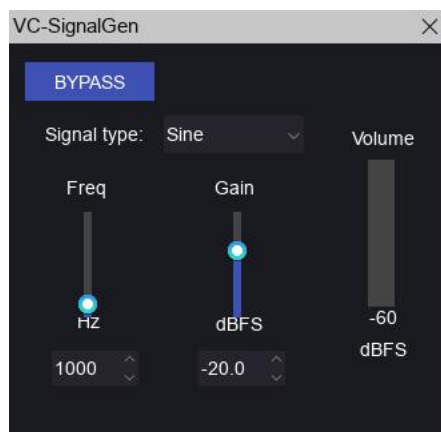
EXPAND: An **Expander** that increases the dynamic range by attenuating signals *below* a set threshold. This makes quiet sounds even quieter, effectively reducing background noise or tightening up mic signals.



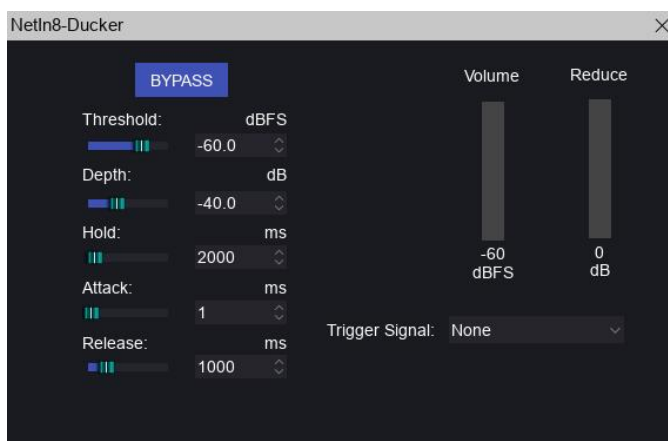
NOISE GATE: A **Noise Gate** that completely mutes the signal when it falls below a set threshold. Used to eliminate background noise, hum, or bleed during silent pauses in audio.



SIGNAL GEN: A **Signal Generator** that produces standard test signals (sine wave, pink noise and white noise) for system alignment, level setting, and acoustic measurement.

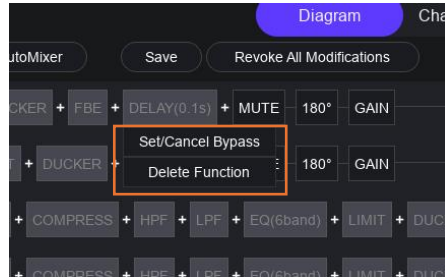


DUCKER: A **Ducker** that automatically lowers (ducks) the level of the Channel when a separate **trigger signal** becomes active and exceeds its threshold. This ensures the clarity and intelligibility of the priority signal.

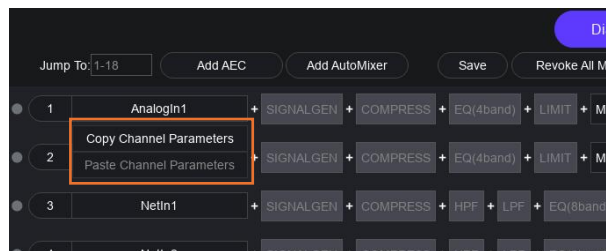


Set/Cancel Bypass: Right-click on any DSP function block and select "**Set/Cancel Bypass**" to toggle its default startup state between **Default Enable** (active) and **Default Disable** (bypassed).

Delete Function: Right-click on any DSP function block and select "**Delete Function**".



Copy/Paste Channel Parameters: Right-click on a **channel's number or name** to copy its entire DSP configuration, then paste it to another channel.



Modifying the Number of Channels and Settings

For device types that support channel modification, navigate to the "**Device Detail-Status**" page. Press and hold **Ctrl+8** simultaneously and enter the control code **6688** to access the hidden channel and parameter configuration page.

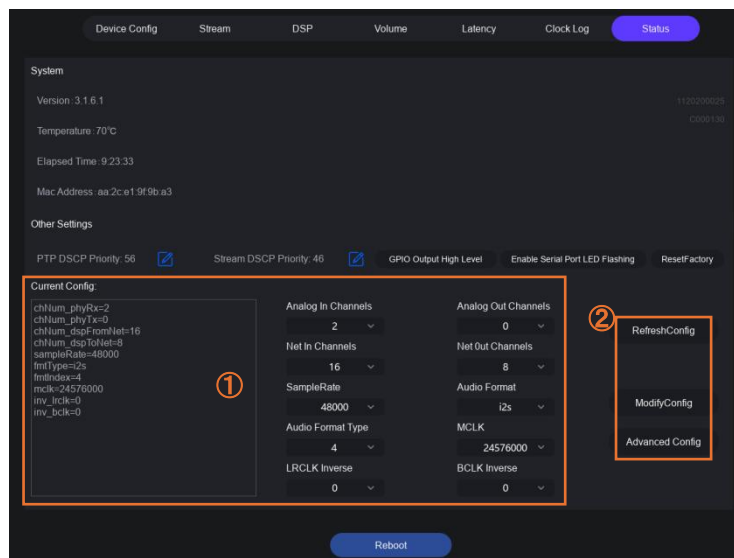
① Channel Configuration

The field on the left displays the device's current configuration. You can modify the number of **Input Channels** and **Output Channels** by either directly typing a new value into this field or selecting a value from the drop-down menu next to it. Both methods perform the same function.

② Operation Buttons

Refresh Configuration: Reloads the current channel settings from the device.

Modify Configuration: Submits your new channel settings to the device. **The device must be restarted for these changes to take effect.**



After modifying the number of input and output channels, **the default DSP configuration must be modified.**

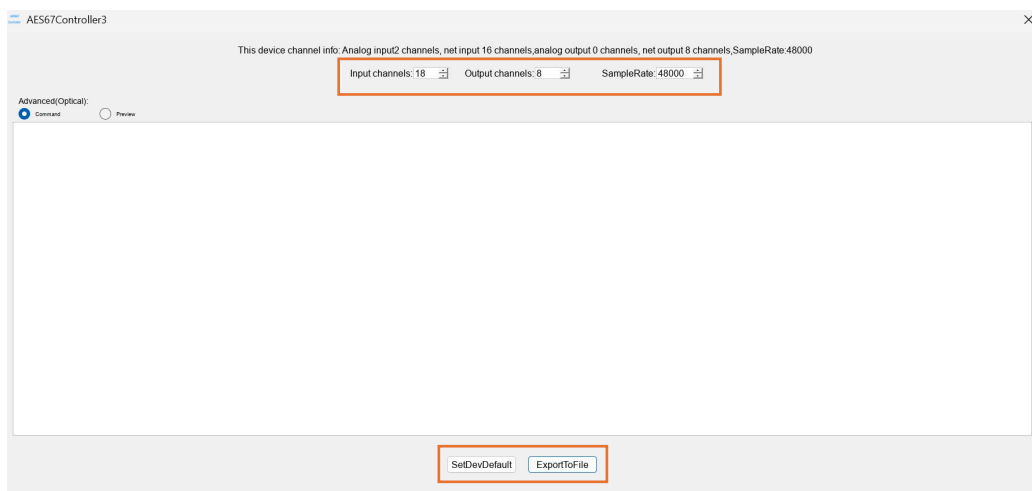
Modifying the Default DSP Configuration

The DSP configuration file must be updated after modifying the number of channels. A mismatch between the new channel count and the original configuration file will prevent the DSP functions from loading correctly.

Steps:

1. **Restart the Device:** After modifying the channel count, restart the device for the new channel settings to become active.
2. **Access Advanced Configuration:** Navigate to the "Advanced Configuration" page by clicking "Advanced config".
3. **Set New Default:** On this page, confirm the new number of input channels, output channels, and sampling rate (the displayed defaults are usually correct). Then, click the "Set as Default" button to regenerate the DSP configuration.

Caution: After the restart and before clicking "Set as Default", **do not open the main "DSP" configuration page**. Doing so will cause the advanced configuration modification to fail.



4. **Load Default Program:** Open the main "DSP" page and wait approximately **10 seconds** for it to initialize. Then, navigate to "Program Management" and load the **System Default** configuration by selecting "**No.0 SystemDefault**" and then "**Load Program**".

Protocol

You can configure and monitor the **HE-2150UMA-R** using simple API commands via **USB-C**:

USB-C: Use a USB-C to USB-C cable to connect your PC directly to the **HE-2150UMA-R**. Then, use a serial port control software (like Tera Term or PuTTY) to access the device's command interface via the virtual serial port.

AES67

You can configure and monitor the **HE-2150UMA-R's AES67** functions via its **API**.

For the latest protocol specifications, please download the technical documentation from: <https://www.taska-tech.com>

Technical Specifications

Technical		
HDMI Compliance	HDMI 2.0b	
HDCP Compliance	HDCP 2.3	
Video Bandwidth	18Gbps	
Input Video Resolutions	4096x2160p60Hz, 4096x2160p59.94Hz, 4096x2160p50Hz, 4096x2160p30Hz, 4096x2160p29.97Hz, 4096x2160p25Hz, 4096x2160p24Hz, 4096x2160p23.98Hz, 3840x2160p60Hz, 3840x2160p59.94Hz, 3840x2160p50Hz, 3840x2160p30Hz, 3840x2160p29.97Hz, 3840x2160p25Hz, 3840x2160p24Hz, 3840x2160p23.98Hz, 1920x1080p60Hz, 1920x1080p59.94Hz, 1920x1080p50Hz, 1920x1080p30Hz, 1920x1080p29.97Hz, 1920x1080p25Hz, 1920x1080p24Hz, 1920x1080p23.98Hz, 1920x1080i60Hz, 1920x1080i59.94Hz, 1920x1080i50Hz, 1280x720p60Hz, 1280x720p59.94Hz, 1280x720p50Hz, 720x480p59.94Hz, 720x576p50Hz, 720x480i59.94Hz, 720x576i50Hz, 1600x1200p60Hz, 1440x1050p60Hz, 1440x900p60Hz, 1366x768p60Hz, 1280x1024p60Hz, 1024x768p60Hz, 800x600p60Hz, 640x480p60Hz	
Output Video Resolutions	Input to output passthrough	
Color Space	RGB 4:4:4, YCbCr 4:4:4/2:2/4:2:0	
Color Depth	8/10/12bit	
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG	
AES67	18 x 8	
Audio Formats	HDMI IN/OUT: LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD Analog Audio De-embedding: LPCM 2CH (sample rate 32~192kHz) AES67 Audio: LPCM 2CH (sample rate 48kHz)	
Analog Output Audio Parameters	Output Impedance	300 ohms
	Output Level (Max)	8.2dBu (2Vrms)
	Frequency Response	20Hz to 20kHz (-/+0.5dB)
	Audio Output Sync Delay	<1ms
	Audio S/N Ratio	>90dB@ HDMI 0dB, 1kHz A-weighted
	Audio THD+N	< 0.01% at +4dBu, 1KHz
Transmission	HDMI passive cable 3m CAT6/6A cable 120m@4K60 CAT6/6A cable 150m@1080P	
IR Frequency	20K-60KHz	
IR Level	5Vp-p	

Technical Specifications

Connection	
Input	1 x HDMI IN [Type A, 19-pin female] 1 x FROM TX [RJ45 connector, output with 24V PoC]
Output	1 x HDMI OUT [Type A, 19-pin female] 1 x AUDIO OUT [5pin-3.5mm Phoenix connector]
AES67	1 x AES67 [RJ45, supporting PoE+]
Control	1 x RS-232 [3pin-3.5mm Phoenix connector] 1 x IR IN [3.5mm audio jack] 1 x IR OUT [3.5mm audio jack] 1 x IR OUT [3.5mm Audio Jack] 1 x USB-C [USB 2.0 only, FW upgrade and API control]
Mechanical	
Color	Black
Dimensions	180mm [W] x 95mm [D] x 23mm [H]
Weight	472g
Electrical	
Power Consumption	7W (Max)
Power Supply	Locking 5.5mm x 2.5mm jack: DC 24V/1A PoE+ (IEEE802.3at Class 4, PD mode)
Environment	
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Operating Humidity	20~80% RH (Non-condensing)
Storage Humidity	10~90% RH (Non-condensing)

Warranty

Taska Technology Limited warrants that the **HE-2150UMA-R** is free from defects in materials and workmanship under normal use for a period of 60 months (5 years) from the original date of purchase. To obtain warranty service, customers must contact their local authorized Taska distributor.

This warranty does not apply under the following conditions:

- A. Damage resulting from negligence, accident, lightning, water, acts of God, or improper handling;
- B. Failure to operate the equipment in accordance with the procedures specified in the official user manual;
- C. Repairs, modifications, or alterations performed by unauthorized service centers;
- D. Removal, alteration, or defacement of the original product serial number;
- E. Damage caused by the use of unauthorized external equipment that affects performance, safety, or reliability;
- F. Products for which replacement parts or components are discontinued and no longer available.

Proof of purchase is required for all warranty claims.



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