TURTLE

JEF. Dante Enabled Mic Preamp.

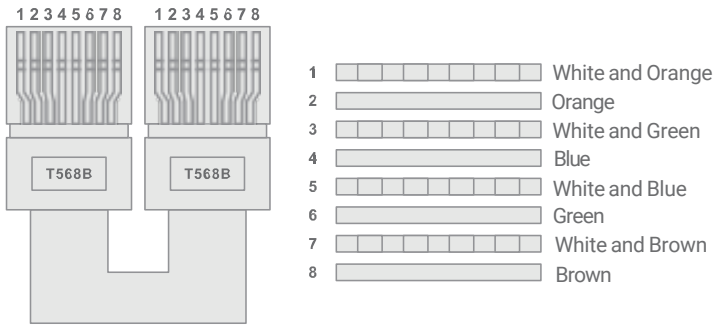
User Manual

Thank you for purchasing this product

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Caution

The network cable connection method required for this product is direct connection. Please do not cross connect.



Direct Interconnection Method

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1. Introduction

JEF is a professional Dante enabled microphone preamp designed to connect microphones directly to the network. It converts analogue microphone signals into high-quality digital audio for transport over standard Ethernet, while also providing PoE power, remote control, onboard DSP processing, and switchable 48V phantom power.

With primary and secondary Dante network connections, dual PoE support, and built-in audio processing, JEF simplifies microphone deployment while improving reliability, scalability, and control. It helps overcome the distance, cabling, and flexibility limitations of traditional analogue microphone systems.

JEF is ideal for boardrooms, conference rooms, lecture halls, courtrooms, stadiums, broadcast facilities, and professional AV installations where reliable networked microphone audio is required.

2. Features

- 1 Mic analog input (Balanced XLR analog audio input)
- Primary/Secondary dual network Dante port with dual PoE power supply
- +48V Phantom power, level display, sensitivity and gain adjustment
- Analog audio input 5-level sensitivity adjustment (-40dBu/ -30dBu/-20dBu/-10dBu/0dBu)
- Dante audio sampling rate 44.1/48/88.2/96KHz@24bit
- Dante audio delay 2/3/4/5/10ms (configurable)
- DSP processing includes 8-band parametric EQ, expander and compressor
- AES67 compliant
- Control via Dante Controller and Web GUI
- Compact design for easy and flexible installation

3. Specifications

Technical		
Input	1 balanced XLR analog audio	
Output	Dante 2CH digital audio	
Control Method	Dante Controller	
Network Bandwidth	100M	
Audio Latency	Configurable Dante device latency (Supports 2, 3, 4, 5 or 10ms configurable using Dante Controller)	
Audio Formats	MIC IN [Balanced XLR analog audio input, Max input level +24dBu] Dante OUT [Digital audio output, PCM 2CH 44.1K-96KHz 16/24bit]	
Audio Parameters	XLR Analog Audio In	
	Input Impedance	20k Ohm balanced 10k Ohm unbalanced
	Line Input Level (Maximum)	+24dBu (12.28Vrms) @balanced audio +18dBu (6.15Vrms) @unbalanced audio
	Frequency Response	20Hz to 20kHz (-/+0.5dB)
	Dynamic Range	>110dB @ 0dBu, 1kHzA-weighted
	Audio S/N Ratio	>105dB @ 0dBu, 1kHzA-weighted
	Audio THD+N	< 0.01% @ +4dBu, 1KHz
	Audio Output Sync Delay	<1ms
Transmission Distance	328ft/100m(CAT6/6A/7)	
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)	

Connection	
Input port	1x XLR IN [XLR female plug]
Output port	1x DANTE PRIMARY [RJ45 locking connector, PoE/PD (Class 0 IEEE 802.3at)] [Dante/AES67 digital audio in/out, PCM 2CH 44.1K - 96KHz 16/24Bit, Web GUI and TCP/IP] 1x DANTE SECONDARY [RJ45 locking connector, PoE/PD (Class 0 IEEE 802.3af)] [Dante/AES67 digital audio in/out, PCM 2CH 44.1K - 96KHz 16/24Bit]
Mechanical	
Housing	Aluminum
Color	Black/Grey
Dimensions	60mm [W] x 45mm [D] x 145 mm [H]
Weight	295g
Power Supply	PoE
Power Consumption	1.55W (Max)
Operating Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Operating Humidity	20% ~ 80% (Relative humidity, non-condensing)
Storage Humidity	10% ~ 90% (Relative humidity, non-condensing)

4. Operation Controls and Functions

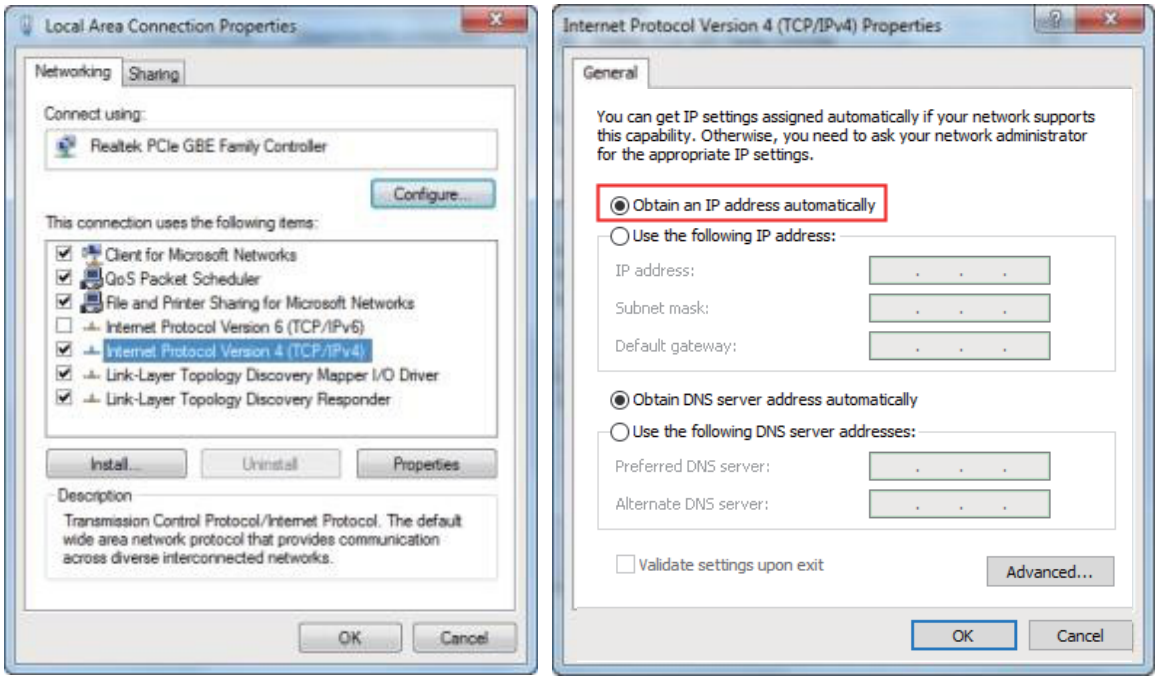
No.	Name	Function Description
1	Power LED (Green)	Light on: The unit is powered on. Light off: The unit is powered off.
2	XLR IN plug	Balanced XLR analog audio input plug, connected to a microphone with XLR port.
3	Dante LED (Green)	Light on: The network is connected. Light flashing at 2Hz: The network is disconnected.
4	48V LED (Green)	Light on: The +48V Phantom power is enabled. Light off: The +48V Phantom power is disabled.
5	PRIMARY (PoE) /SECONDARY (PoE) port	Dante primary/secondarynetwork port, supporting PoE, with the following two functions: (1) Dante digital audio input and output port. (2) Web GUI and TCP/IP control port. Note: The primary and secondary networks of this product are hot backup networks, that is, when the primary network encounters a problem, it will automatically switch to the secondary network.

5. Dante Web GUI Operation Guide

The product can be controlled by the built-in Web GUI. The operation steps are as following.

Step 1: Connect the Dante PRIMARY(PoE) port of the product to the Ethernet Switch.

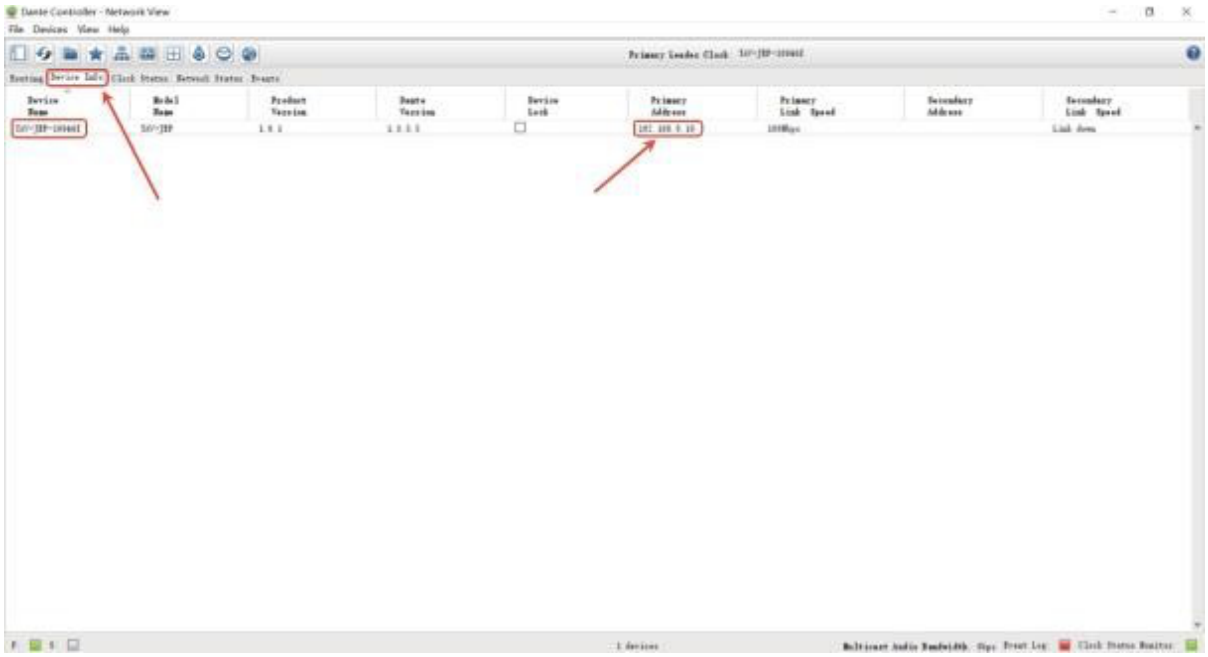
Step 2: Connect the PC to the same Ethernet Switch and set the Network connection setting of PC to be “Obtain an IP address Automatically”.



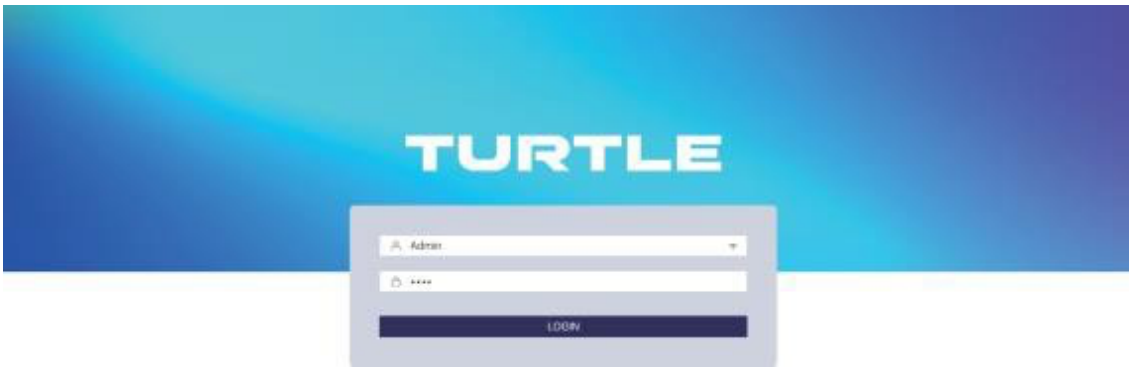
Step 3: Open the Dante Controller software on the PC, and find the Dante device on the Routing page, as shown in the figure below.

Step 4: Click the Device Info tab to check the IP address of the Dante device.

Note: The product is set to DHCP mode by default and users need to check the device IP address through the Dante Controller.



Step 5: Input the IP address of Dante device into your browser on the PC to enter the login interface of the Dante Web GUI.

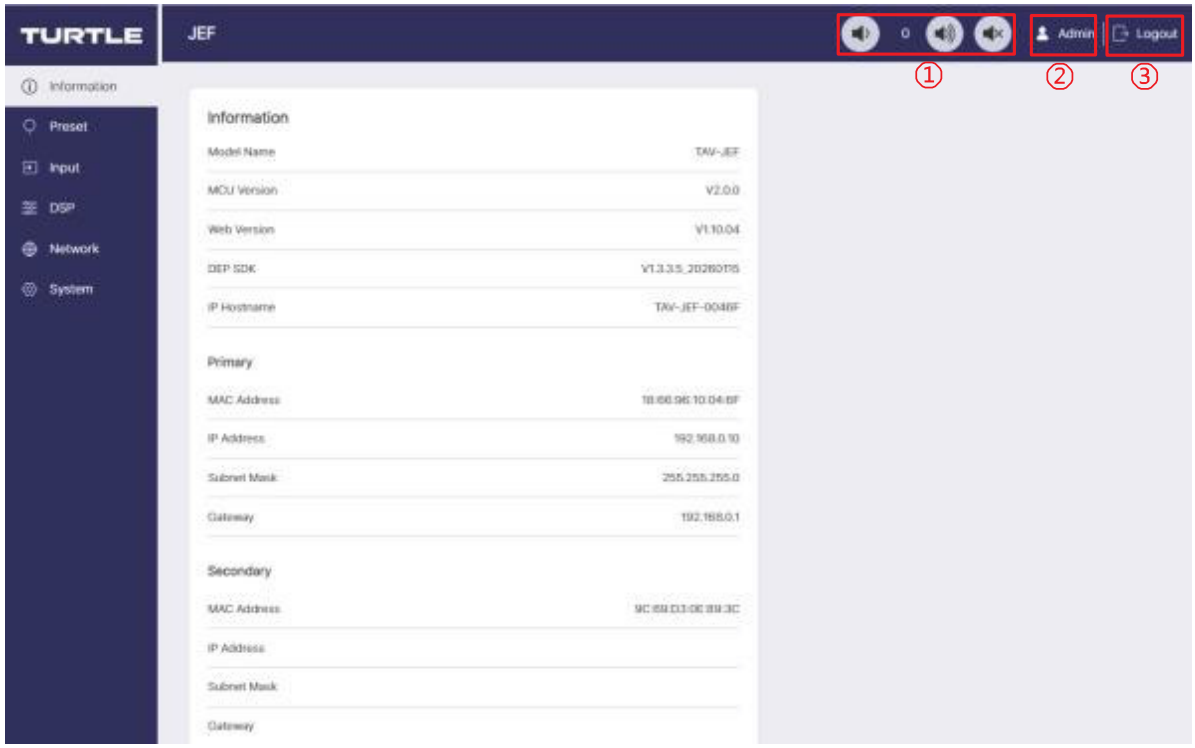


The default usernames and passwords are as below:

Username	Password
Admin	1234
User	1234

Step 6: Select the default username “Admin” and input the password “1234”, then click “LOGIN” to enter the Information page of Dante Web GUI.

■ **Information Page**



This page provides basic information about the product, such as Model Name, MCU Version, Web Version, DEP SDK, IP Hostname, Network configuration information of the primary network and secondary network.

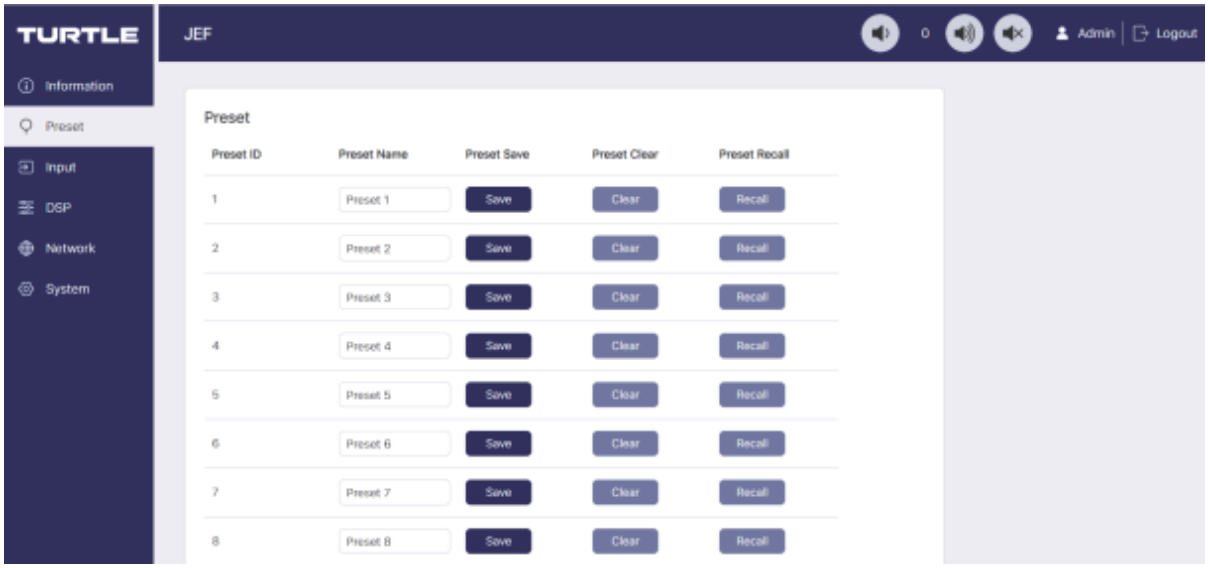
Besides, you can do the following operations in the upper right corner of each page.

① Display and set the audio volume of Master Out. Click the volume icons to increase/decrease the audio volume or click the mute icon to mute/ unmute the audio.

② Display the current username (User or Admin).

③ Click the Logout icon to log out and return to the login interface.

■ Preset Page



Up to 8 preset scenes can be set on the Preset page.

① **Preset Name:** You can name the preset scene (32 characters max).

② **Preset Save:** Click the Save button to save the scene.

③ **Preset Clear:** Click the Clear button to clear the saved scene.

④ **Preset Recall:** Click the Recall button to recall the saved scene.

■ Input Page

Input Setting

① **Mic/Line In:** Directly drag the slider of Mic/Line In to set the volume or click the mute icon to mute/unmute the audio.

② **VU Meter:** The VU meter displays the real-time audio input level.

③ **Sensitivity:** Click the drop-down list to select the sensitivity value (-40dBu/-30dBu/-20dBu/-10dBu/0dBu).

④ **Phantom Power:** Click the Phantom Power switch to enable/disable the phantom power function. When enabled, the XLR IN plug of the product can supply power to the connected MIC.

■ DSP Page

PEQ Setting

① **Frequency point (1~8):** Eight frequency points support drag control.

② **1/2/3/4/5/6/7/8:** band buttons of PEQ. Blue grid indicates that the corresponding band is selected, and then you can set the parameters for it as following.

Filter Type: Click the drop-down icon, then select the filter type (Parametric/Lowpass/Highpass/Low Shelf/High Shelf).

Gain [dB]: Click the drop-down icon, then drag the slider to set the gain value.

Frequency [Hz]: Click the drop-down icon, then drag the slider to set the frequency.

Q: Click the drop-down icon, then drag the slider to set the Q value.

③ **Clear:** Click the button to clear the settings.

④ **Export PEQ Settings:** Click the button to export PEQ settings.

⑤ **Import PEQ Settings:** Click the button to import PEQ settings.

⑥ **Active:** Click the button to activate the settings.

Expander Setting

① **Curve Graph:** The input and output amplitude curve graph of the audio. Based on the set threshold and ratio, it graphically displays the amplitude of the input and output. You can also manually drag on the curve graph to make settings, and the values of the threshold and ratio on the right side will change synchronously.

② **G.R. (Gain Reduction):** Indicates the amount of gain attenuation of the input signal (in dB) in the Expander process.

③ **Threshold (dB):** The level that the signal below it will be compressed, with a range of [-60.0, 0.0]dB.

④ **Ratio:** The compression ratio for signals below threshold, with a scale of [1.0, 20.0]. If the ratio is 2.0, it means the signal below threshold will be reduced to ½ of the original.

⑤ **Hold Time (ms):** Drag the slider to control the time (in ms) the Compressor maintains its current output gain setting before it starts decreasing as the input level decrease.

⑥ **Decay (dB/s):** Drag the slider to control the rate at which the Compressor gain decreases in response to decrease in the input signal level, e.g. the "Release" time.

⑦ **Clear:** Click the button to clear the settings.

⑧ **Active:** Click the button to activate the Expander process.

Compressor Setting

① **Curve Graph:** The input and output amplitude curve graph of the audio. Based on the set threshold and ratio, it graphically displays the amplitude of the input and output. You can also manually drag on the curve graph to make settings, and the values of the threshold and ratio on the right side will change synchronously.

② **G.R. (Gain Reduction):** Indicates the amount of gain attenuation of the input signal (in dB) in the Compressor process.

③ **OUT:** Meter indicates the output signal level after the Compressor process.

④ **Threshold (dB):** The level that the signal above it will be compressed, with a range of [-60.0, 0.0]dB.

⑤ **Ratio:** The compression ratio for signals below threshold with a scale of [1.0, 20.0]. If the ratio is 2.0, it means the signal below threshold will be reduced to ½ of the original.

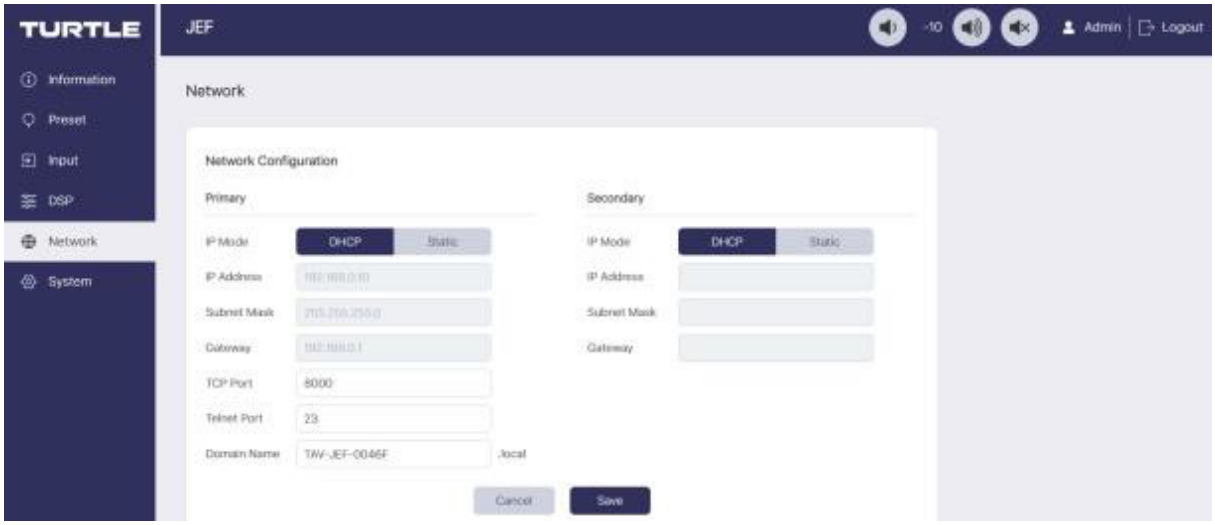
⑥ **Attack (ms):** The time required by the Compressor to begin the Compressor process once a signal is over threshold with a scale of [1, 500]ms.

⑦ **Release (ms):** The time required by the Compressor to stop the Compressor process once a signal drops below threshold, with a scale of [1, 120]ms.

⑧ **Clear:** Click the button to clear the settings.

⑨ **Active:** Click the button to activate the Compressor process.

■ Network Page



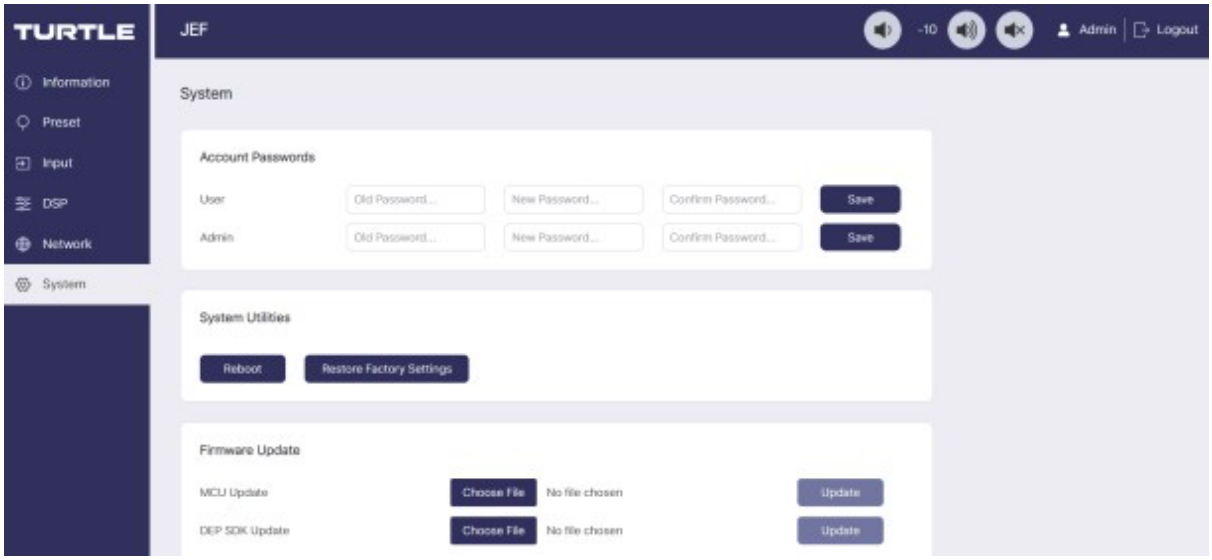
Network Configuration: Set the IP Mode (DHCP/Static) for the primary/ secondary network. In Static mode, you can manually set the IP Address, Subnet Mask and Gateway as required, then click “Save” to take effect. In DHCP mode, the system will search and fill the IP address with the one assigned by the router automatically.

In addition, you can set the TCP Port, Telnet Port and Domain Name of the primary network.

Note: The Domain Name displayed as the IP Hostname (for example: “TAV-JEF-0046F.local") can be used to log in to the Dante Web GUI. The Domain Name “TAV-JEF-XXXXX.local” is variable for different machines and can be modified (32 characters max).

After setting up, click “Save” to take effect, or you can click “Cancel” to cancel the settings.

■ System Page



Account Passwords: You can modify the login password for User and Admin. After setting up, click “Save” to take effect.

System Utilities

① **Reboot:** Click this button to reboot the product.

② **Restore Factory Settings:** Click this button to restore the product to factory settings.

Firmware Update: You can update the firmware. Click “Choose File” to select the update file, then click “Update” to start update. When the progress bar reaches 100%, the update is complete.

In the Login interface, select the username “User” and input the password “1234”, then click the “LOGIN” button to enter the User page.

■ User Page

You can recall the preset application scenes on the User page.

6. Application Example