

IP/SIP CEILING SPEAKER
NVS-IP100017SP
USER MANUAL



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Product Overview

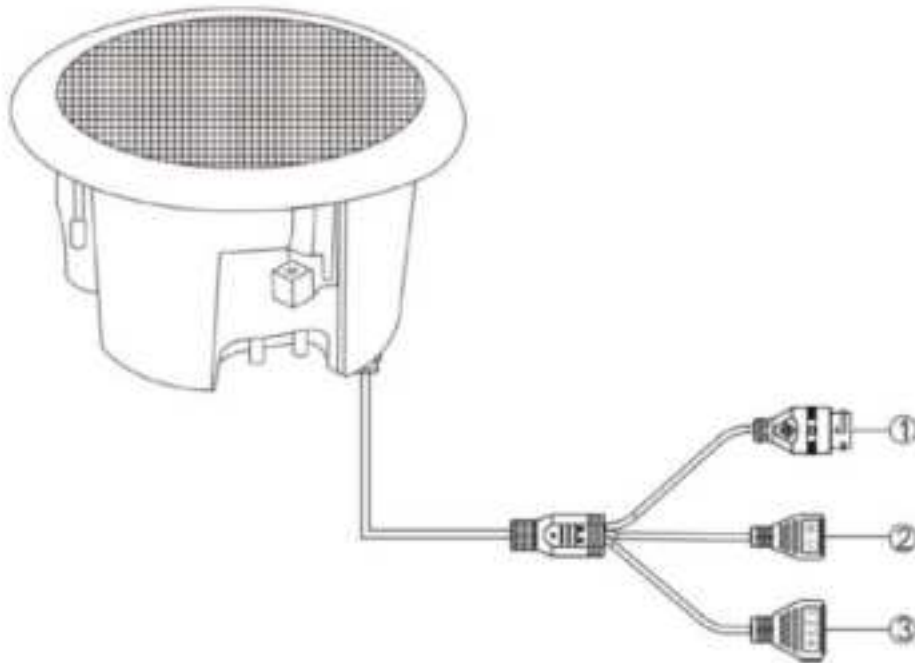
Description

The NVS-IP100017SP is a SIP-compliant, multicast-capable PoE speaker designed for public address and alerting systems. It supports standard protocols (SIP, RTP, HTTP) for easy VoIP integration and offers a user-friendly web interface for configuration. Key features include automatic volume control, real-time fault detection, and scheduled task playback from a central server. Ideal for commercial and industrial applications.

Features

- Industrial-grade dual-core (ARM + DSP) CPU for fast processing
- Supports G.722 (wideband) and G.711 A/u-law (narrowband) codecs
- Receives SIP paging via 10 multicast IP addresses
- Multicast reduces SIP resource usage and improves scalability
- Fully SIP 2.0 compliant; integrates with Asterisk, Cisco, Yeastar, etc
- Supports BGM, emergency paging, and alarms via NORDEN system
- Dynamic volume control based on ambient noise (AGC)
- PoE / PoE+ (IEEE 802.3af/at) for flexible installation
- Remote web-based management and online firmware upgrades

Hardware Interface Introduction



1. Network interface:

To the switch or POE switch insert a cable.

2. Power Supply Port:

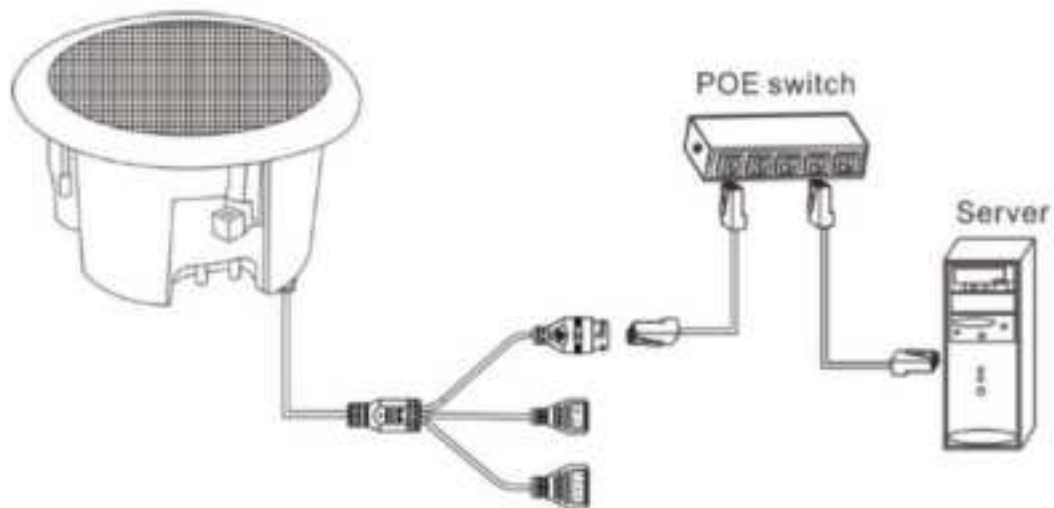
The IP ceiling speaker is powered by DC24V/1A. (POE power supply is supported by this device. It is not necessary to connect the network interface to the power if it is already connected to the POE switcher.)

3. Reserved interface

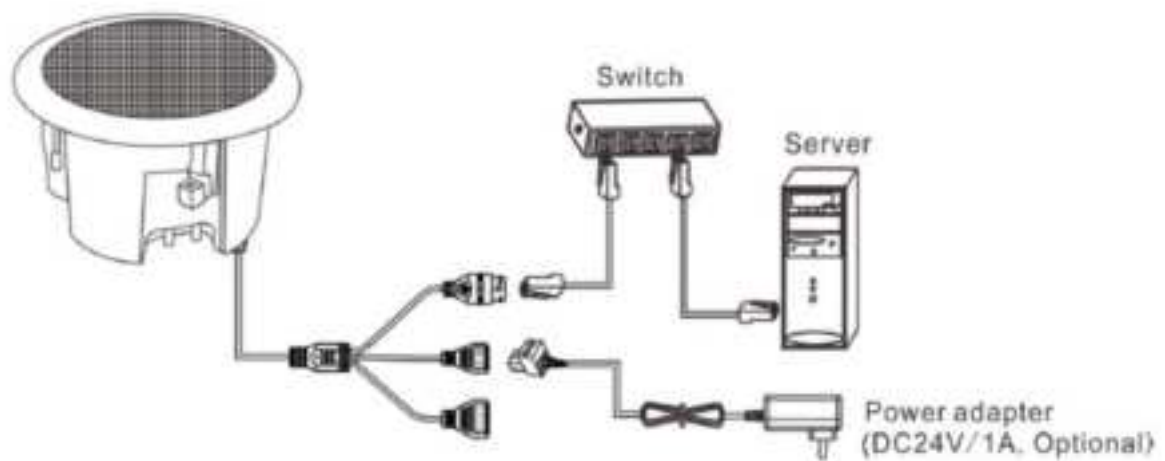
Not yet enabled.

Wiring

Wiring Method 1:



Wiring Method 2:



Note: When using power adapter, POE switcher cannot be connected

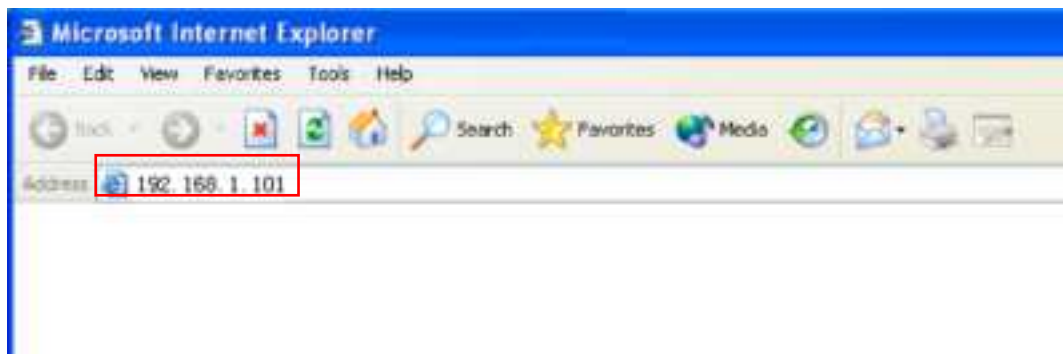
Basic Network Settings

Enter the IP ceiling speaker's webpage and modify all the parameters to fit the current situation. After you've finished, click "save."

User-Define Terminal Parameters

Login web interface

1. Enter the IP audio speaker's default IP address (192.168.1.101) in the browser; after a reset, it will voice-broadcast its IP even without a network connection.



2. Enter the username and password to log in.

Note: Default username and password are both admin.

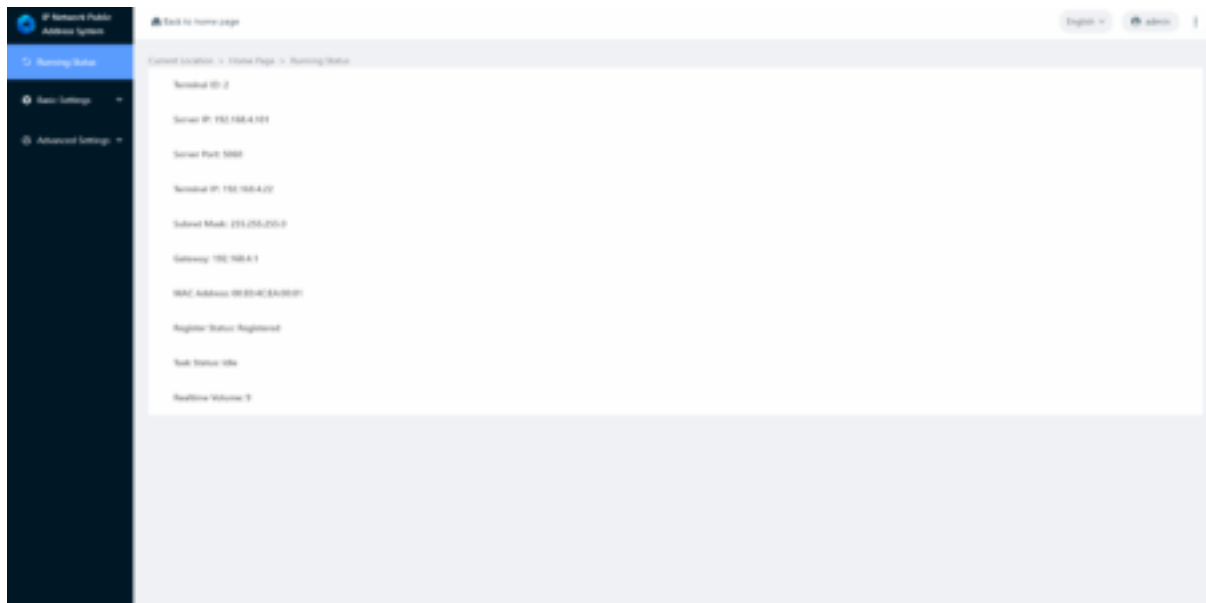


3. Press login to enter IP audio speaker web page.

(Note: If the relevant parameter modification in the web page does not take effect after saving, please clear the cache and set them again.)

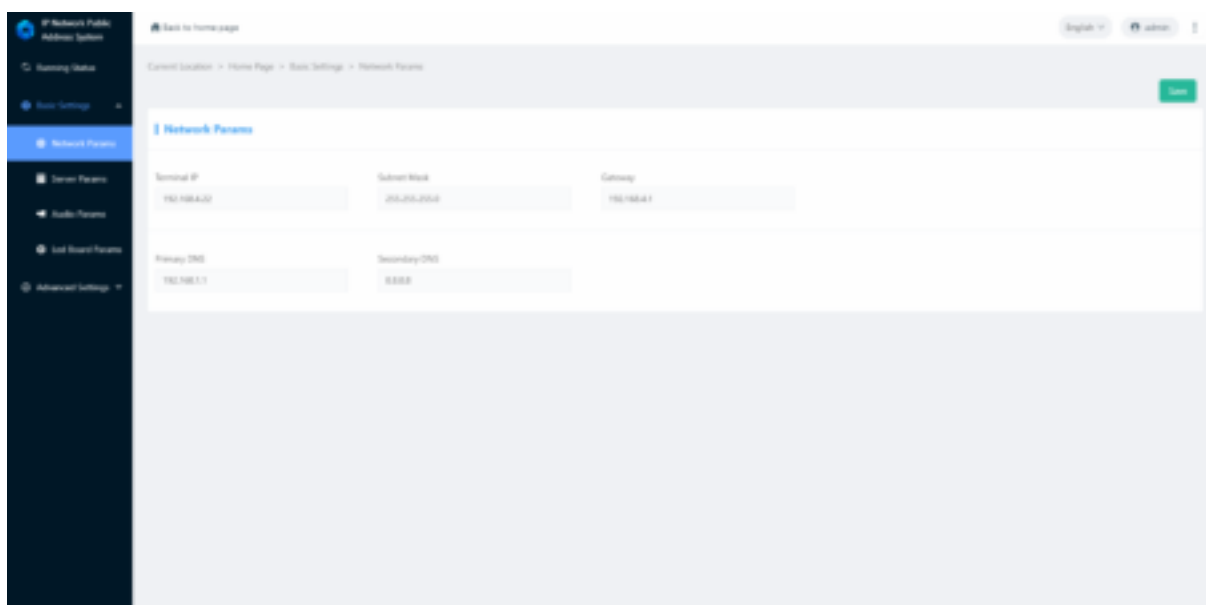
Running Status

Upon logging into the web interface, navigate to “Running Status” to view detailed device information including Terminal ID, Server IP and Port, Task Status, MAC Address, Terminal IP, Gateway, and other network parameters.



Network Parameter

Configure the terminal's network parameters based on the local network environment; click [Save] to apply and reboot the device for the settings to take effect.



The parameters are as follows:

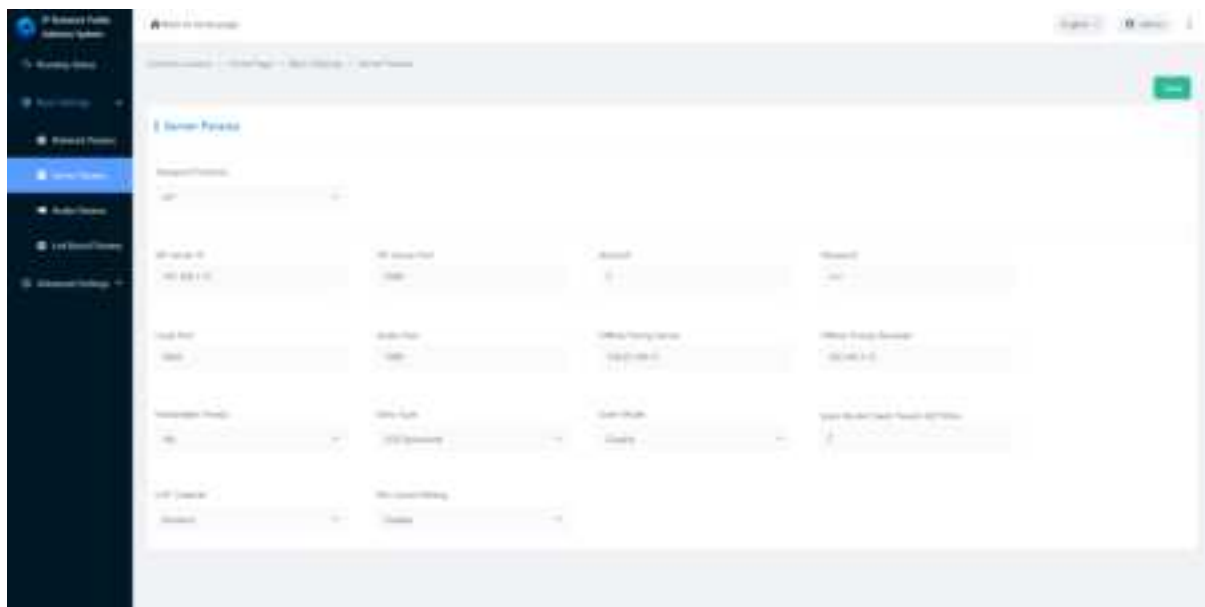
IP Address	The IP address of the device, the factory default IP is 192.168.1.101, which cannot be duplicated with other terminals.
Subnet Mask	The subnet mask of the LAN network.
Default Gateway	The gateway of the network.
Primary DNS	The IP address of the preferred DNS server (domain name resolver) for the network.
Secondary DNS	The IP address of the alternate DNS server (domain name resolver) for the network.

Server Parameter

IP audio speaker supports with **SIP protocol** and **NAS protocol**, you can choose the transport protocol based on the actual server you log in to.

SIP Protocol

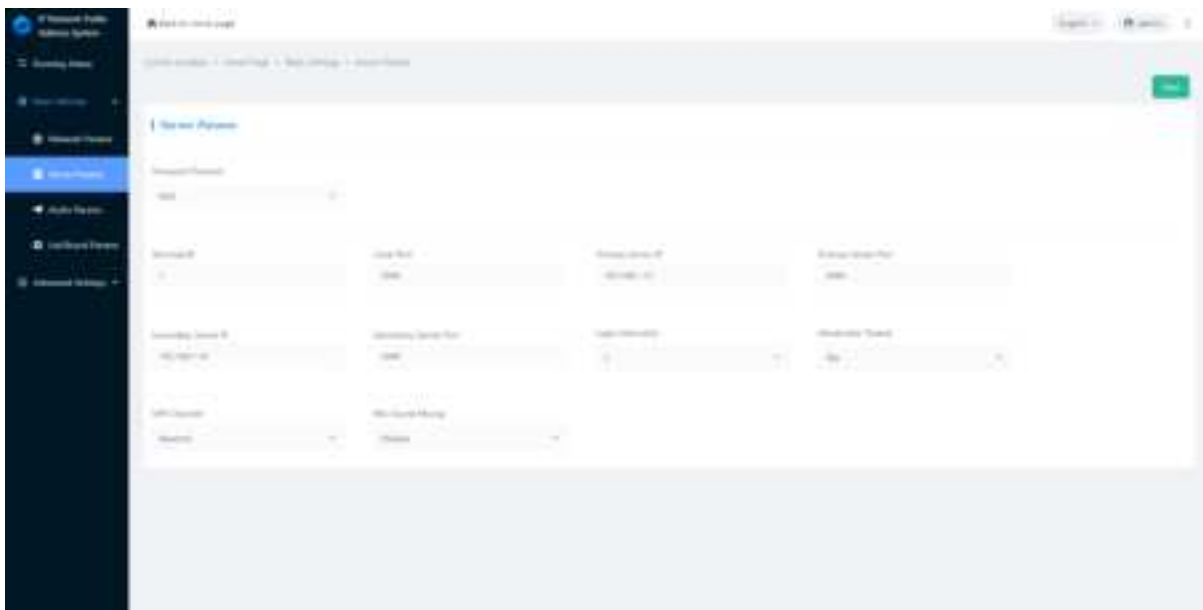
The default protocol is SIP; if connecting to a NAS (intercom) protocol server, select the NAS protocol and refer to the NAS protocol configuration guide for detailed parameter settings.



The settings are as follows:

Transport Protocol	Setting the protocol for normal communication between device and server.
Sip Server IP, port	Enter the IP address of the SIP server the terminal will connect to; ensure the address is correct. The port number is fixed at 5060 by default and should only be changed in special cases.
Terminal ID	The SIP account of the terminal cannot be duplicated with other terminals.
Password	Password for terminal to login to SIP server, default is 1234.
Local port	Configure the local port based on actual requirements; the default value is 5060.
Audio port	Configure the audio port according to the actual network and system requirements.
Ring time limit (sec)	Set the time limit for automatically answering incoming calls.
Call time limit (sec)	Set the time limit of call waiting.
Handshake time(s)	Set the handshake interval time for communication with the server.
Switch To Multicast	Set whether to enable the telephone-to-multicast function; when enabled, a SIP call from an IP phone triggers simultaneous multicast streaming to multiple SIP speakers, including the receiving terminal.

NAS Protocol

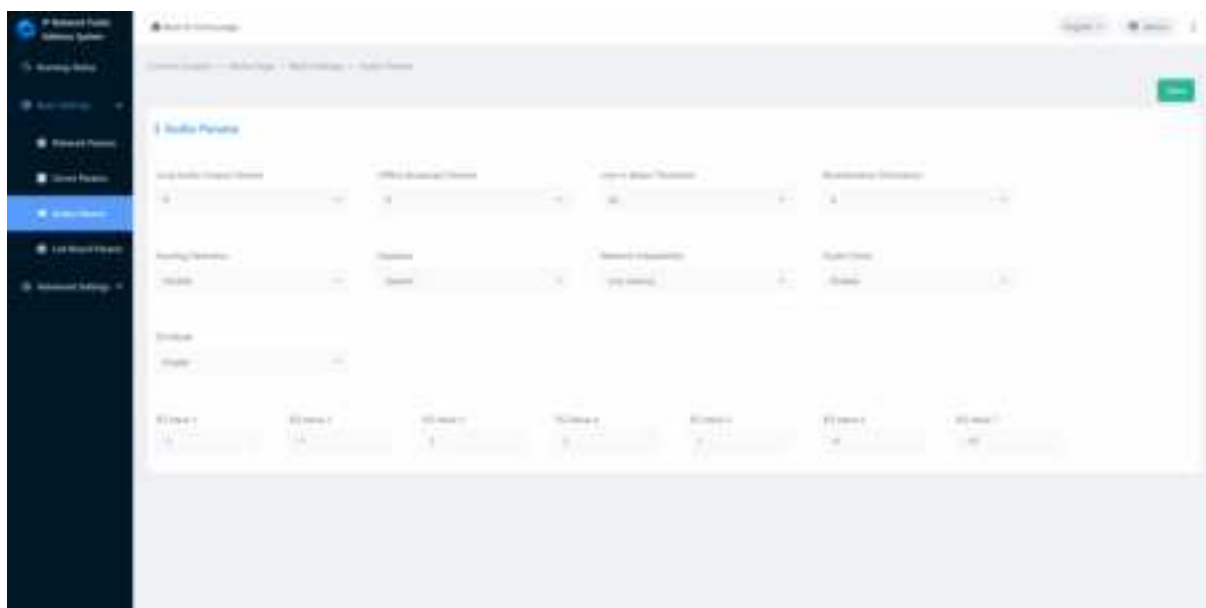


The settings are as follows:

Transport Protocol	Setting the protocol for normal communication between device and sever.
Terminal ID	Unique number to identify the terminal and cannot be duplicated with terminals or other hosts.
Local port	Configure the local port according to the actual situation; the default is 5060.
Primary Server IP, port	Enter the IP address or domain name of the NAS server the terminal connects to; the port number is fixed at 2048 by default and should only be changed in special cases.
Secondary Server IP, Port.	The IP address and port of the backup NAS server.
Login Interval(s)	Interval of login server.
Handshake time(s)	Set the interval time for initiating handshake communication with the server.

Audio Parameter

Set the audio related parameters of the device, click [save] after setting, the parameters will take effect after reboot.

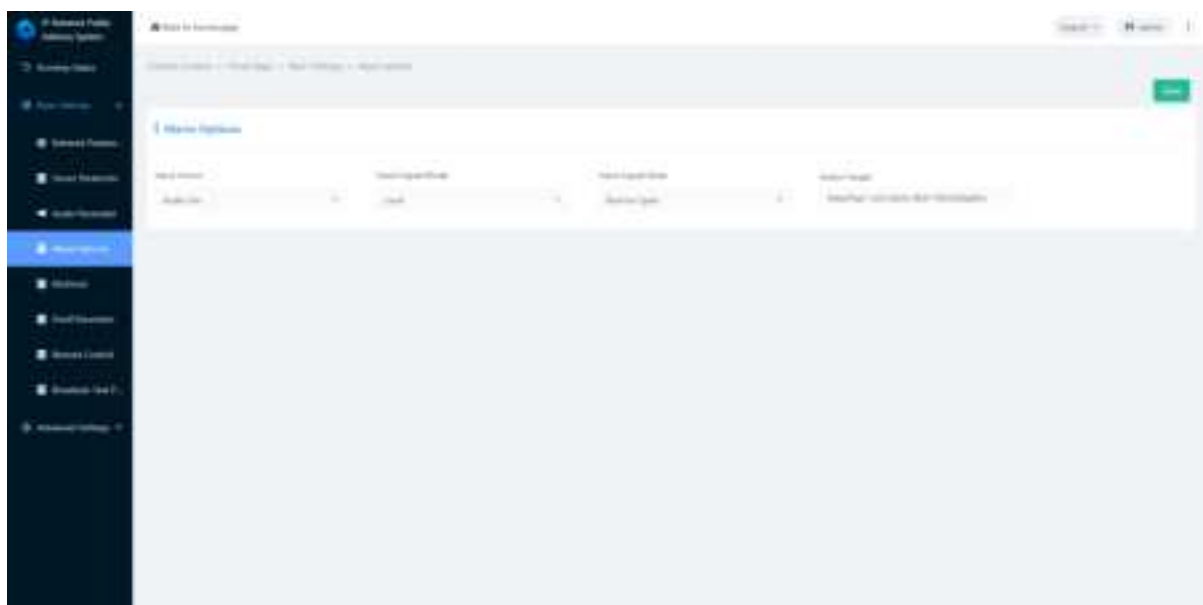


The settings are as follows:

Broadcast Output Volume	The total volume of audio input by the device during broadcasting range: 0-15;
Microphone Sensitivity	Set the microphone sensitivity.
Network Adaptability	Audio quality can be adjusted according to network environment. Low latency, low bandwidth, and custom are optional. You can customize the audio cache time when you choose Custom.
Power Supply Method	Select the power supply mode, support POE, POE+ and DC.

Alarm Options

Reserved.

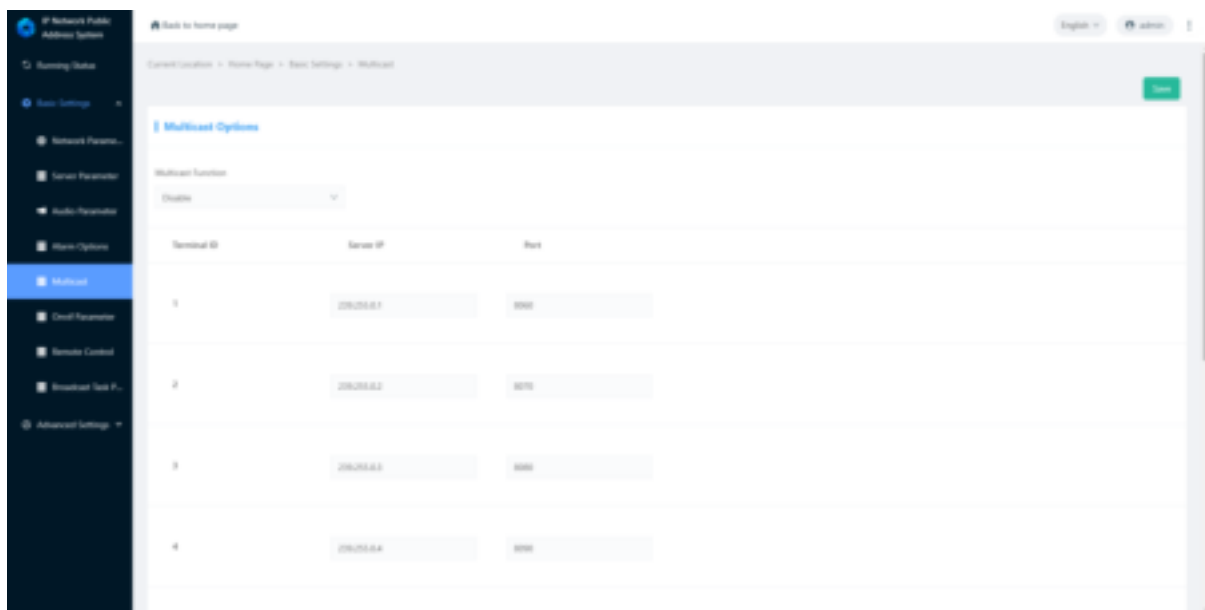


The settings are as follows:

Input Action	Audio File: Trigger playback of selected file (Task ID). Call: Trigger a call to prescribed call target.
Input Signal Mode	Select the input signal mode; available options are Level and Edge trigger.
Input Signal State	Select the input signal state; options include Normal Open (NO) and Normal Close (NC) .
Action Target	Audio File: Indicate Task ID configured using the Audio File Upload Tool. Call: Indicate SIP call target (SIP ID or IP address).

Multicast

Set whether to enable multicast or not. Support up to 10 multicast addresses as maximum.

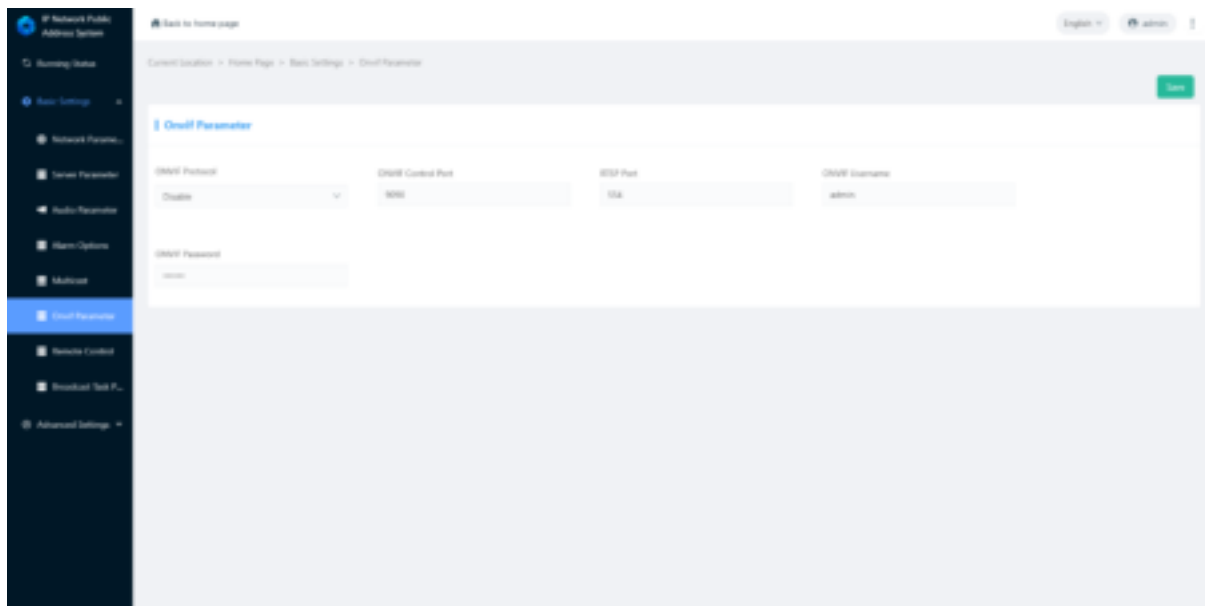


Parameters as following:

Multicast function	Set whether to enable the multicast function; when multiple servers exist in the LAN, each must use unique multicast addresses and ports to avoid interference. Supports up to 10 multicast addresses with priority levels from 1 (highest) to 10 (lowest).
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Onvif Parameter

Set the onvif related parameters of the device, click [save] after setting, the parameters will take effect after reboot.

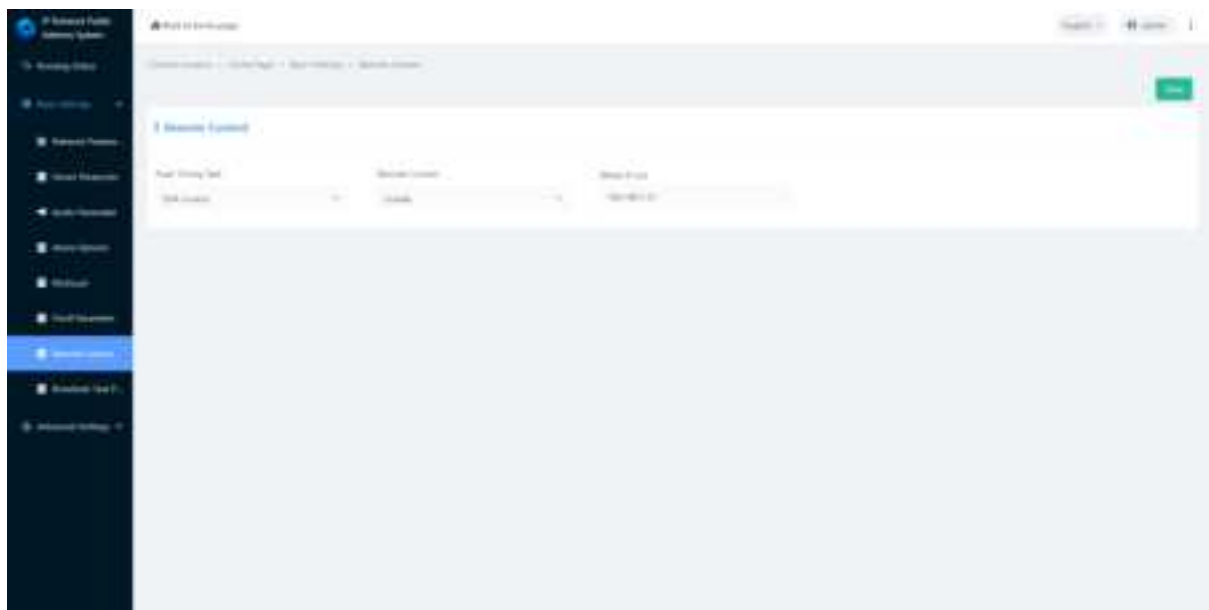


Parameters as following:

Onvif Protocol	Set whether to enable the ONVIF stream pulling function; if enabled, configure the ONVIF username and password accordingly.
ONVIF Username	
ONVIF Password	
Onvif Control Port	Set the Onvif control port, the default is 9090.
RTSP Port	Set the RTSP port, the default is 554.

Remote Control

Configure the remote control parameters of the device; click [Save] to apply, and reboot for the settings to take effect.

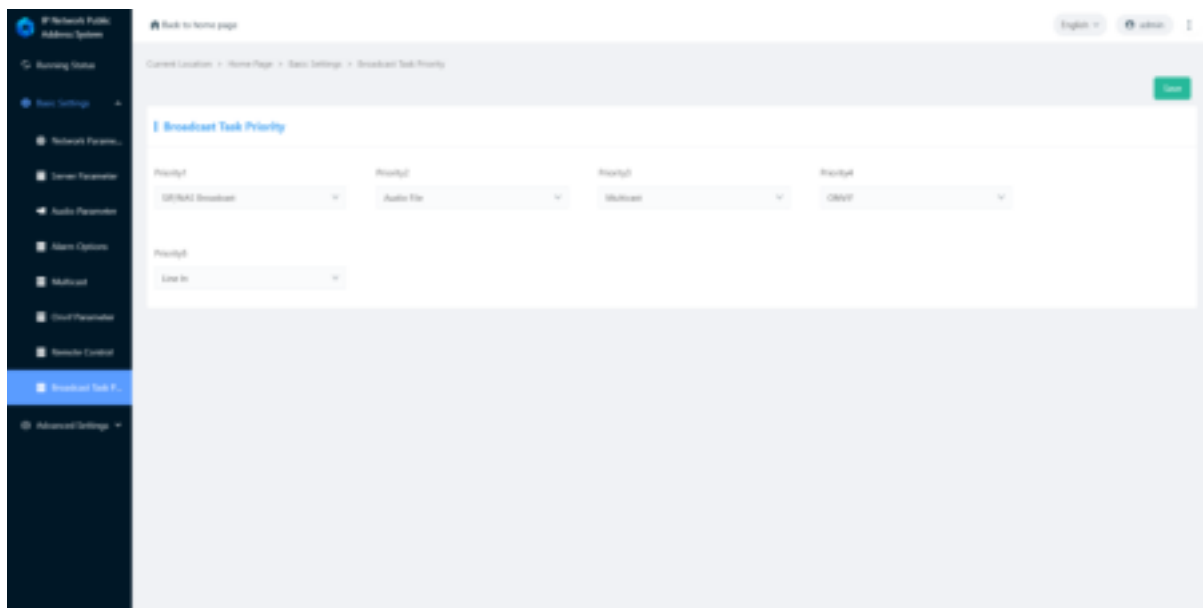


Parameters as following:

Push Timing Task	SDK Control: Used for pushing tasks via the audio file upload tool; the tool sends the task ID to the terminal over HTTP, enabling operation even without a server.
Remote Control	Set whether to enable the function of "The SDK Control" to push timed tasks.
White IP List	Set the host IP whitelist for pushing timed tasks using the Audio File Upload tool. Only whitelisted host IP can use the Audio File Upload tool to push timed tasks to the Unit. You can also use ',' (comma) and '*' (wildcard) for multiple IPs.

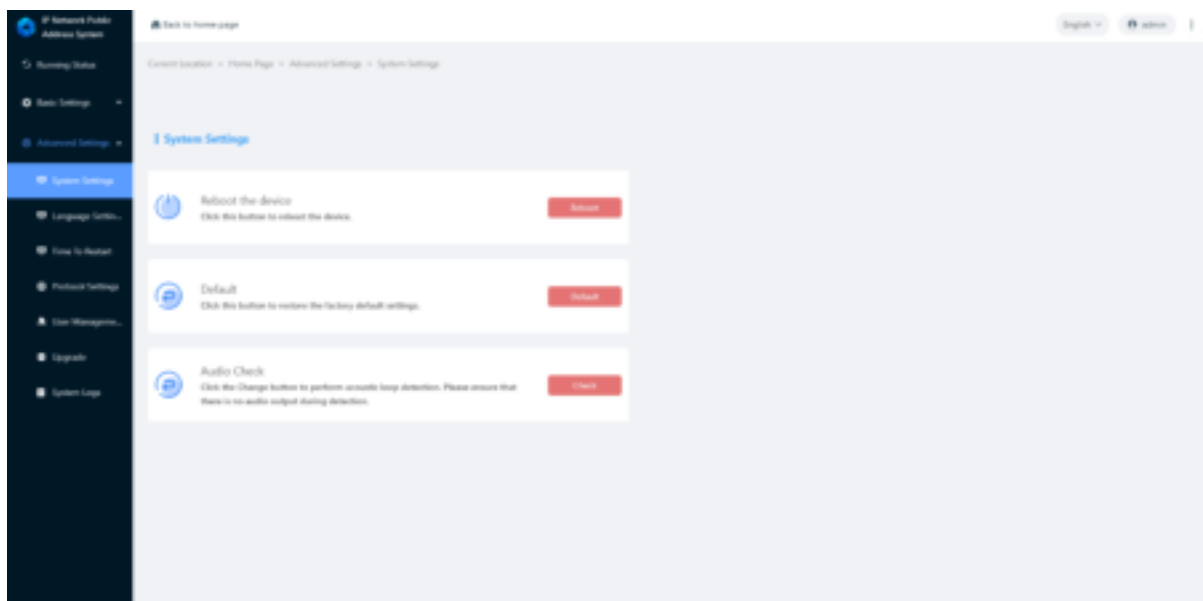
Broadcast Task Priority

Set the task priority. The default priority is SIP/NAS Broadcast > Audio File > Multicast > ONVIF > Line In.



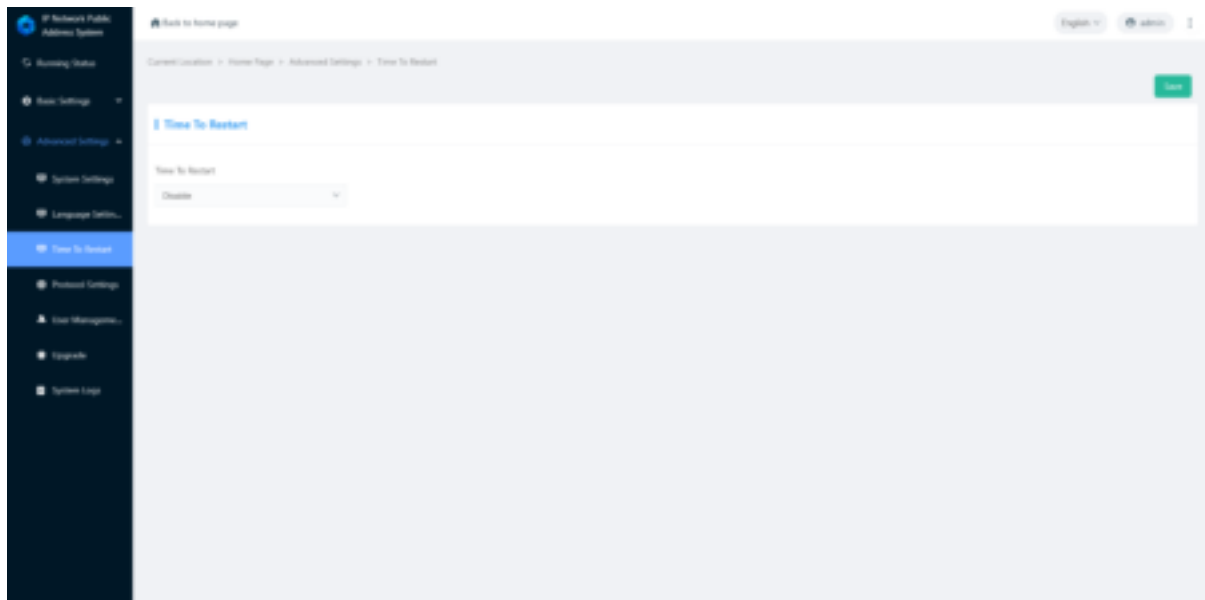
System Settings

- **Reboot:** Click to restart the device.
- **Default:** Restores all settings to factory defaults; use with caution.
- **Check:** Performs acoustic loop detection; ensure no audio output is active during the process.



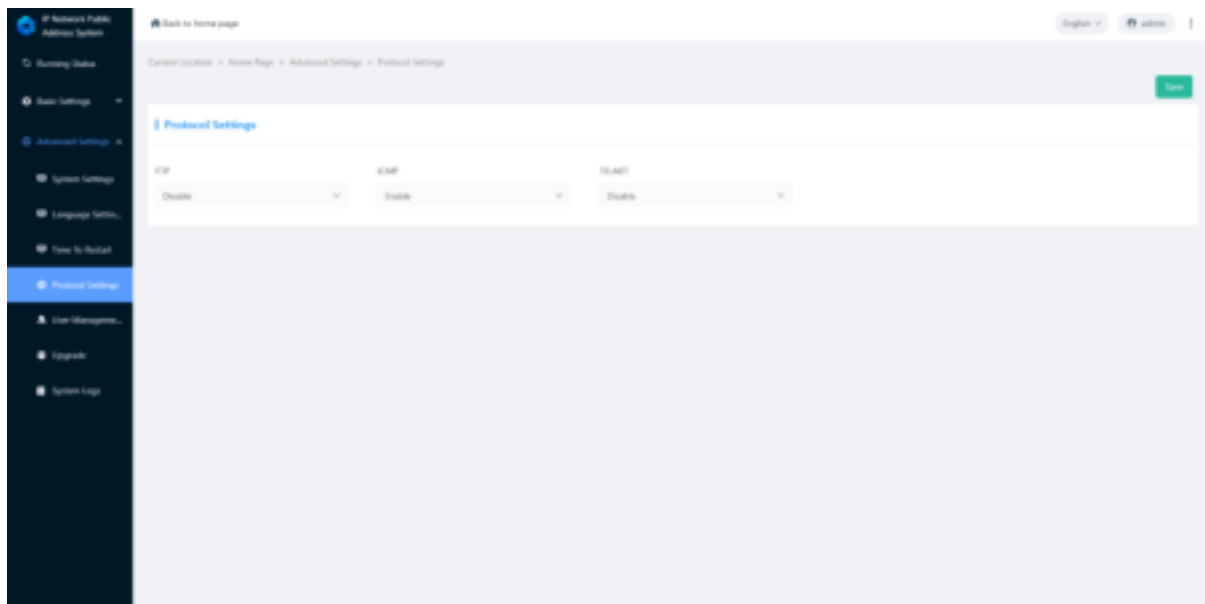
Time To Restart

Enable this function to schedule a daily automatic device reboot at a specified time; disabled by default.



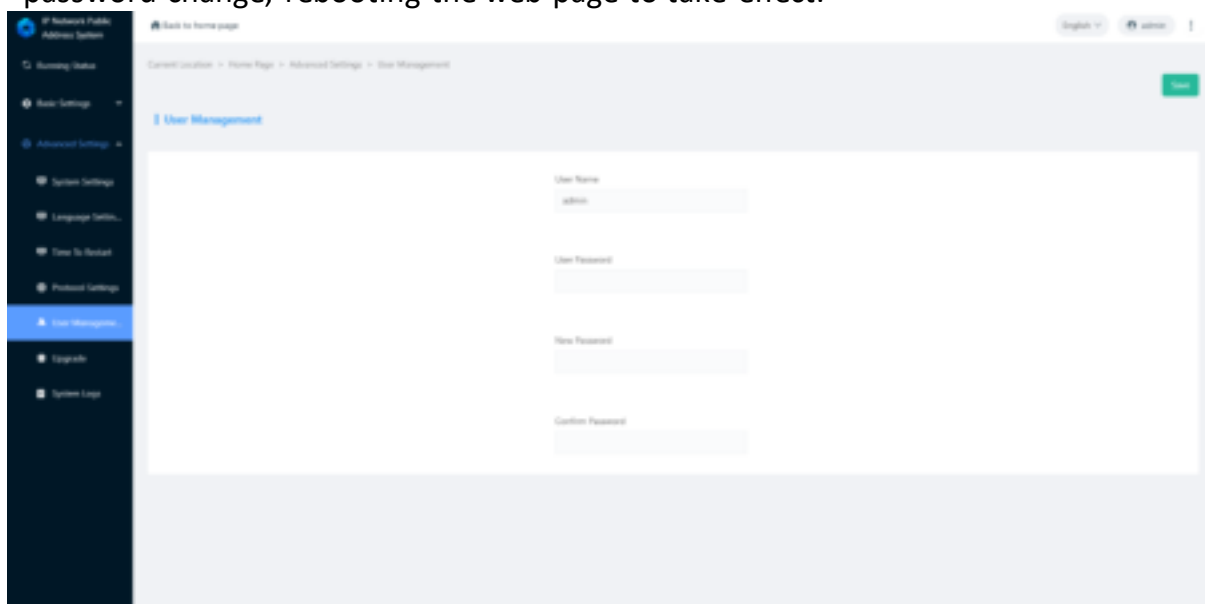
Protocol Settings

- **ICMP:** It is recommended to disable ICMP when configuring network parameters using the new IP configuration tool.
- **FTP:** Enable or disable the FTP remote file transfer function; disabled by default.
- **TELNET:** Enable or disable the TELNET remote login function; disabled by default.



User Management

You can change the password for logging into the WEB in this page. After save the password change, rebooting the web page to take effect.



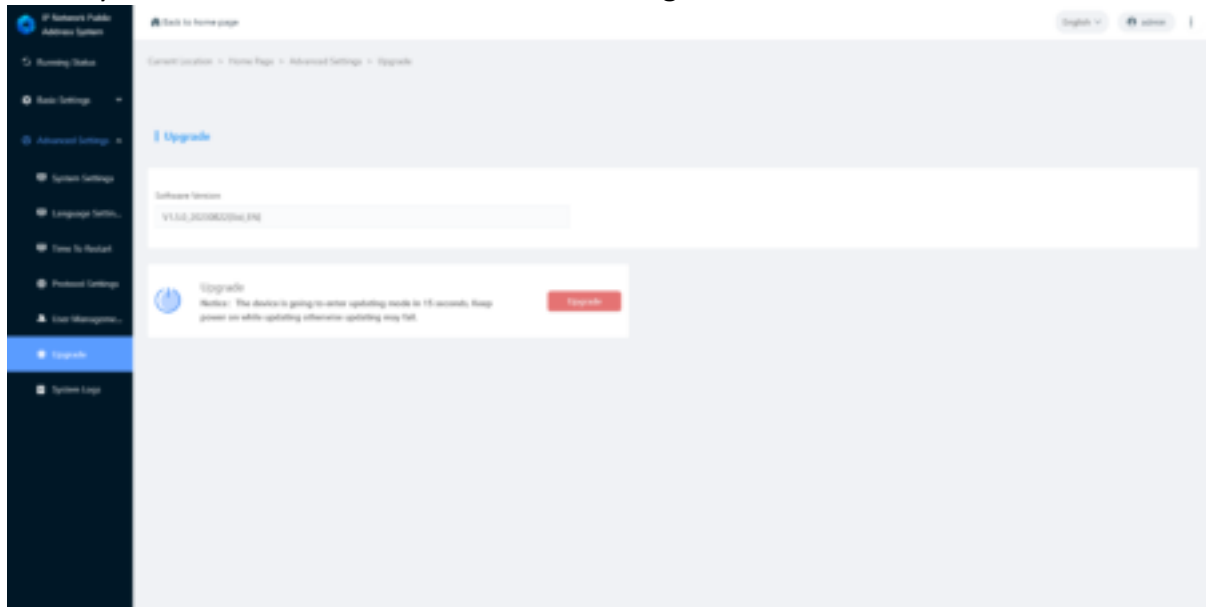
Upgrade

Click the "Upgrade" button, you will enter firmware upgrade mode after 15 seconds.

Click on "Select file", select the upgrade file provided by the manufacturer, and click "Start upload" to start the upgrade.

Note: Do not power off during the upgrade process, otherwise the upgrade may fail and the device fails.

Finally, click reboot and back to normal settings.



System Logs

IP ceiling speaker can automatically record the running process and generate logs, and support users to download system logs.



Troubleshooting

Why is the terminal failing to authenticate or register with the server?

- 1) Verify that the software server and main controller are running properly. Ensure all firewalls (both system-integrated and third-party antivirus firewalls) are fully disabled before starting the software server.
- 2) Check if the network connection is functioning correctly. After the terminal is powered on, a **solid green LED** on the network port indicates a normal link, while the **orange LED flashing rapidly** signifies active data transmission. If the green light is off, it indicates a hardware connectivity issue—inspect the network cable, switch, and terminal port for damage, disconnection, or malfunction.
- 3) Check the terminal IP setting. Please check the terminal ID, sever IP, local IP, gateway IP ...etc parameters.

Why does the warning "Terminal network services (UDP) start fail" appear during server software startup?

This warning usually indicates a **local network disconnection**; please ensure the network cable is properly connected, then **exit the server software** and **restart it** after confirming network connectivity.

Why does the web interface display abnormally?

Please clear the cache or change the browser

How to change the web login account and password?

1. Click the password setting in webpage
2. Input the old account and old password
3. Input the new account and new password
4. Input the new password again for confirmation
5. Click save

The new account and new password will be effective after reboot.