



IP CEILING SPEAKER

USER MANUAL

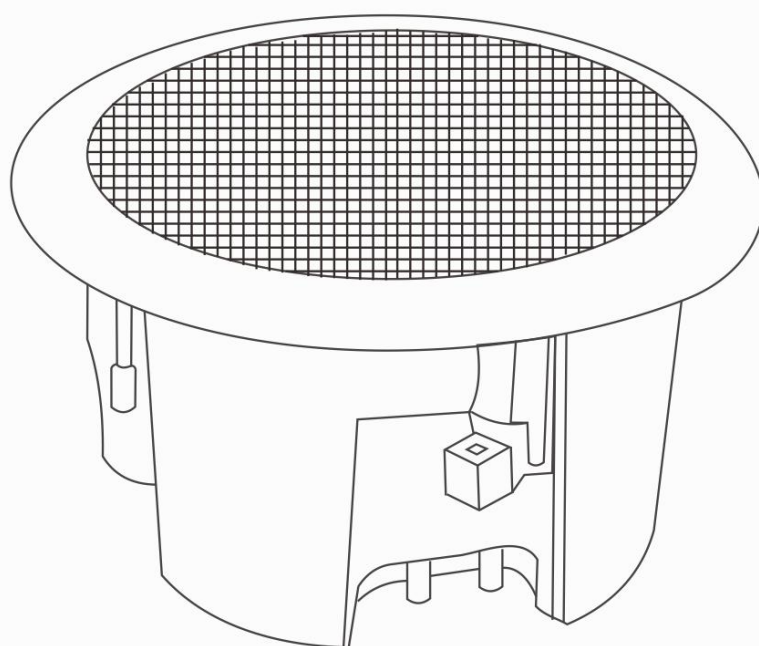


Table of Contents:

- 1. Important Safety Precaution
- 2. Product Overview
 - 2.1 Basic Introduction
 - 2.2 Product Features
 - 2.3 Hardware Interface Description
 - 2.4 Wiring
- 3. Quick Operation Guide
 - 3.1 Network Settings
 - 3.2 User-Defined Terminal Parameter Settings
 - 3.3 Troubleshooting

1. Important Safety Precaution

Please read this User Manual carefully before using this product and follow all the safety precautions mentioned herein.

During Installation:

(1) Avoid humidity:

Please do not expose the device to rainy environment or other humid environment, otherwise it may lead to fire or electric shock.

(2) Use correct power supply:

Please use the specified power adapter for the device, using high voltage power supply may lead to fire or electric shock.

(3) Protect the electric wire:

Do not scratch, cut or twist the power cord, keep the power cord away from any heating device, do not place heavy objects on top of the power cord, otherwise it may lead to fire or electric shock.

During Use:

(1) If anything goes wrong:

During use of this device, if any of these anomalies mentioned below happens, please cut off the electricity immediately, otherwise it may lead to fire or electric shock.

- smoke or strange smell coming out of the device.
- water or other foreign object gets into the device.
- damage on the product shell.
- damage of the power cord (cable core exposed or broken).
- malfunction of the device (no network connection or no sound).

(2) Do not open the product shell:

There are high voltage parts inside of the product shell, opening the product shell without permission may lead to fire or electric shock.

(3) Do not touch the device when it thunders:

To avoid electric shock, please do not touch the device or power plugs when it thunders.

(4) Do not place liquid containers on top of the device:

If accidentally knock over the liquid container and let any liquid get into the device, it may lead to fire or electric shock.

(5) Cautions when the device is not in use:

If the device is not in use for 10 days or longer, please cut off the electricity and unplug the power plug from the power socket, otherwise it may lead to fire or electric shock.

2. Product Overview

Here is what you can find in this section:

- **2.1 Basic Introduction**
- **2.2 Product Features**
- **2.3 Hardware Interface Description**
- **2.4 Wiring**

2.1 Basic Introduction

IP ceiling speaker embedded SPON IP Audio Digital Network audio technology with independent intellectual property rights. It can accept broadcasting initiated by other terminals and servers and support function settings through browser. With Circuit fault detection function, it can detect the working status of the horn and display on the server software.

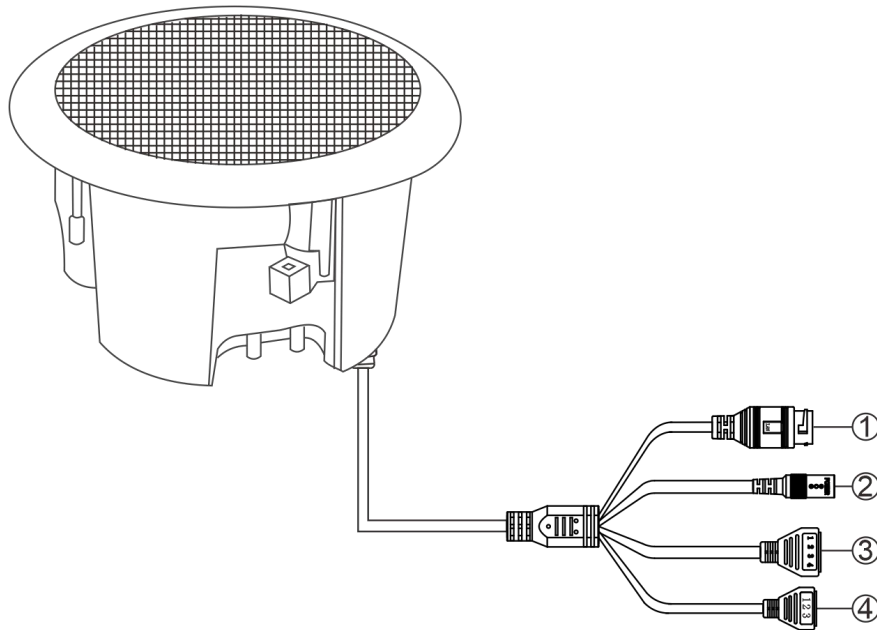


2.2 Product Features

- Receive broadcast: it can receive a broadcast from a server or other terminals.
- Circuit detection: With Circuit fault detection function, it can detect the working status of the speaker.
- Timing broadcast: it will upload all the audio source need to be daily broadcast on server, and make broadcasting schedule. Ceiling speakers can be configured by the server's scheduled task to achieve automatic broadcast.
- System settings through browser: the user can set the network parameters, audio parameters, and change the password etc. to realize the personalization.
- Support POE power supply.

2.3 Hardware Interface Description

Interface Description



①Network interface: Insert a cable to the switch or POE switch.

②Power Supply Port: DC24V/1A, provide the power for IP ceiling speaker. (This equipment is supportive of POE power supply. If the network interface has connected to POE switch, it does not need to connect to the power.)

③Integrated interface

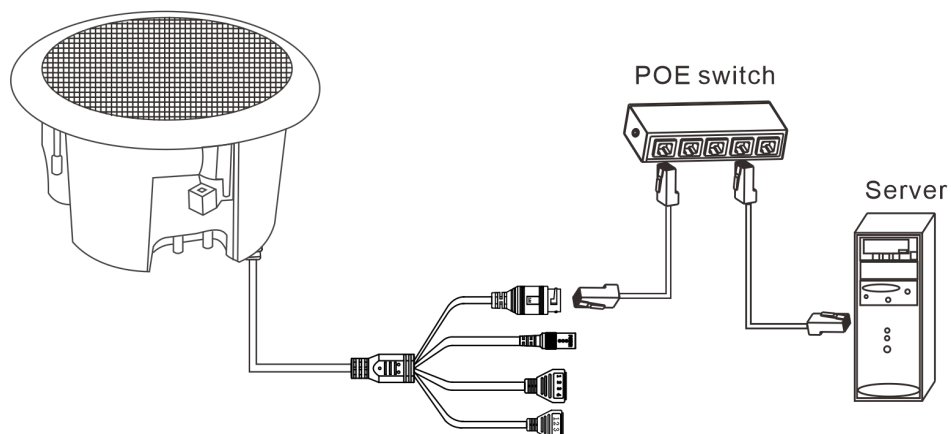
- 1: Line in
- 2: GND
- 3: Alarm in
- 4: GND.

④Alarm out interface

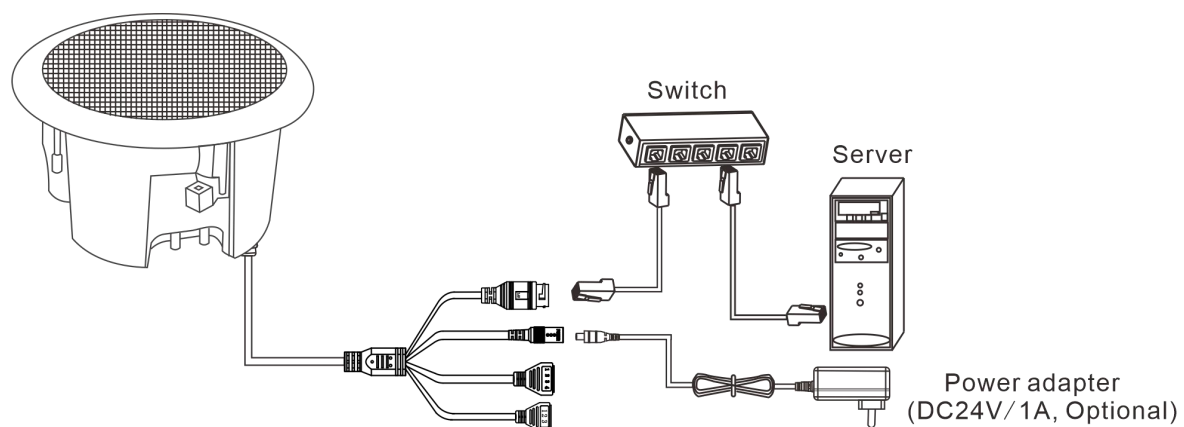
- 1: Normal close end
- 2: common end
- 3: Normal open end.

2.4 Wring

Wiring method 1:



Wiring method 2:



Note: POE switcher can not be connected, when using power adapter.

3. Quick Operation Guide

Here is what you can find in this section:

- **3.1 Network Settings**
- **3.2 User-defined Terminal Parameters**
- **3.3 Troubleshooting**

3.1 Network Settings

Basic Network Settings

After the terminal is successfully connected, turn on the power, and change the network parameters of the terminal according to the on-site application environment. There are two methods:

IP Device Configuration Tool

- (1) Run "IP DevConfig Tool", after the tool is started, the interface will display the IP terminal that has been scanned, or you can click the "Quick scan" button to scan the terminal again.
- (2) Configure the terminal's IP network information.

Method 1: Check the designated terminal and click "Terminal Configuration"- "Parameter Configuration" to configure IP network information for the terminal.

Method 2: If the scanning tool does not scan the terminal, you can click "Advanced" to perform mandatory IP configuration. This method will force all terminals in the network to be configured to the same IP address and other information, so when using this method, please ensure that only one target terminal is connected in connected to the network.

For specific operation steps, please refer to the User Manual of "IP Device Configuration Tool".

Remark:

1. If you use Windows 7 system to operate, please use the administrator mode to run the IP DevConfig Tool, and turn off the firewall and related software;
2. If the terminal is not scanned, the mandatory configuration method can be used. At this time, the IP DevConfig Tool can only configure the network parameters of one terminal at a time. When using this method to configure terminal network parameters, please make sure that one computer corresponds to only one target terminal.
3. If you need an IP DevConfig Tool, please contact our company's after-sales service.

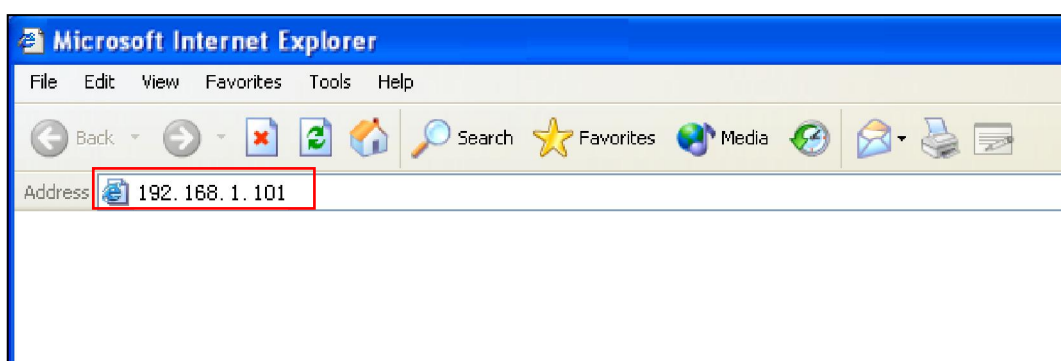
Webpage Method

Enter into the webpage of IP ceiling speaker, and then modify all the parameters according to the live environment. After finishing, click "save".

3.2 User-defined Terminal Parameters

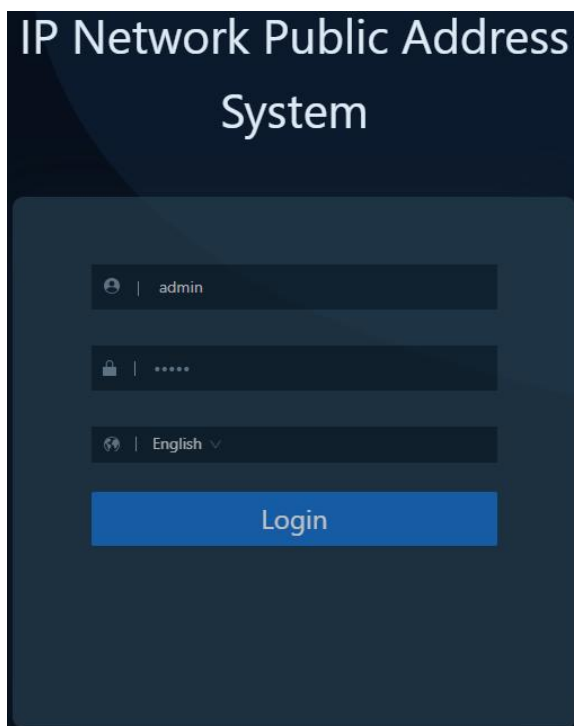
Login web interface

(1) Please input the IP address of IP ceiling speaker to the address column of the browser (the factory default IP address is 192.168.1.101, it will automatically play the IP address when the press the terminal key without the cable inserted), then enter.



(2) Enter the username and password to log in.

Note: Default username and password are both admin.



(3) Press login to enter to the IP ceiling 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

When login to the web page, click “Running Status”, it will show the information of: Terminal ID, server IP, server port, device task status, MAC address, terminal IP address, gateway and other information.

The screenshot shows the 'Running Status' page of the IP Network Public Address System. The left sidebar contains navigation options: Running Status (selected), Basic Settings, and Advanced Settings. The main content area displays the following information:

- Terminal ID: 2
- Server IP: 192.168.1.13
- Port: 5060
- Register Status: Unregistered
- Task Status: Idle
- IP Address: 10.1.21.60
- Subnet Mask: 255.255.255.0
- Default Gateway: 10.1.21.1
- MAC Address: 14:15:35:34:5a:04
- Initial Noise: 62
- Realtime Noise: 67
- ANC Gain: 0
- Realtime Volume: 9
- Audio Check: Not tested yet

Network Parameter

Please set the terminal's network parameters according to the network environment of the terminal. Click on [save] after setting, the parameters will take effect after reboot.

The screenshot shows the 'Network Parameter' page of the IP Network Public Address System. The left sidebar contains navigation options: Running Status, Basic Settings, Network Parameter (selected), Server Parameter, Audio Parameter, Alarm Options, Multicast, Onvif Parameter, Remote Control, Broadcast Task P..., and Advanced Settings. The main content area displays the following configuration fields:

- IP Address: 10.1.21.60
- Subnet Mask: 255.255.255.0
- Default Gateway: 10.1.21.1
- Primary DNS: 192.168.1.1
- Secondary DNS: 192.168.1.1

A 'Save' button is located in the top right corner of the configuration area.

The relevant Settings of network 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) of the network.
Secondary DNS	The IP address of the alternate DNS server (domain name resolver)

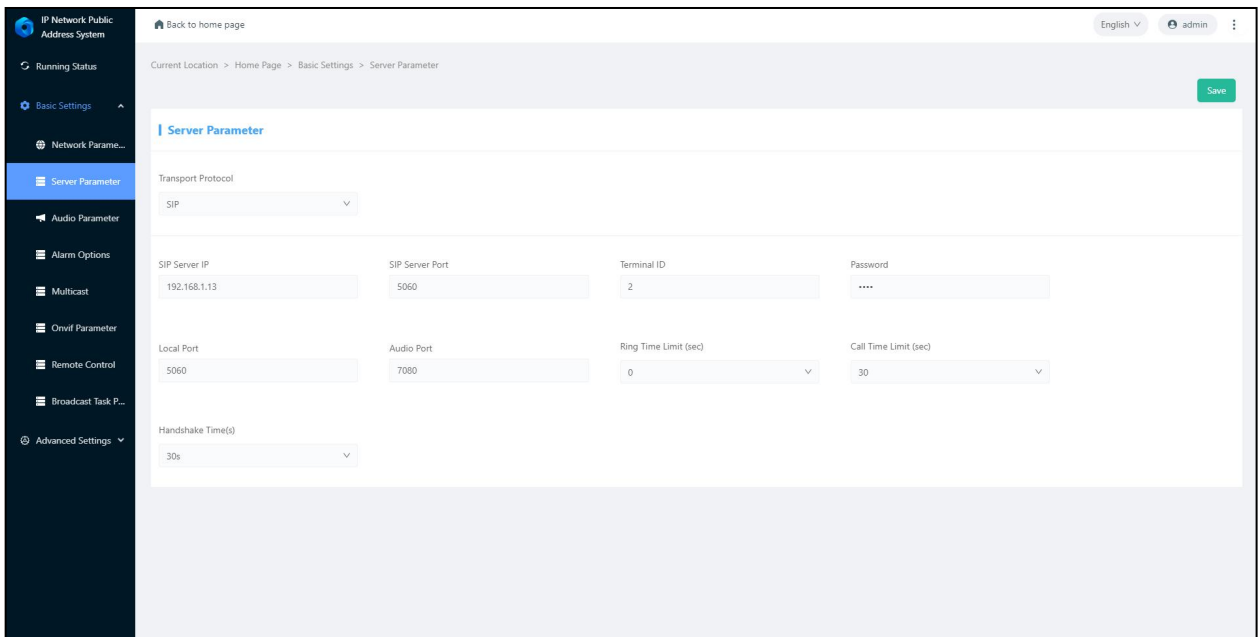
of the network.

Server Parameter

IP ceiling speaker support 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 is SIP protocol. If the device is logged into the NAS (intercom) protocol server, you need to select the NAS protocol here, please refer to the NAS protocol setting introduction for specific parameter settings.



The relevant Settings are as follows:

Transport Protocol	Setting the protocol for normal communication between device and sever.
SIP Server IP, port	IP address of the SIP server that the terminal logs into. Please enter the correct IP address of the SIP server. The port number cannot be changed except in special cases. (Default is 5060)
Terminal ID	The SIP account of the terminal, it can not be duplicated with other terminals.
Password	Password for terminal to login to SIP server, default is 1234.
Local Port	Configure the local port according to the actual situation; the default is 5060.
Audio Port	Configure the audio port according to the actual situation.
Ring Time Limit (sec)	Set the time limit of automatically answer call.
Call Time Limit (sec)	Set the time limit of call waiting.
Handshake Time(s)	Set the time to make handshake with server.

NAS Protocol

IP Network Public Address System

Back to home page

English admin

Current Location > Home Page > Basic Settings > Server Parameter

Save

Server Parameter

Transport Protocol
NAS

Terminal ID
1

Local Port
2046

Primary Server IP
192.168.1.13

Primary Server Port
2048

Secondary Server IP
192.168.1.14

Secondary Server Port
2048

Login Interval(s)
3

Handshake Time(s)
30s

The relevant 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	IP address of the NAS server that the terminal logs in to. Please enter the correct IP address or domain name of the NAS server. The port number cannot be changed except in special cases (the default is 2048).
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 time to make handshake with server.

Audio Parameter

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

The screenshot displays the 'Audio Parameter' configuration page within the 'IP Network Public Address System' interface. The left sidebar contains navigation options: Running Status, Basic Settings (selected), Network Parameter, Server Parameter, Audio Parameter (highlighted), Alarm Options, Multicast, Orvif Parameter, Remote Control, and Broadcast Task P... The main content area shows the 'Audio Parameter' settings. At the top, there is a 'Back to home page' link and a 'Save' button. The settings are organized into several rows: Broadcast Output Volume (9), Microphone Sensitivity (6), Network Adaptability (Low Latency), Call Release Time(ms) (800), Noise Suppression Level (mid), Line input threshold (200), ANC (Enable), ANC Mode (Disperse), Min Realtime Noise(10-120dB) (50), Max Realtime Noise(10-120dB) (70), Min Gain (-6dB), Mid Gain (-3dB), Max Gain (0dB), and Response Time(sec) (30).

The relevant 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, the greater the value, the higher the 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.
Call Release Time(ms)	Setting how long will the terminal hear the voice of the IP based smart cabinet speaker after the terminal stops talking while IP based smart cabinet speaker is talking with other terminals.
Noise Suppression Level	Set the Noise Suppression Level. Low, mid, and high are optional.
Line input threshold	You can set the "line input threshold" through "Line Input Calibration" button below "system settings".
ANC	Enable or disable the Ambient Noise Controller (ANC) feature. The Unit will adjust the output volume according to the ambient noise level.
ANC Mode	Linear and Disperse are optional. When it is set to linear, you need to set the Max Gain, Min Gain, Gain Ratio, and Response Time. When it is set to disperse, you need to set Min Realtime Noise, Max Realtime Noise, Min Gain, Max Gain, and Response Time. If the Realtime Noise in the running status page is smaller than Min Realtime Noise, the ANG gain in the running status page will be the setting value of Min Gain.

	If the Realtime Noise in the running status page is bigger than Min Realtime Noise, but smaller than Max Realtime Noise, the ANG gain in the running status page will be the setting value of Mid Gain. If the Realtime Noise in the running status page is bigger than Max Realtime Noise, the ANG gain in the running status page will be the setting value of Max Gain. The response time is the time that ANG gain changes.
--	--

Alarm options

Set the alarm related parameters of the device, Click on [save] after setting, the parameters will take effect after reboot.

Note: the alarm input interface function of this device is corresponding to the settings of input2 in this page.

The relevant Settings are as follows:

Input1/Input2 Action	Set the trigger action when closing alarm input1/input2 port. Audio File: Trigger playback of selected file (Task ID). Call: Trigger a call to prescribed call target.
Input1/Input2 Signal Mode	Select the input1/Input2 signal mode. Level and Edge are optional.
Input1/Input2 Signal State	Select the input1/input2 signal state. Normal Open and Normal Close are optional.
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.

IP Network Public Address System

Running Status

Basic Settings

Network Param...

Server Parameter

Audio Parameter

Alarm Options

Multicast

Onvif Parameter

Remote Control

Broadcast Task P...

Advanced Settings

Back to home page

English admin

Save

Current Location > Home Page > Basic Settings > Multicast

Multicast Options

Multicast Function

Disable

Multicast PriorityMulticast AddressMulticast Port

1239.255.0.18060

2239.255.0.28070

3239.255.0.38080

4239.255.0.48090

Parameters as following:

Multicast function	Set whether to enable multicast function or not. In the case where there are multiple servers in the LAN, different servers must fill in different addresses and port numbers when they initiate multicast broadcasts without interference. Support up to 10 multicast addresses as maximum and priority settings (priority from high to low is 1-10).
--------------------	---

Onvif Parameter

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

The screenshot displays the 'Onvif Parameter' configuration page. The left sidebar contains the following menu items: Running Status, Basic Settings, Network Parameter, Server Parameter, Audio Parameter, Alarm Options, Multicast, Onvif Parameter (highlighted), Remote Control, Broadcast Task P..., and Advanced Settings. The main content area has a breadcrumb trail: 'Current Location > Home Page > Basic Settings > Onvif Parameter'. The configuration fields are as follows:

Parameter	Value
ONVIF Protocol	Disable
ONVIF Control Port	9090
RTSP Port	554
ONVIF Username	admin
ONVIF Password	*****

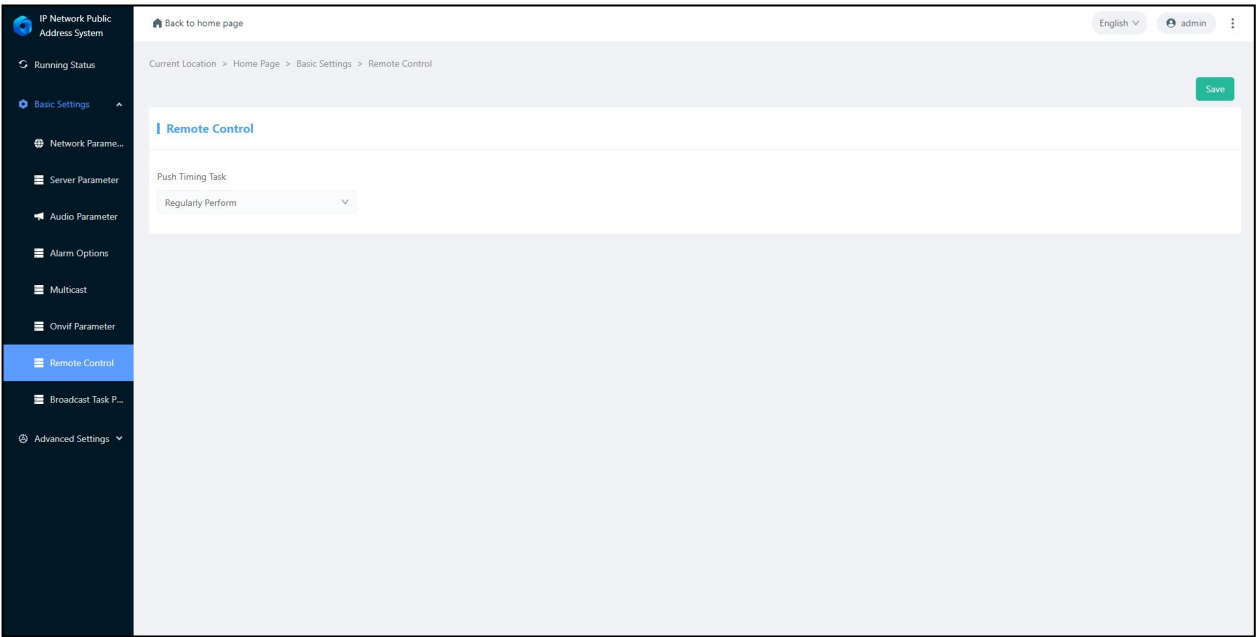
A green 'Save' button is located in the top right corner of the configuration area.

Parameters as following:

Onvif Protocol	Set whether to enable Onvif pulling stream function.
ONVIF Username	If it is enabled, please set the onvif username and password.
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

Set the remote control related parameters of the device, Click on [save] after setting, the parameters will take effect after reboot.

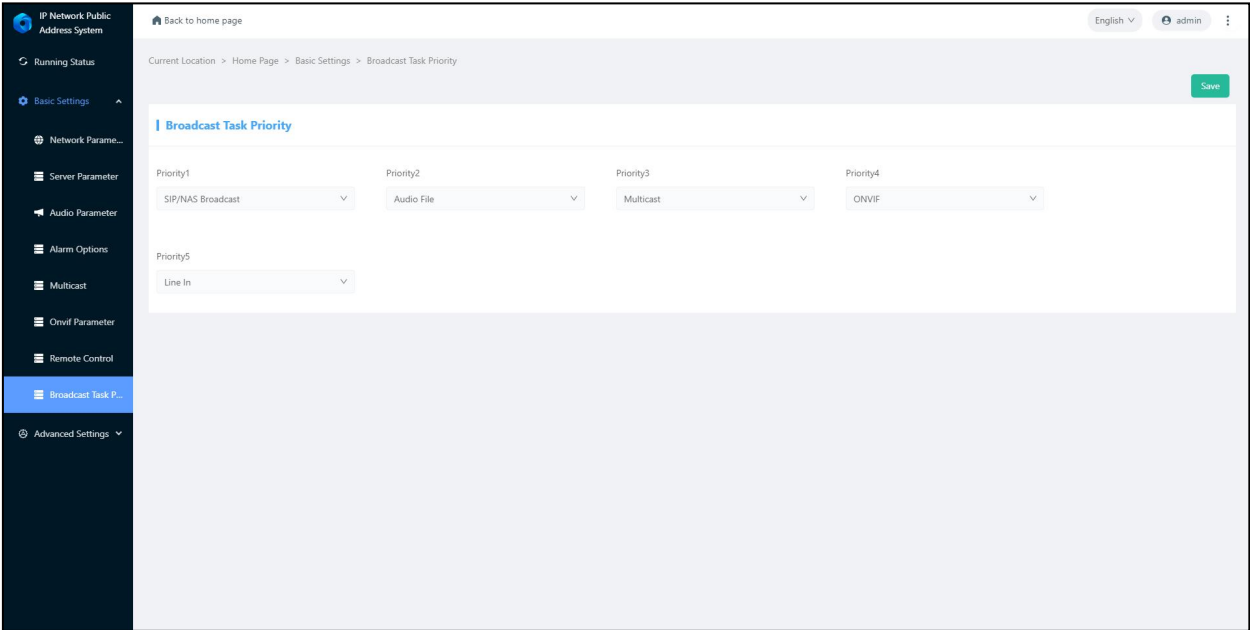


Parameters as following:

Push Timing Task	The SDK Control: Push by the audio file upload tool. It pushes the task ID on the audio file upload tool to the Unit through http, and it can be used in serverless situations. Regular Perform: Pushing timing task through server.
------------------	--

Broadcast Task Priority

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



System Settings

Reboot: Click on this button will reboot the device.

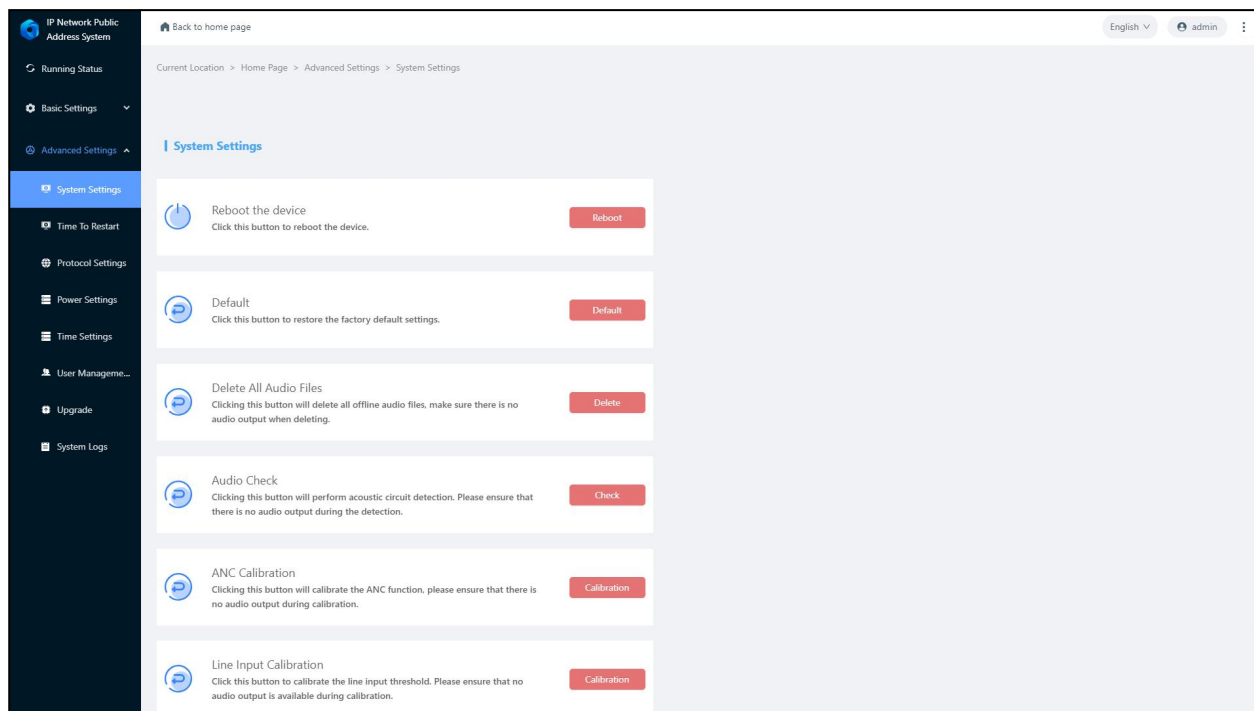
Default: Click this button and all parameters of the device will be restored to factory Settings (please use with caution)

Delete: Click on this button will delete all offline audio files, make sure there is no audio output when deleting.

Check: Click the Check button to perform acoustic loop detection. Please ensure that there is no audio output during detection.

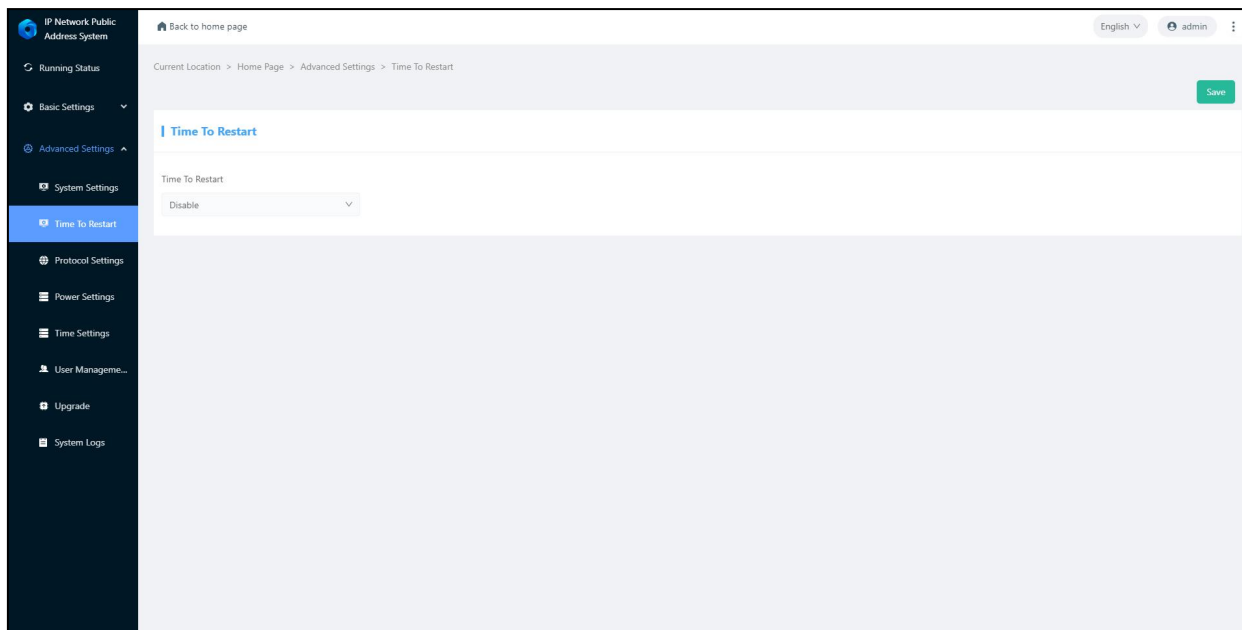
ANC Calibration: Click on this button will calibrate the ANC function, please ensure that there is no audio output during calibration.

Line Input Calibration: Click on this button to calibrate the line input threshold. Please ensure that no audio output is available during calibration.



Time To Restart

After this function is enabled, you can set the time for restarting the device every day. The default value is disable.

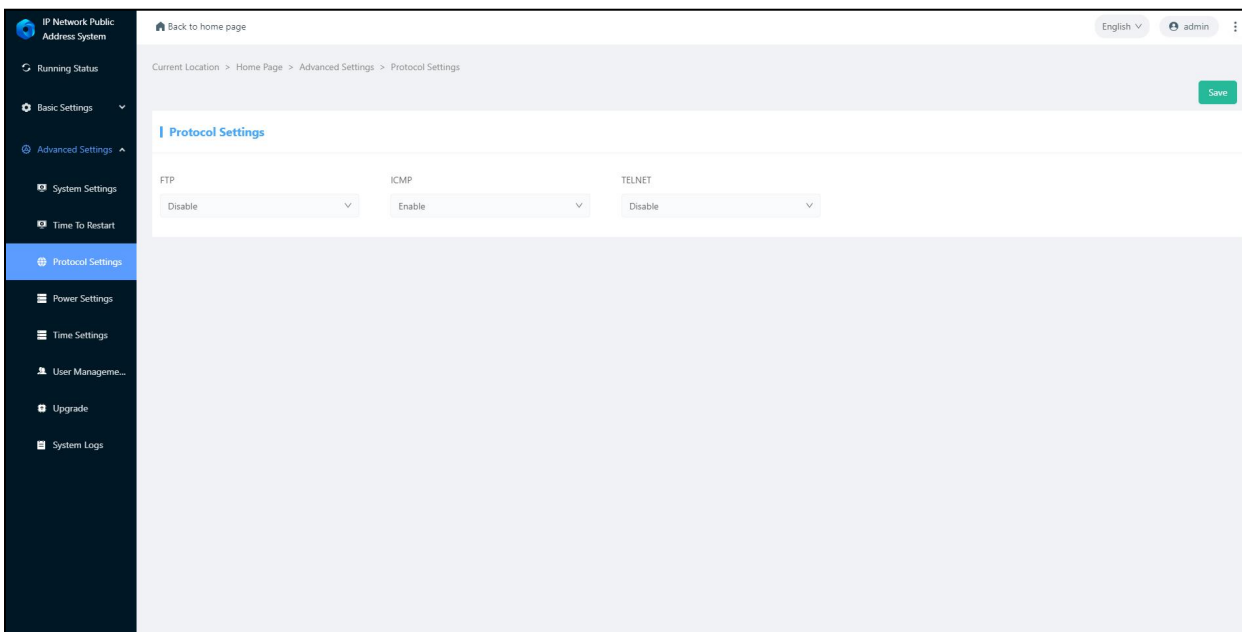


Protocol Settings

FTP: Set whether to enable FTP remote file transfer function. The default value is disable.

ICMP: You are advised to disable ICMP when using the new IP configuration tool to configure network parameters.

TELNET: Set whether to enable the TELNET remote login function. The default value is disable.



Power Settings

Set the power settings of the device, Click on [save] after setting, the parameters will take effect after reboot.

Parameters as following:

Power Supply Mode	Select the power supply mode, support POE, POE+ and DC.
Output Power	Support 15W, and 20W. Note: In POE power supply mode, only support select 15W. In POE+ and DC power supply mode, support select 15W and 20W.

Time Settings

Time Zone: set the time zone of the device.

NTP Server: Fill in the NTP server of the device.

Click on [save] after setting, the parameters will take effect after reboot.

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.

The screenshot shows the 'User Management' page of the 'IP Network Public Address System'. The left sidebar contains a menu with 'User Management' selected. The main content area has a title 'User Management' and a 'Save' button. Below the title, there are four input fields: 'User Name' (containing 'admin'), 'User Password', 'New Password', and 'Confirm Password'. The breadcrumb trail at the top reads 'Current Location > Home Page > Advanced Settings > User Management'.

Upgrade

Software Version: The current firmware version of the device.

Click on "Upgrade" button, you will enter the 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.

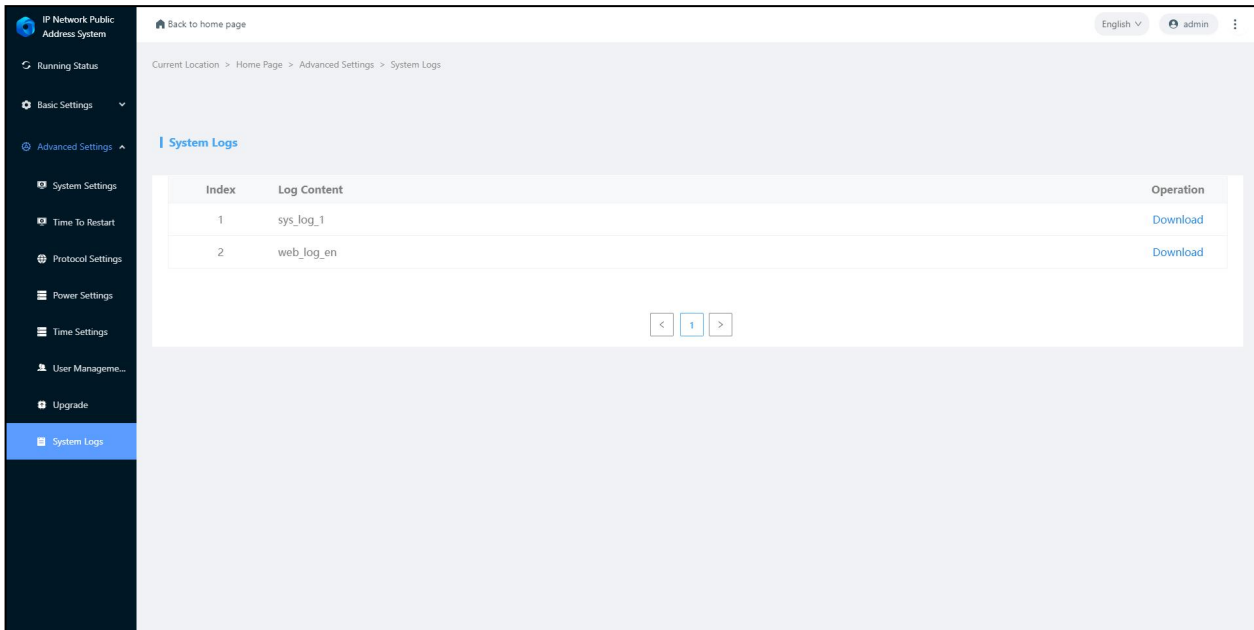
Note: Do not power off during the upgrade process, otherwise the upgrade may fail and the device fails.

Finally, click reboot and back to normal settings.

The screenshot shows the 'Upgrade' page of the 'IP Network Public Address System'. The left sidebar contains a menu with 'Upgrade' selected. The main content area has a title 'Upgrade' and a 'Software Version' field displaying 'V1.5.5_20240325[Std_EN]'. Below this, there is a 'Notice' box with a power icon and the text: 'Notice: The device is going to enter updating mode in 15 seconds. Keep power on while updating otherwise updating may fail.' A red 'Upgrade' button is located to the right of the notice. The breadcrumb trail at the top reads 'Current Location > Home Page > Advanced Settings > Upgrade'.

System Logs

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



3.3 Troubleshooting

Why the terminal cannot login the server?

- 1).Check the software server and the main controller is normal opened or not. It's required to close all firewall before open the software server (including system built-in firewall and other antivirus software firewall) .
- 2).Check the network connection is normal or not. After the terminal powered on, the network port green light is norm on, meantime the orange light will be short and fast flash, it means the network cable hard-connected normal. If the network port green light is not on, it means the network hard-connected problem, please check the terminal network cable and switcher whether they work normal, damaged and disconnect or not etc.
- 3).Check the terminal IP setting. Please check the terminal ID, sever IP, local IP, gateway IP ...etc parameters.

Why web show abnormal?

Please clear the caches or change the browser.

How to change the web login password?

- 1 .Click the user management in webpage .
 2. Input the old pass word in old password column.
 3. Input the new pass word in new password column.
 4. Input the new password again for confirmation
 - 5.Click save .
- The new password will be effective after reboot.

Copyright Statement

Copyright

The copyright is reserved of the SPON Communication Co., LTD (abbreviation SPON),if without the permission of the company in written form, any company and personage shall not arbitrarily excerpt, copy mentioned file information, and shall not spread in any forms.

According to the legal provisions, copy including translate to other language or switch to other format.

Mentioned document spreading in network media, SPON allow download and print for personal uses.

Any parts of the document can not be modified and for commercial uses. If any damage and losses which is caused by illegality modify and switch the document, SPON shall not take any responsibility.

Guarantee

Regarding to the information of the mentioned handbook, if any modify, kindly understand that there is no any notice.

The handbook shall provide the correct indication, information and suggestion, and not guarantee to any indicated and implied information. User should take the responsibility of the products applying.

SPON shall not making any guarantee for the handbook, including but not only for the guarantee of implied marketability and specific purpose. Also SPON shall not take any responsibility, if any indirect or incidental losses caused by mistaken use of the handbook.



Wechat

SPON Communications Co., Ltd.
www.sponcomm.com
Service Hotline: +86-731-85570190
Reserve the amendment right without notice



V1. 3B240516