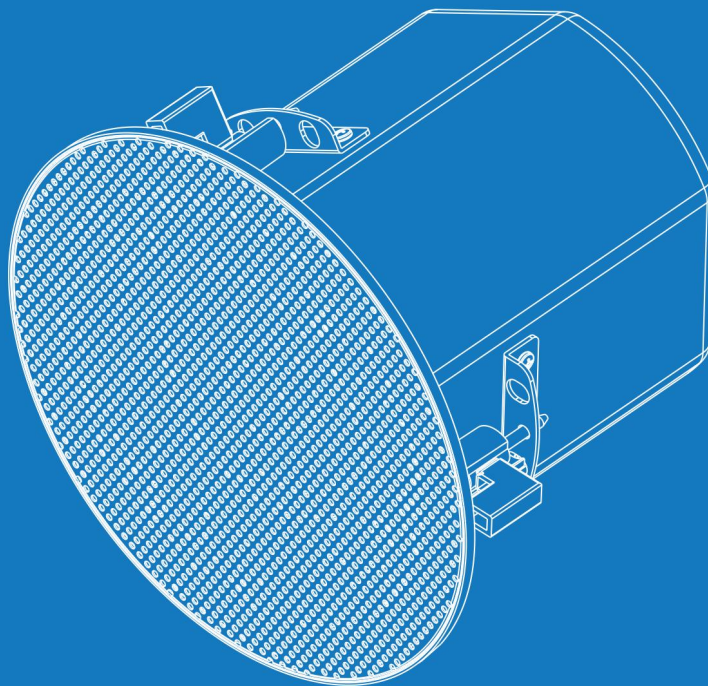


SPON

IP CEILING SPEAKER

User Manual



IP PUBLIC ADDRESS SYSTEM

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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 is embedded with IP Audio digital network audio technology which has independent intellectual property rights of SPON. It can accept broadcasting initiated by other terminals and servers and support function settings through browser. With loop fault detection function, it can detect the working status of the speaker and display on the server software.

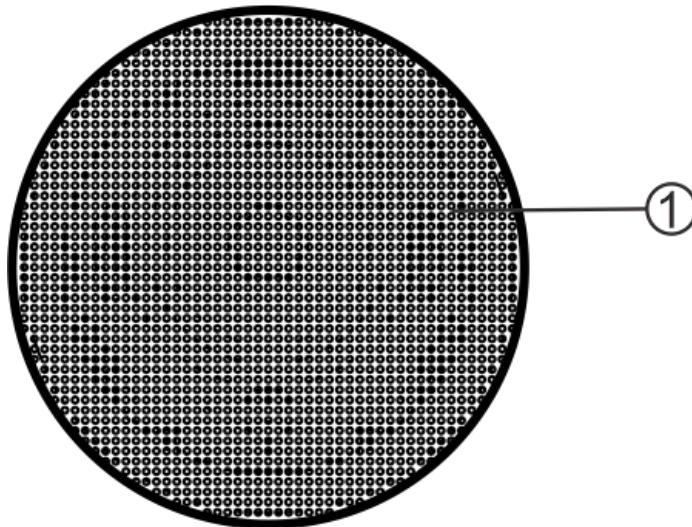
2.2 Product Features

- Receive broadcast: it can receive broadcasts from server or other terminals.
- Receive intercom: it can receive intercom from other terminals.
- Loop fault detection: With loop fault detection function, it can detect the working status of the speaker.
- Timing broadcast: you can upload all the audio source which need to be daily broadcast on server, and make broadcasting schedule. Ceiling speakers can be added to the server's scheduled task to achieve automatic broadcast.
- Web browser configuration: Users can configure IP ceiling's network, audio parameters, and modify login passwords, etc. through the browser for custom setup and configuration.
- Support POE power supply.

2.3 Hardware Interface Description

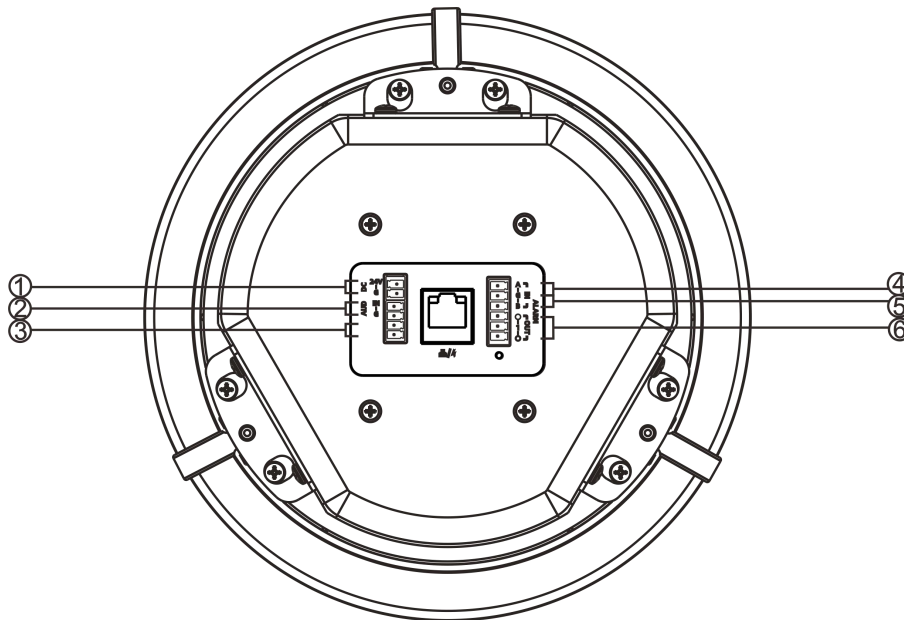
Interface Description

Front



- ①Indicator light: When the device is idle, the indicator light is solid on.
When the device is receiving broadcast task, the indicator light blinks slowly.

Back



- ①Power port: connect DC24V power adapter.
②Audio input port.
③Reserved.
④Alarm input 1 port.
⑤Alarm input 2 port.
⑥Alarm output port.

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 Basic Function**
- **3.4 Troubleshooting**

3.1 Network Settings

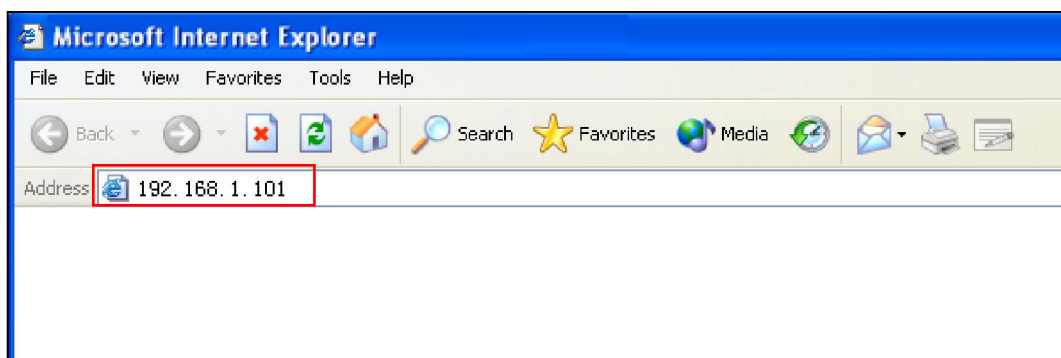
Basic Network Settings

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

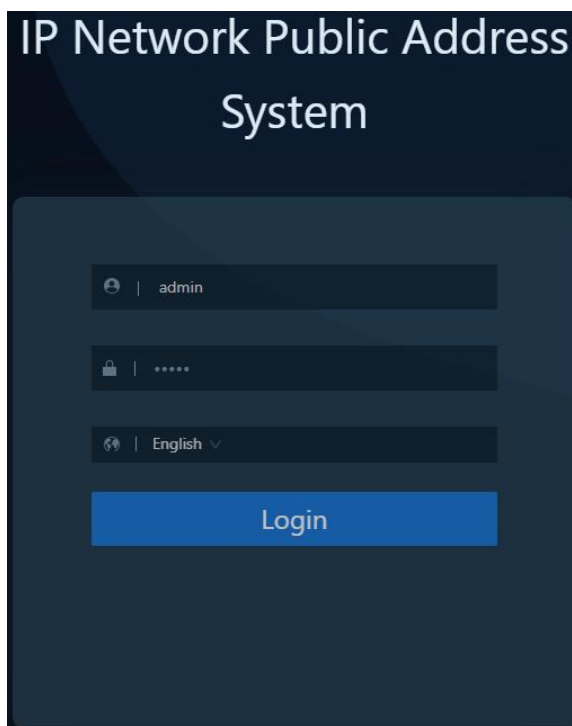
Login web interface

(1) Please input the IP address of IP ceiling speaker into the address column of the browser (the factory default IP address is 192.168.1.101.), then press 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.

IP Network Public Address System

Back to home page

English admin

Running Status

Current Location > Home Page > Running Status

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: f4:15:35:34:5a: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.

IP Network Public Address System

Back to home page

English admin

Running Status

Basic Settings

Network Parameter

Current Location > Home Page > Basic Settings > Network Parameter

Save

Network Parameter

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

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.
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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, Network Parameter, Server Parameter, Audio Parameter (selected), Alarm Options, Multicast, Onvif Parameter, Remote Control, and Broadcast Task P... The main content area shows the following settings:

- Broadcast Output Volume:** 9
- Microphone Sensitivity:** 6
- Network Adaptability:** Low Latency
- Call Release Time(ms):** 800
- Noise Suppression Level:** mid
- ANC:** Disable
- Max Gain:** 0dB
- Min Gain:** -6dB
- Gain Ratio:** 3:3
- Response Time(sec):** 30

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

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 ceiling speaker after the terminal stops talking while IP ceiling speaker is talking with other terminals.
Noise Suppression Level	Set the Noise Suppression Level. Low, mid, and high are optional.
ANC	Enable or disable the Ambient Noise Controller (ANC) feature. The Unit will adjust the output volume according to the ambient noise level. When it is enabled, set the Max Gain, Min Gain, Gain Ratio, and Response Time.

Alarm options

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

The screenshot displays the 'Alarm Options' configuration page in the IP Network Public Address System. The interface includes a sidebar with various settings categories. The main area is titled 'Alarm Options' and contains two rows of configuration fields. The first row is for 'Input1' and the second for 'Input2'. Each row includes fields for 'Action', 'Signal Mode', 'Signal State', and 'Action Target'. The 'Save' button is located in the top right corner of the configuration area.

Input	Action	Signal Mode	Signal State	Action Target
Input1	Audio File	Level	Normal Open	9cbd7fad-1c33-4b33-9524-755f2936d95c
Input2	Call	Edge	Normal Open	100@192.168.1.100:5060

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

Englishadmin

Save

Current Location > Home Page > Basic Settings > Multicast

Multicast Options

Multicast Function

Disable

Multicast Priority	Multicast Address	Multicast Port
1	239.255.0.1	8060
2	239.255.0.2	8070
3	239.255.0.3	8080
4	239.255.0.4	8090

Parameters as following:

Multicast function	<p>Set whether to enable multicast function or not.</p> <p>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.</p> <p>Support up to 10 multicast addresses as maximum and priority settings (priority from high to low is 1-10).</p>
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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: IP Network Public Address System, 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: Back to home page > 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	*****

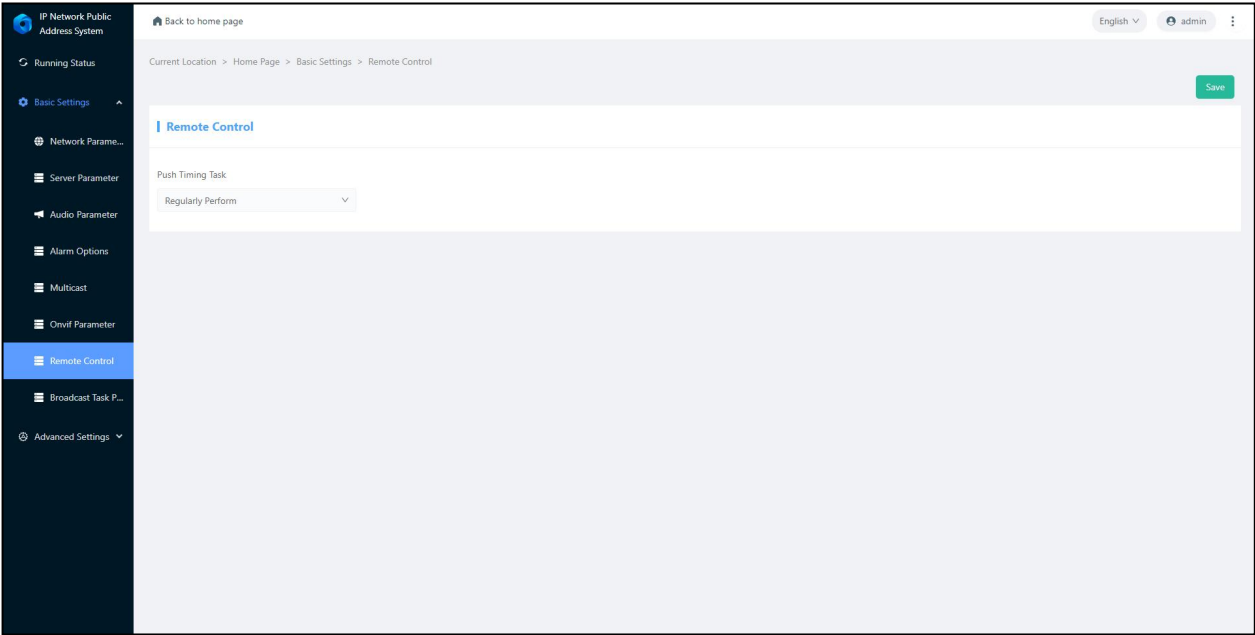
A green 'Save' button is located in the top right corner of the configuration area.

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.

The screenshot shows the 'Broadcast Task Priority' configuration page. The left sidebar contains a menu with 'Broadcast Task P.' highlighted. The main content area has a breadcrumb trail: 'Current Location > Home Page > Basic Settings > Broadcast Task Priority'. Below the title 'Broadcast Task Priority', there are five priority settings, each with a dropdown menu: Priority1 (SIP/NAS Broadcast), Priority2 (Audio File), Priority3 (Multicast), Priority4 (ONVIF), and Priority5 (Line In). A 'Save' button is located in the top right corner of the configuration area.

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.

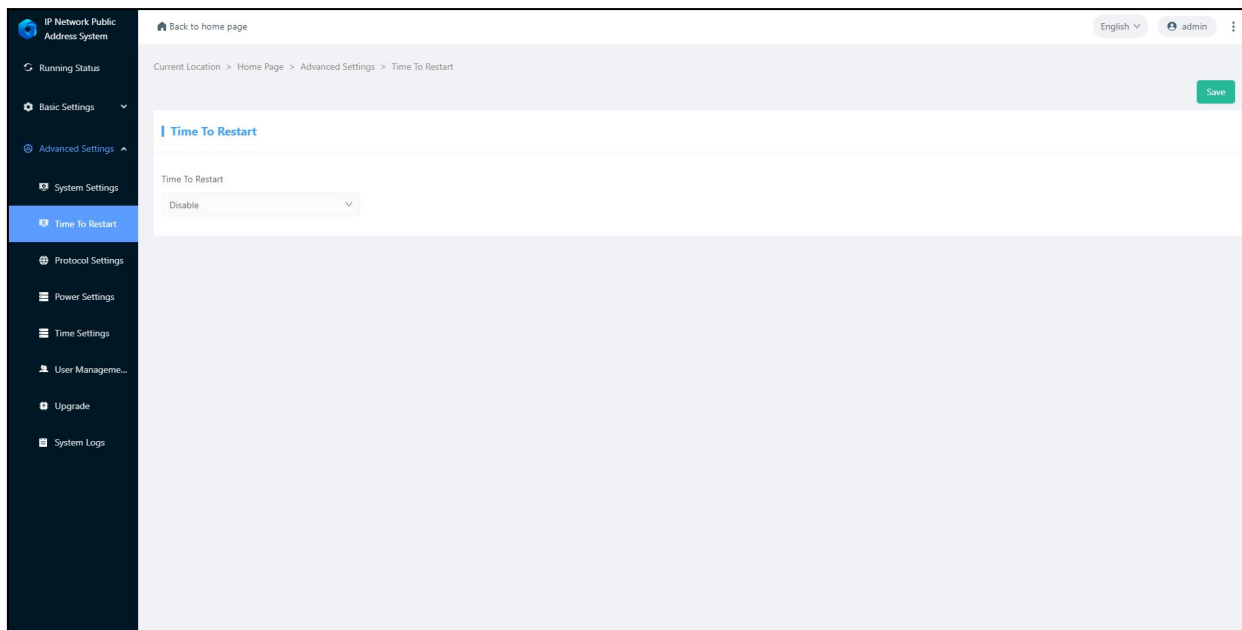
Check: Click the Check button to perform acoustic loop detection. Please ensure that there is no audio output during detection.

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

The screenshot shows the 'System Settings' page. The left sidebar has 'System Settings' highlighted. The main content area has a breadcrumb trail: 'Current Location > Home Page > Advanced Settings > System Settings'. Below the title 'System Settings', there are five settings cards, each with a description and a corresponding action button: 'Reboot the device' (Reboot), 'Default' (Default), 'Delete All Audio Files' (Delete), 'Audio Check' (Check), and 'ANC Calibration' (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.

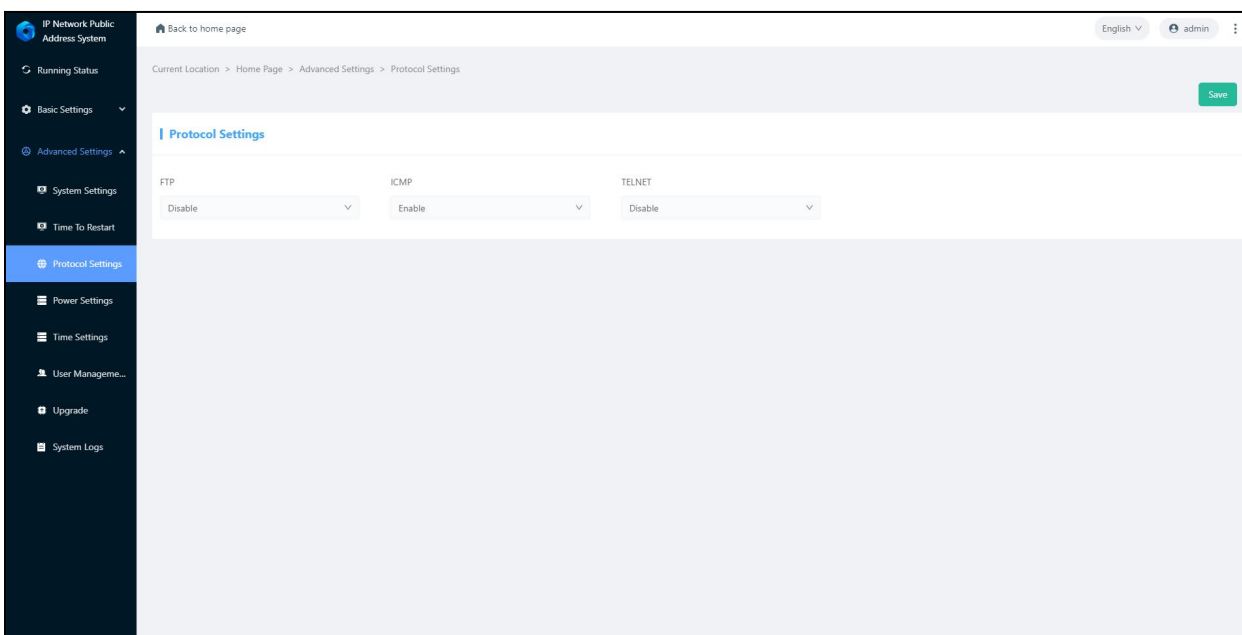


Protocol Settings

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

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

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.

IP Network Public Address System

Running Status

Basic Settings

Advanced Settings

System Settings

Time To Restart

Protocol Settings

Power Settings

Time Settings

User Managem...

Upgrade

System Logs

Back to home page

English admin

Current Location > Home Page > Advanced Settings > Power Settings

Save

Power Settings

Power Supply Mode

POE

Output Power

15W

Note: The selected output power cannot exceed the actual maximum output power of the device.

Parameters as following:

Power Supply Mode	Select the power supply mode, support POE, POE+ and DC.
Output Power	Only support 15W.

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.

IP Network Public Address System

Running Status

Basic Settings

Advanced Settings

System Settings

Time To Restart

Protocol Settings

Power Settings

Time Settings

User Managem...

Upgrade

System Logs

Back to home page

English admin

Current Location > Home Page > Advanced Settings > Time Settings

Save

Time Settings

Time Zone

(UTC+00:00) GMT, Ireland, Portugal, ...

NTP Server

time.windows.com

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 within the 'IP Network Public Address System' interface. The left sidebar contains a menu with options: Running Status, Basic Settings, Advanced Settings, System Settings, Time To Restart, Protocol Settings, Power Settings, Time Settings, User Management (highlighted), Upgrade, and System Logs. The main content area has a breadcrumb trail: 'Back to home page' > 'Home Page' > 'Advanced Settings' > 'User Management'. Below the breadcrumb is a 'Save' button. The 'User Management' section contains four input fields: 'User Name' (with 'admin' entered), 'User Password', 'New Password', and 'Confirm Password'.

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.

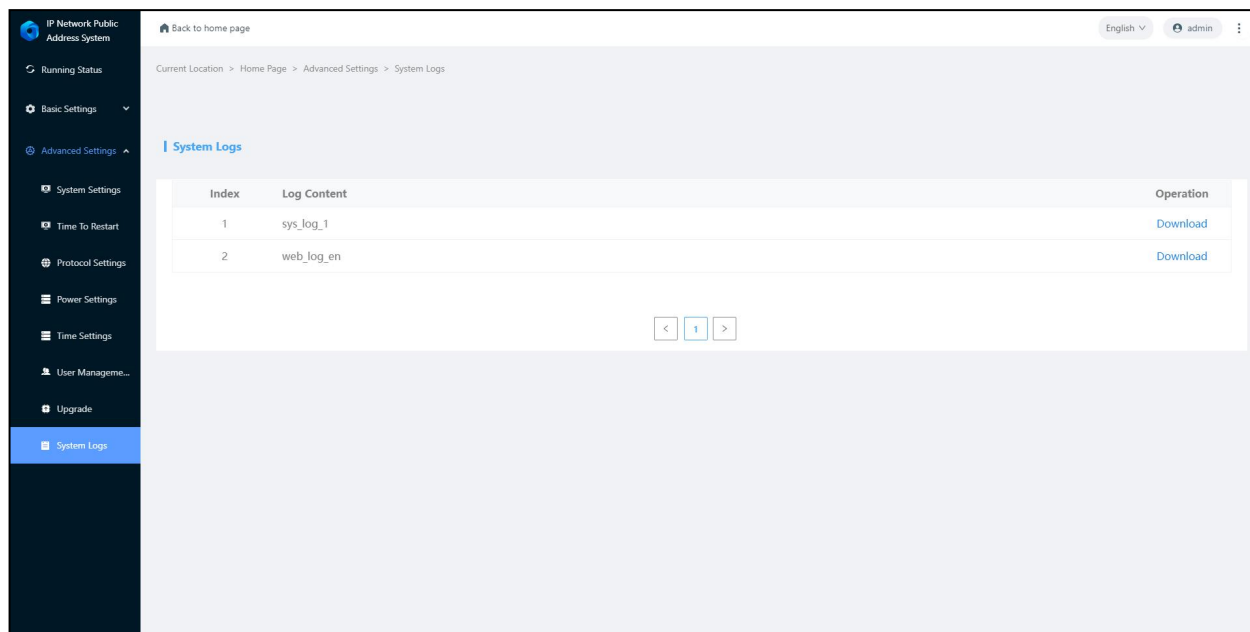
Note: Do not power off during the upgrade process, otherwise the upgrade may fail and the device fails.

Finally, click reboot and back to normal settings.

The screenshot shows the 'Upgrade' page within the 'IP Network Public Address System' interface. The left sidebar is the same as in the previous screenshot, with 'Upgrade' highlighted. The main content area has a breadcrumb trail: 'Back to home page' > 'Home Page' > 'Advanced Settings' > 'Upgrade'. Below the breadcrumb is an 'Upgrade' button. The 'Upgrade' section contains a 'Software Version' input field with the value 'V1.5.4_20240228[Std_EN]'. Below this is a 'Notice' box with a power icon and the text: 'Upgrade Notice: The device is going to enter updating mode in 15 seconds. Keep power on while updating otherwise updating may fail.' The 'Upgrade' button is located to the right of the notice.

System Logs

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



3.3 Basic Function

Receive Broadcast

IP ceiling speaker can receive broadcasts initiated by other terminals and server.

Receive Intercom

IP ceiling speaker can receive intercom initiated by other terminals.

3.4 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 password in user password column.
3. Input the new password in new password column.
4. Input the new password again for confirmation.
- 5.Click save .

The new password will be effective after reboot.

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