

**NVS-IP100006AM
IP Network Digital Amplifier
User Manual**

Thank you for using our public address system. Please read this User Manual carefully to make better use of this equipment



Attention

This equipment is not waterproof. To prevent fire or electric shock, please do not place any liquid filled containers (such as vases or flowerpots) near the equipment or expose the equipment to dripping, splashes, rain, or moisture.



Please hold the plug when moving the power cord. Do not pull the power cord when pulling out the power plug. Do not touch the power cord when your hands are on the device, please be sure to place it on a horizontal and stable surface.

Please keep this User Manual in good custody for future use.

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Product Overview

The NVS-IP100006AM is an IP network digital amplifier. It uses a high-performance digital power amplifier with built-in IP Audio digital network audio technology with independent intellectual property rights that has the features of high efficiency, high performance, and low distortion.

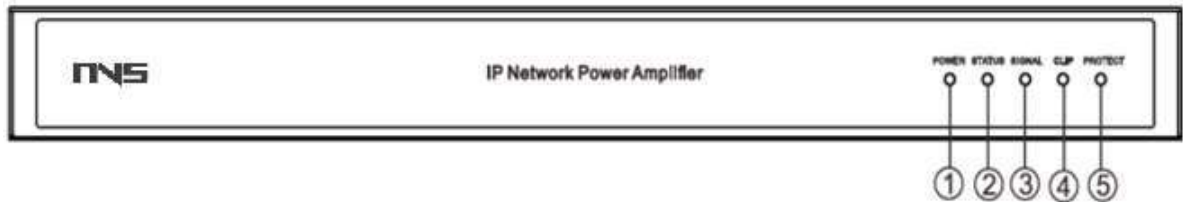
The IP network digital amplifier, which is a part of the IP network PA system and is managed by the system software, enables the local and distant broadcasting of background music.

Features

- Steel plate shell, 1U rack-mounted design, less space occupation, strong and lasting.
- Constant voltage output of 100V / 70V (Default constant voltage 100V output, support to set as 70V output on webpage).
- Equipped with power light, status indicator light, signal light, overload light and protection light on the front panel, used for indicating the working condition of the amplifier, easier maintenance.
- Independent volume control of MIC Input and Line Input with 1×MIC Input and 2×Line Input.
- MUTE capability is present, and MUTE level modification is possible.
- External amplifier extendable with 1×Line Output.
- Supporting DC 24V strong cutting power output with 1×alarm input and 1×alarm output.
- Local broadcast can be started automatically when the network is interrupted, thanks to the support for offline broadcasting.
- Integrated comprehensive protection circuit for overload and overheat protection, as well as power supply and circuit lightning and surge protection.
- When there is Ethernet, standard RJ45 interface can be connected, providing cross network segment and cross routing.

Interface Specification

Front Panel



1. Power

Red light keeps on when Power is connected.

2. Status

Green light stays on when the equipment is online, red-light flashes when equipment is down, and gold light flashes when the equipment is receiving signals.

3. Signal

When there is no signal, the light turns off; when there is a signal, the light becomes green.

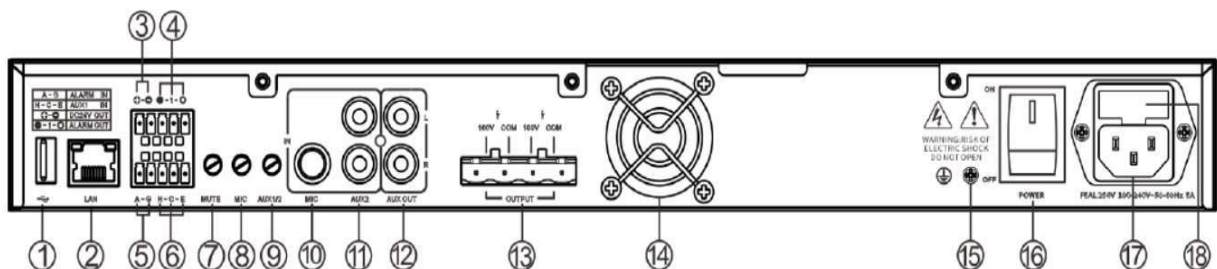
4. Clip

When the input signal is too big or the output is too much, the red light stays on.

5. Protect

Under the protection or malfunction condition of the amplifier module, the light remains on.

Rear Panel



1. USB Interface

For downloading program.

2. RJ45 Network Interface

Connect the network cable to the Ethernet switch so that the device may log in normally to the server.

3. DC24V OUT

DC24V Power output interface (Optional).

4. ALARM OUT

Alarm output interface (●-NC: Normally Closed ; 1-COM : COM ; ○-NO : Normally opened).

5. ALARM IN

Alarm input interface (A : Alarm input ; G : GND).

6. AUX 1

Line input1 interface (Balance input) (H: Hot end, C: Cold end, E: Earth end).

7. MUTE Knob

When the MIC input signals are received, the MUTE depth adjustment knob will automatically MUTE AUX1 and AUX2. Clockwise rotation increases MUTE depth, anticlockwise rotation decreases MUTE depth.

8. MIC Knob

Adjust the volume of the MIC input; clockwise rotation increases volume; anticlockwise rotation decreases volume.

9. AUX1/2 Knob

Adjust the volume of the Line input; clockwise rotation increases volume; anticlockwise rotation decreases volume.

10. MIC

Mic input interface (Note: This interface only supports active conference microphones; moving coil microphones are not supported.)

11. AUX2

Line input2 interface (Unbalance input).

12. AUX OUT

Line output interface.

13. Power Output Port

Default constant voltage 100V output, support to set as 70V output on webpage.

14. Cooling Fan

Ensure that the fan outlet is not blocked when installing, and keep a distance of at least 10cm.

15. Ground Terminal

The ground terminal must be linked to the earth to ensure the equipment's safety and reliability.

16. Power Switch

Control the power on and off.

17. Power Input Interface

18. Insurance Block

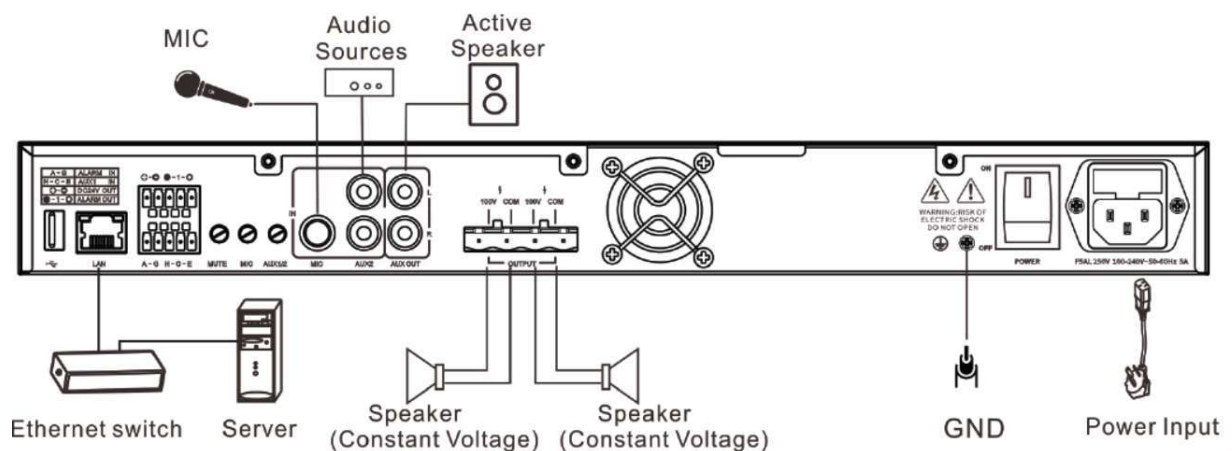
Introduction

Packing List

No	List	No. of Pieces
1	IP Network Digital Amplifier	1
2	Countersunk Cross Screw (M3*6)	8
3	Wiring Terminal (3.81-5P)	2
4	Wiring Terminal (7.62-4P)	1
5	Hangers	2
6	Power Cord (3*1.0mm ² /1.5m)	1
7	Foot Pad(φ12*3)	4
8	Installation Instruction	1

Wiring

1. Connect one end of the power cord to the IP network digital power amplifier's power interface and the other end to the power socket.
2. Connect one end of the Ethernet cable to the IP network digital power amplifier's network interface and the other end to the switch.
3. Connect additional devices to the appropriate interfaces.

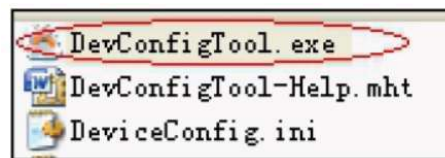


Basic Network Settings

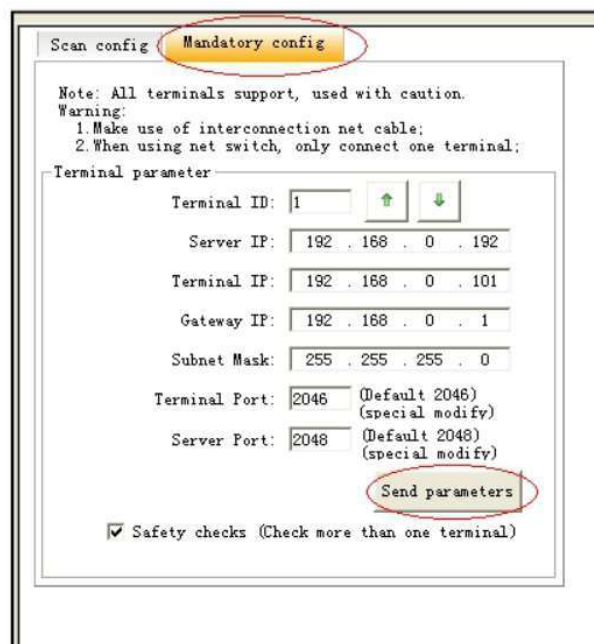
Enter the IP ceiling speaker's webpage and modify all of the parameters to fit the current situation. After you've finished, click "save."

Terminal Equipment Scanning Tool

1. Find and launch "IP Audio Terminal Configuration Tool" in the [CD: \ Tools\] directory, then enter the default password "123456."



2. Choose **【Mandatory Configuration】** from the right-hand menu, then fill in the correct parameters in **【Terminal Parameters】** , then click "send parameters" to complete the IP parameter settings.



Note:

1. If you're using a Windows 7 computer, run the program in administrator mode and disable any firewall or other security software.
2. Because the terminal configuration tool can only configure one terminal at a time, make sure that your computer is only connected to one terminal when you use this method to configure the terminal's network parameters.

Through Web Interface

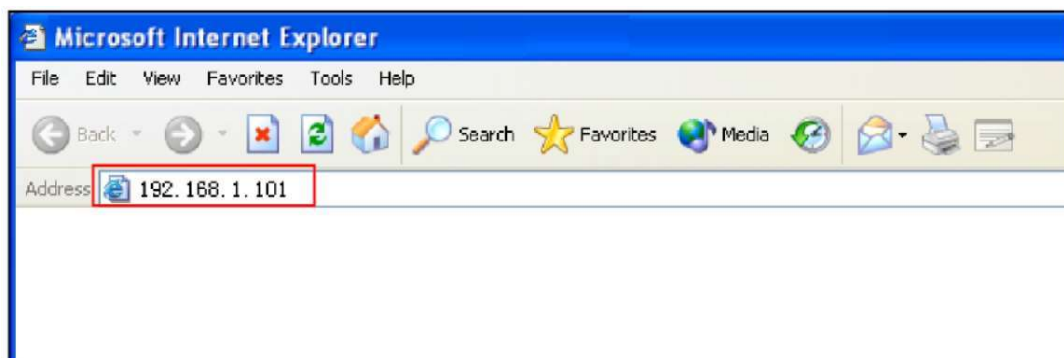
Enter the IP network digital power amplifier's Web interface, then update the terminal's network parameters to match the operational environment, then click the "Save" button.

You can use the network parameters settings in the terminal parameter's customization as a guide for certain operation steps.

User-Define Terminal Parameters

Login Webpage

1. In the browser address bar, type the IP address of the IP network digital amplifier (the factory default IP is 192.168.1.101), then press the Enter key.



2. In the web page, enter the user's name and password (default user name and password are admin)



3. Click OK to enter into IP network Digital Amplifier webpage. (Remark: If previously saved parameters do not take effect in the web page, please clear caches and set up again.)

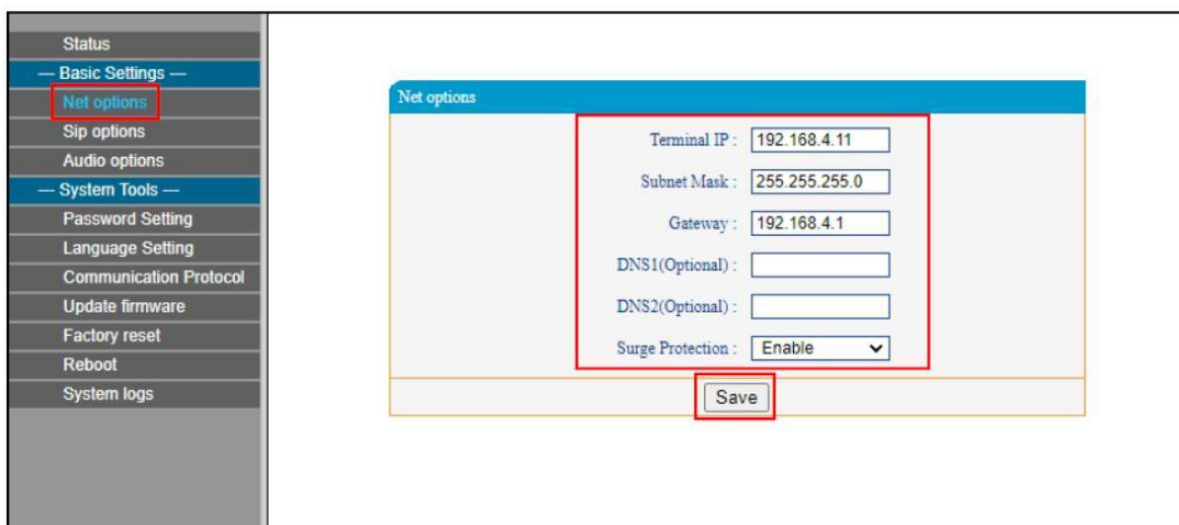
Operation Status

Users can verify their terminal ID, IP address, and subnet mask on this webpage. They can check terminal status, pre-set tasks status, real-time sound volume, amplifier temperature, system date, and so on at the same time.



Network Parameters

Set the network parameters, then modify them to the live environment, save the changes, and restart the device for them to take effect.



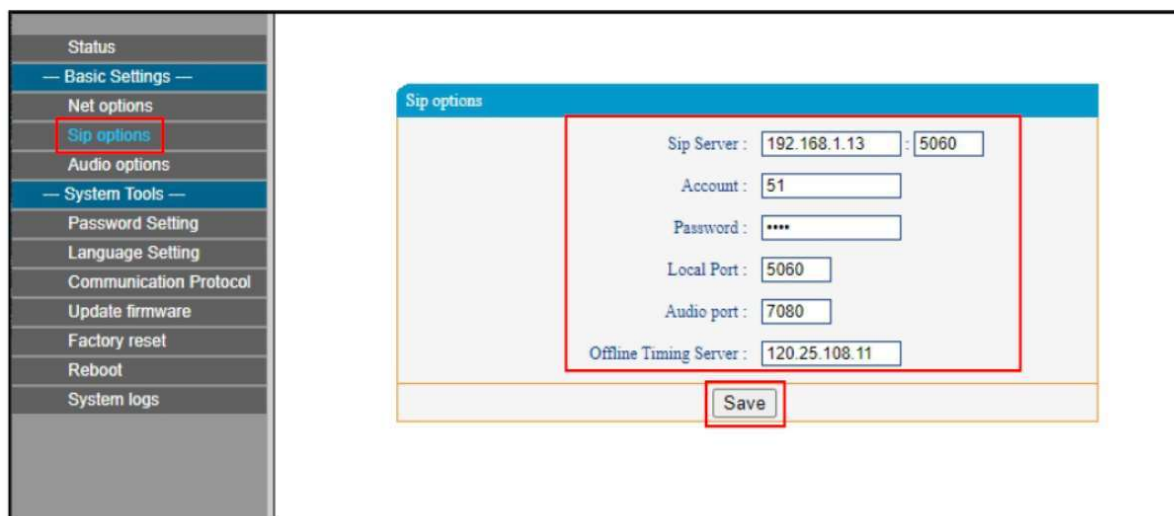
Parameters are,

IP Address	Device's IP Address. It cannot be the same as other terminals. (Factory Default: 192.168.1.101)
Subnet Mask	Device's subnet mask
Default Gateway	The network gateway where the device is located.
Primary DNS Server	The IP address of the device's primary DNS server.
Secondary DNS Server	IP address of the device's secondary DNS server.
Surge Protection	Set whether to enable surge protection (Default settings: Enable)

SIP Parameters (SIP Protocol)

Set the terminal login server platform parameters. When the communication protocol between the terminal and the server is SIP, set the server parameters directly in "SIP parameters." After you've finished configuring the device, click [Save] to restart it.

Note: Specify the protocol as NAS version in "System Tools" - "Protocol Settings" on the Web page if the server signed in by the terminal is a NAS server, and then set the service parameters.



The screenshot displays the 'Sip options' configuration page. On the left, a navigation menu includes 'Status', 'Basic Settings', 'Net options', 'Sip options' (highlighted), 'Audio options', 'System Tools', 'Password Setting', 'Language Setting', 'Communication Protocol', 'Update firmware', 'Factory reset', 'Reboot', and 'System logs'. The main configuration area contains the following fields:

- Sip Server : 192.168.1.13 : 5060
- Account : 51
- Password : ****
- Local Port : 5060
- Audio port : 7080
- Offline Timing Server : 120.25.108.11

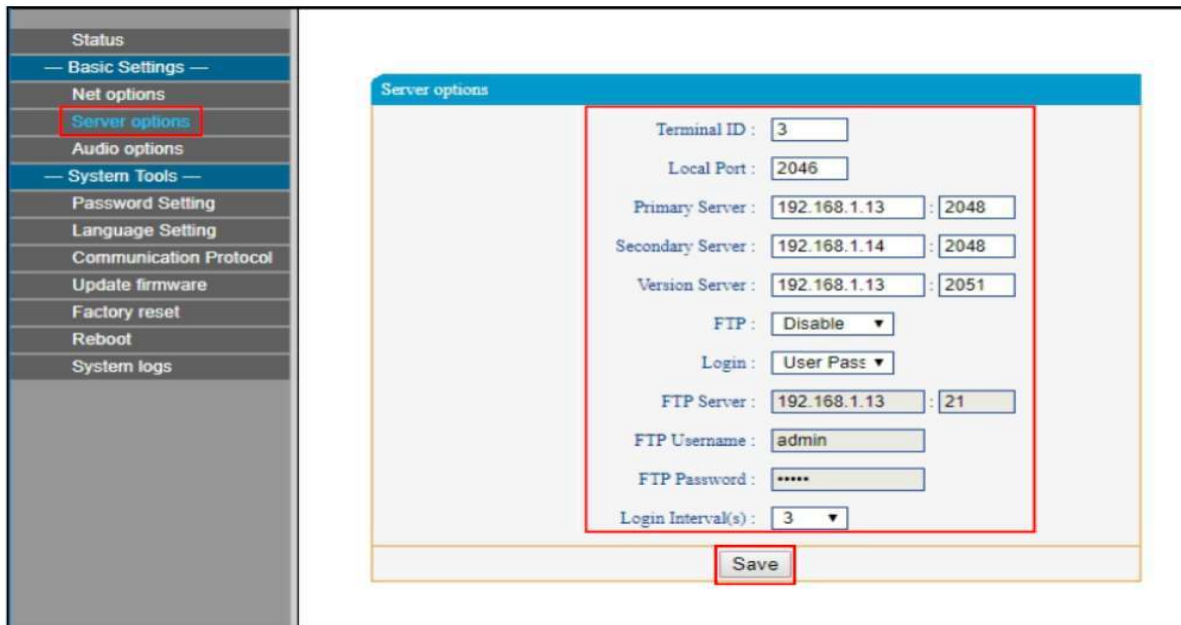
A 'Save' button is located at the bottom of the configuration area.

Parameters are,

SIP Server	The address of the device's SIP server. Please enter the SIP server's IP address or domain name correctly. Do not change unless there is a special circumstance. (Default: 5060)
Account	Terminal's SIP account, it cannot repeat with other terminals
Password	The password used to log in to the SIP server by the terminal must not be shared with other terminals.
Local Port	According to actual situation, configure the local port.
Audio Port	According to actual situation, configure the audio port.
Offline timing server	Set the offline server's IP address. After saving and starting the device, it will self-correct the time when the device is offline for 6 hours or disconnects from the server for an extended period of time.
Offline timing terminal	It is possible to initiate multicast to the "destination multicast address and port" when an IP phone initiates a call to a SIP account, and additional terminals under the multicast address will receive multicast broadcasting.

Server Parameters (NAS Protocol)

The SIP protocol is the default between the terminal and the server. Switch the protocol to NAS version under "System Tools" - "Protocol Settings" on the Web page if terminal logs on NAS server. After switching and saving, restart the device and clear the browser cache to convert to the NAS protocol version. Then you can set "service parameters." Save your changes and restart your device.



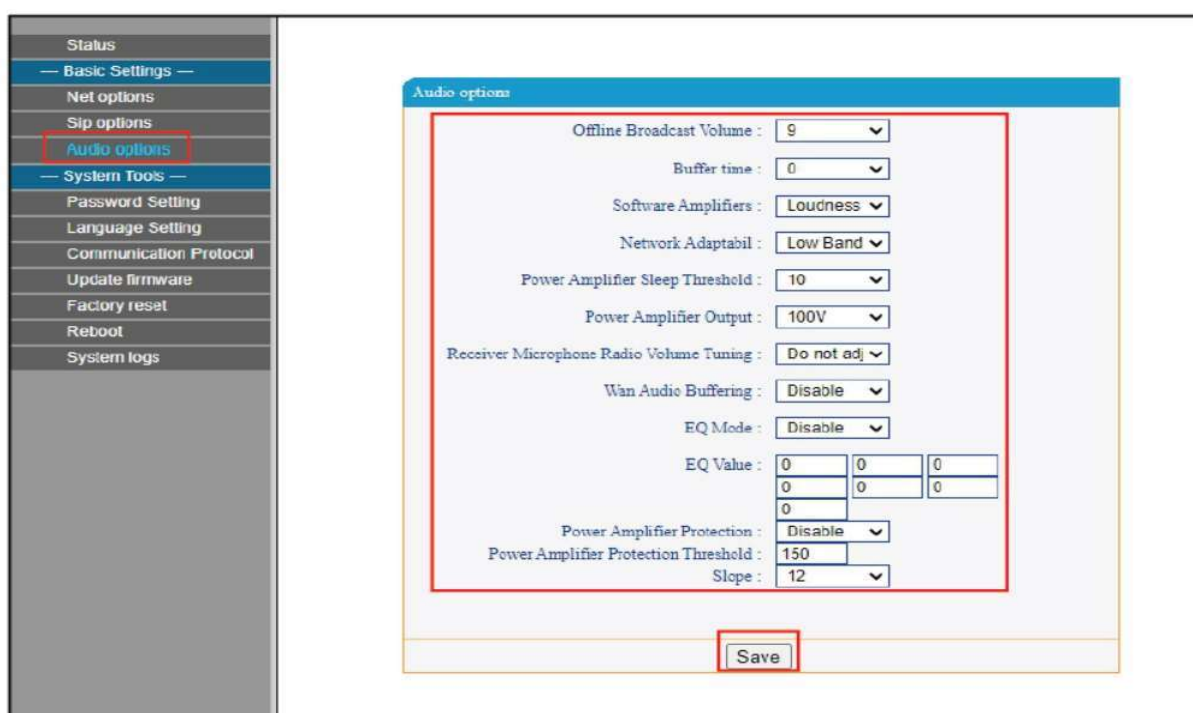
Parameters are,

Terminal ID	The only number that can be used to identify a terminal; it cannot be repeated by other terminals or hosts. (Factory Default: 1)
Local Port	Terminal's Port Number Note: please do not modify the port without any special situation.
Primary Server	The server address where the device is logged in (Factory Default: 192.168.1.13.)
Secondary Server	When the primary server is unavailable, the secondary server can be accessed. After connecting to the primary server, the terminal can log in again; the factory default value is 192.168.1.14.
Version Server	Server IP version, When the terminal resumes, you can connect to the version server to have the programme upgraded automatically.
FTP	Set whether or not to enable FTP; if enabled, the file server can use FTP to download the contents of the specified folder to the built-in storage. (Note that if the XC server is set to push offline tasks, the FTP feature must be disabled.)
Login Method	FTP login method that accepts both anonymous and username and password logins
FTP Server	Fix the IP of FTP Server.

FTP User Name	The user name used for the login of FTP. (Factory default: admin)
FTP Password	The password used for the login of FTP. (Factory default: admin)
Login Interval	Set time interval of login sever.

Audio Parameters

Set the terminal audio parameters, save, then restart the device for the changes to take effect.



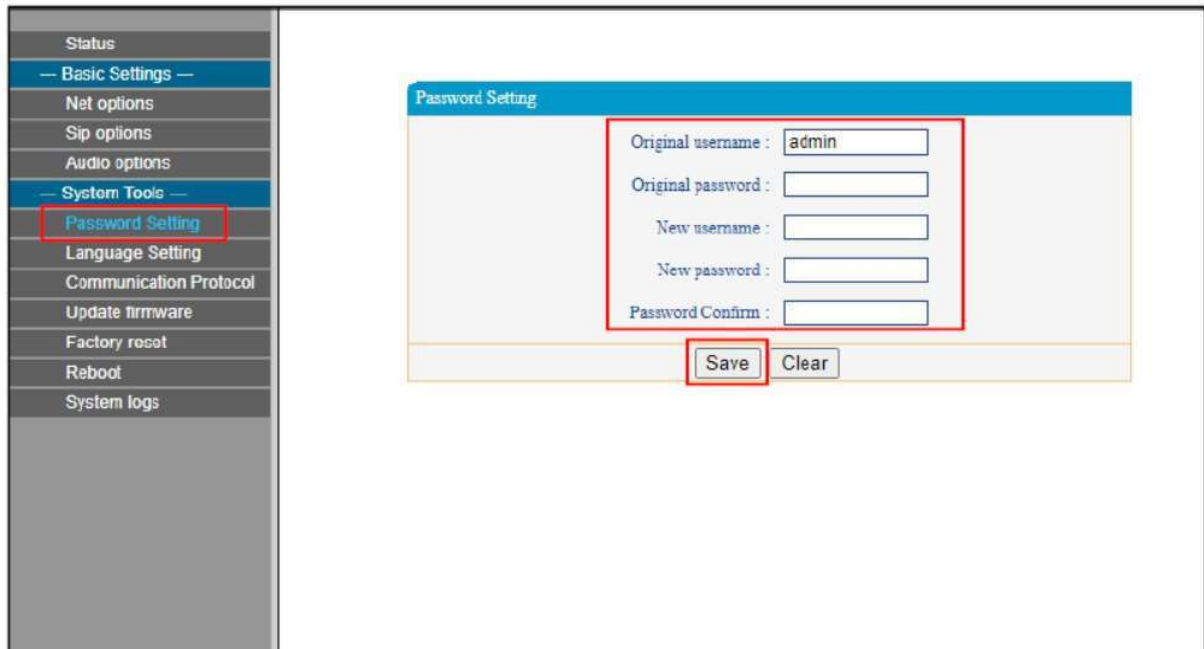
Parameters are,

Offline Broadcast Volume	The device's overall audio input volume when broadcasting, ranging from 0 to 15; Remark: When the device connects to the network, the system software will manage the volume.
Buffer Time	Set the broadcast playback buffer time (how many seconds after the broadcast task is received to broadcast) to ensure broadcast output quality when the network environment is inadequate.
Software Amplifiers	Configure the sound quality priority or the loudness priority for digital audio sources; the

	<p>default is sound quality priority. In an environment with a high requirement for loudness, it is recommended to prioritise loudness.</p>
Network Adaptability	<p>Set the network adaptability to low bandwidth by default; It is suggested to select "low bandwidth" when stringent data integrity requirements are present. When it comes to Synchronization Requirements, "low delay" is recommended.</p>
Power Amplifier Sleep Threshold	<p>Chosen the power amplifier sleep threshold, and the power amplifier will turn on when the volume of the line input or mic input reaches the set threshold value, allowing diverse applications to run on low power. The higher the acoustic requirements for turning on the power amplifier, the higher the threshold setting. (Default: 10)</p>
Power Amplifier Output	<p>The output voltage is set to 100V by default. Support for a constant voltage output of 70V.</p>
Receive Microphone Broadcast Volume Tuning	<p>To avoid distortion caused by high volume, the receiving microphone broadcast volume can be properly attenuated (the attenuate value 1dB,2dB,3dB,4dB can be selected). The default is not changed.</p>
EQ Mode EQ Value	<p>After enabling the EQ, you can adjust the sound effect of the current network task. Note: Only professionals with required professional experience should modify the EQ setting; non-professionals should not adjust at will, since this will result in poor sound quality.</p>
Speaker Protection Speaker Protection Threshold	<p>Parts of the speaker are unable to play low sound, and repeated low sound can harm the speaker. The speaker protection threshold can be enabled to filter out low sound and prevent the speaker from damage. Speaker Protection Threshold: This value is the lowest audio frequency that the speaker can tolerate.</p>
Slope	<p>For special speakers or special scenes, just keep the default value</p>

Password Setting

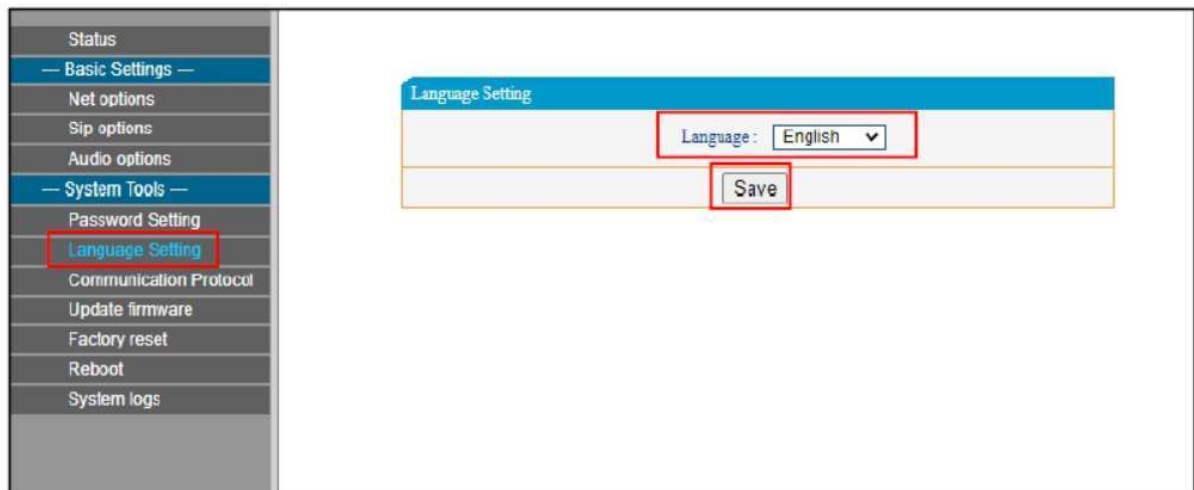
Through the web management parameters, you can change the account and password. Please refresh the page after you've made your changes.



The screenshot shows the web management interface with a sidebar on the left and a main content area. The sidebar contains the following menu items: Status, Basic Settings, Net options, Sip options, Audio options, System Tools, Password Setting (highlighted with a red box), Language Setting, Communication Protocol, Update firmware, Factory reset, Reboot, and System logs. The main content area displays the 'Password Setting' form, which includes the following fields: Original username (with 'admin' entered), Original password, New username, New password, and Password Confirm. Below the form are 'Save' and 'Clear' buttons, both highlighted with red boxes.

Language Setting

The language of the web page can be switched between Chinese and English.



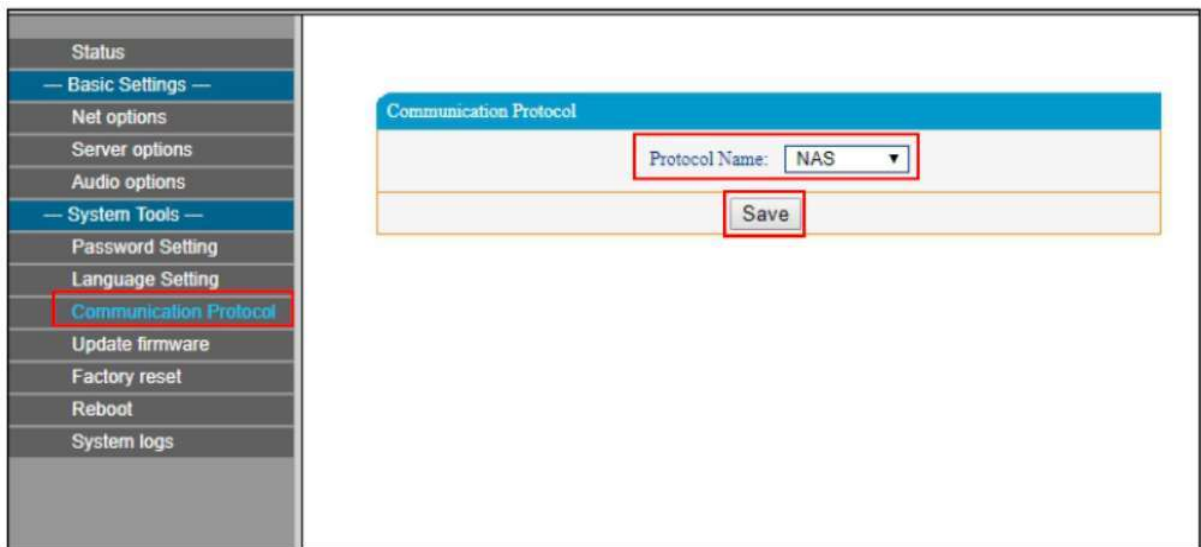
The screenshot shows the web management interface with a sidebar on the left and a main content area. The sidebar contains the following menu items: Status, Basic Settings, Net options, Sip options, Audio options, System Tools, Password Setting, Language Setting (highlighted with a red box), Communication Protocol, Update firmware, Factory reset, Reboot, and System logs. The main content area displays the 'Language Setting' form, which includes a 'Language' dropdown menu currently set to 'English' and a 'Save' button, both highlighted with red boxes.

Communication Protocol

Set the protocol for regular communication between the terminal and the server; intercom (NAS) and SIP protocols are supported; SIP is the default.

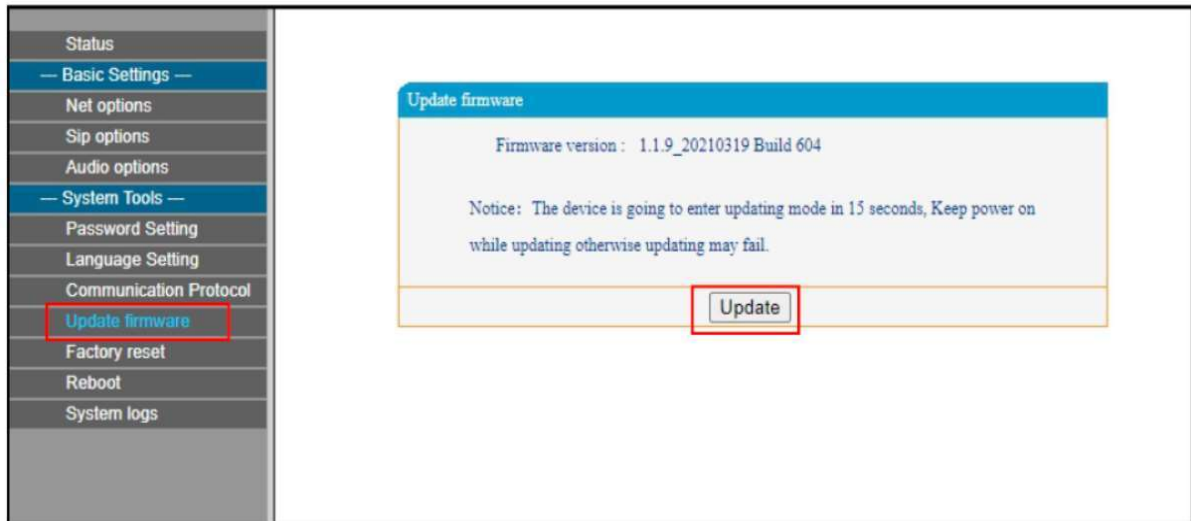
Please select the appropriate protocol based on the server type into which the terminal logs in, and then make the necessary changes. After you've configured the protocol, save it and restart the device for it to take effect. You must also erase the browser cache at the same time.

Note: Web pages of different protocols are slightly different. For details, please refer to the actual interface.

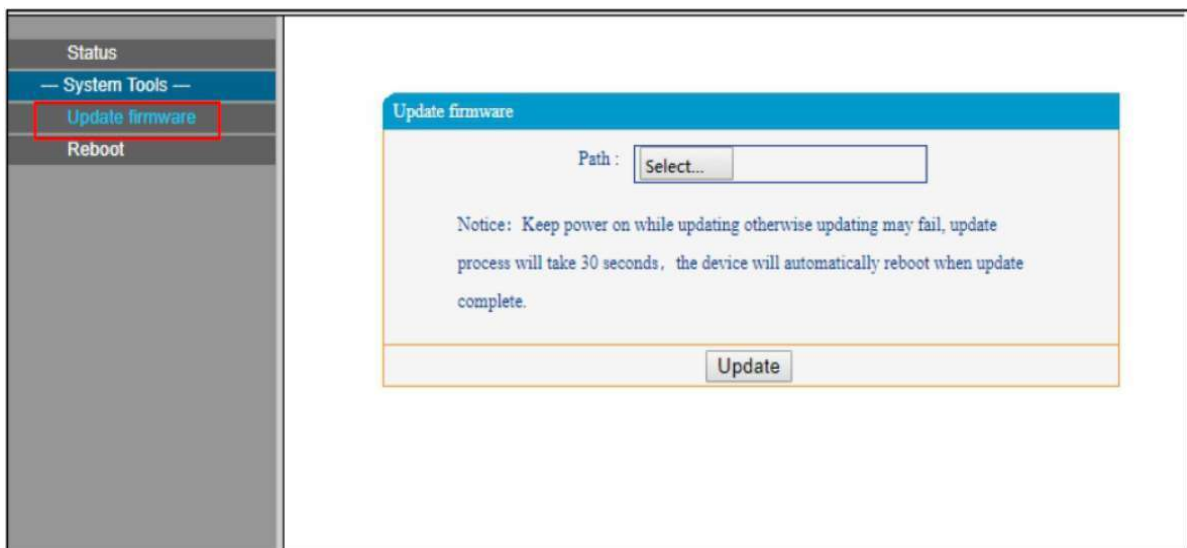


Firmware Upgrade

When you press the "Upgrade" button, the gadget will enter upgrade mode in 15 seconds. (If the web page displays an exception after entering upgrading mode, please clear the cache and login again.)



Select the firmware upgrade file provided by the manufacturer after entering the firmware update mode, then click the "upgrade" button to begin the upgrade. (Do not power off during the upgrading process; else, the upgrade and equipment may fail).



Exit upgrade mode: If you accidentally press the "upgrade" button, you can return to normal mode by pressing the "reboot the device" button while in upgrade mode.

Reset To Defaults

Reset to defaults: all parameters need to be reset to defaults.

Status
— Basic Settings —
Net options
Sip options
Audio options
Alarm options
Multicast
— System Tools —
Password Setting
Language Setting
Communication Protocol
Update firmware
Factory reset
Reboot
System logs

Factory reset

Restore last correct settings or factory settings when the device fails.

Reboot Device

Status
— Basic Settings —
Net options
Sip options
Audio options
Alarm options
Multicast
— System Tools —
Password Setting
Language Setting
Communication Protocol
Update firmware
Factory reset
Reboot
System logs

Reboot

Click button to reboot the device.

System Log

The user can access the system log in web page and record the operational condition and form log on the IP network wall speaker.

Status	<div style="border: 1px solid black; padding: 5px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #0070C0; color: white;"> <th colspan="2">System logs</th> </tr> <tr> <th style="text-align: left;">Index</th> <th style="text-align: left;">Log content</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Mar 30 15:11:07 Successful application startup</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Mar 30 15:11:59 Time Sync Successfully,From:NTP Server 120.25.108.11,2021-2-30 15:11:59</td> </tr> <tr> <td colspan="2" style="text-align: center;">1</td> </tr> <tr> <td colspan="2" style="text-align: center;">Refresh</td> </tr> </tbody> </table> </div>	System logs		Index	Log content	1	Mar 30 15:11:07 Successful application startup	2	Mar 30 15:11:59 Time Sync Successfully,From:NTP Server 120.25.108.11,2021-2-30 15:11:59	1		Refresh	
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Basic Function

Broadcast

Local broadcasting, terminal broadcasting, and server broadcasting are all supported.

Offline Broadcast

When the device is offline, the offline task set by the server can be played on a regular basis by the IP network digital amplifier. The method for setting up an offline broadcast is as follows:

Server Setting Method:

1. Add the "regular ringing" task to the service software's "scheduled task" interface (define the time and cycle type in the "add trigger"). Set the target terminal, audio file, and other options in the "add operation" section; once the job is saved, press the lower left corner push button. The chosen task is completed when the device is turned off.

Edit task

Task name

Creator

+ Add trigger

+ Add trigger(Batch)

Trigger	Context	Edit	Delete
Timer	Execute time: 11:29:32 Period: Daily Start date: 2019-06-04 End date: 2029-06-04		

+ Add operation

Operation	Context	Sort	Edit	Delete
PA	Audio source: File Total: 00:04:56 Durations: Play once			

Push task

Save

Cancel

Note: offline broadcast only supports MP3 format audio;

Trouble Shooting

1. No power? Is the power indicator switched off?
 - Make sure the power plug is secure and the power cord is in good working condition.
 - Check whether the Power switch is on.
 - Check whether the safety of the Power socket is burned out or not.
2. Is your terminal unable to login to the server?
 - Verify that the service software and primary control machine are both operational. Close all firewalls (including system and antivirus software firewalls) before running the service program.
 - Verify that the network connection is normal, and that the network cable and switch attached to the terminal are in good working order, free of damage, poor contacts, and other issues.
 - Check the terminal's IP settings.
Check that the ID number, service IP, local IP, gateway IP, and other parameters on the terminal are valid.
3. If any web display exception?
Clear the cache or switch the browsers.
4. If receive broadcast, amplifier no sound output?
 - Check if the terminal is online;
 - Check whether the terminal volume of the server and the output volume of the web page broadcast are 0, and if so, increase the volume.
5. No sound from local I/O?
 - Check that the mic and aux volume control knobs are turned all the way clockwise.
 - Check that the input volume is too low, that the active speaker is silent, and that the local volume is turned up;
6. If Local offline task is not played?
 - Insert the FTP of the device and verify whether the audio file under the nas2007 directory is normal. The audio file must be in MP3 format, 128kbps;
 - Verify whether the equipment time is synchronized to the current time;
7. If any occasional sound break occurs?
 - Verify whether the power output load is exceeded over rated power or line short-circuit;
 - Verify whether the audio input signal range oversize, can be appropriately reduced volume;



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