



User Manual

Thanks for using our public address system. For the better application of this equipment, please read the user manual carefully prior to use.

This page is left blank for the user's notes.

About the Manual

This User Manual is available and effective upon completion of development of the CNS401 Network Terminal. The User Manual includes system description, matters needing attentions in use, instructions on system connection, instructions on use of product and technical specifications of the network terminal. Please read this User Manual carefully before connection, installation and use and operate in accordance with corresponding instructions in the Manual.



This symbol on the rear panel indicates matters needing attentions, please use or operate the product in accordance with corresponding instructions.

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

Matters Needing Attention

Please read the following before operating the product.

Warning

The following basic requirements must be strictly observed, to avoid potential personal injury and equipment or property damages to you or any person nearby. The basic requirements include without limitation to the following:

Power source/power cable

- Please disconnect the device from power source by pulling the plug other than the power cord. Pulling the power cord may result in damages.
- Please keep the power cord away from heat source. Do not over-bend the power cord or place it anywhere it can be stepped on or may cause to trip.
- This is connected to power source via the plug and any failure or danger occurs, the user can disconnect the device from power source by pulling out the plug out from the socket, therefore, it is required that the power socket should be located somewhere with easy access.
- The device is not completely disconnected from power source when it is switched "OFF". For sake of safety, please disconnect the device from the socket if it is not in user.

Positioning

- Please disconnect the device from power source before relocating the device.
- For avoiding deformation of panels and damages to internal components, please do NOT place the device where there is heavy dust or violent vibration, or where it is extremely cold or hot.
- Please keep this device off water drops or splash or vase filled with water or any other articles of similar nature.

Connection

- Please disconnect other equipment from power source before they are connected to this product. Please tune volume to its minimum level before the device is powered ON or OFF.
- All terminals on the device marked with ' ' are live and dangerous, and should be connected by trained personnel.

When abnormal conditions are realized

- Please disconnect the device from power source immediately in case the power cord is worn or damaged or if the sound is suddenly cut off or any abnormal odor or smoke comes out from the device, and then have the device inspected and repaired by professional personnel.

Precautions in Operation

- Please do NOT insert any finger into any gap or opening of the device.
- Please prevent foreign objects (paper, plastics or metal etc.) from being inserted or falling into any gap or opening of the device. In such case, please cut off power source immediately.
- Please do NOT put the body or any heavy object on the device and do NOT operate the buttons or switches or connections with excessive force.

Do NOT Open

- Please do NOT remove the cover of the equipment, otherwise you may get an electric shock.
- Do NOT attempt to remove any internal component from the device, or to modify the equipment in whatever manner. In case of any abnormal condition, please stop using the device immediately and have it inspected and repaired by professional personnel.

Other Precautions

- Our company shall not be responsible for data loss or damages due to improper use of unauthorized modification to the device.
- The images and screen display in this Manual are only for description and may be different from screen images in actual operation. The screen

display depends on the product.

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I. Product Description

1.1 About CNS401

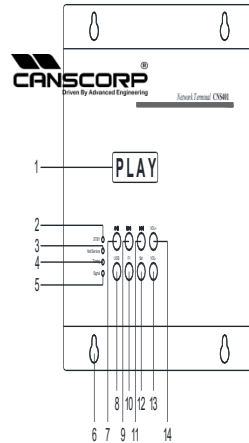
CNS401 network terminal is a network all-digital analog-digital conversion signal processor based on TCP/IP transmission protocol. With dual network redundancy design, it can be mounted at any place with access to network. The machine can output the remote audio data stream as the audio signal with intelligent control of the host; and has a built-in MP3, USB interface and SD card slot. It can play the MP3 program when the network audio stream signal is not played, and can execute timing points independently when separated from the host. Also, it is provided with one-channel auxiliary audio input interface for other audio source devices (like DVD), and one-channel auxiliary audio output interface for other amplifiers to extend the power, and a microphone interface for local paging.

1.2 Features

- With dual network redundancy design, it can work across the network segment.
- Can be mounted to any place with access to network.
- With built-in MP3 player, USB interface and SD card slot for playing local program.
- Can execute timing points independently when separated from the host.
- Support maximum 48kHz sampling rate 16-bit digital audio stream decoding.
- Built-in 2×25W or 1×50W high-fidelity digital amplifier, with low power consumption.
- Can play the background musics, emergency paging and alarm signals from the system host.
- With 1 AUX IN, 1 AUX OUT, 2 MIC IN, 1 EMC OUT and 1-channel short circuit output.
- Controllable local output volume and local play status.
- With LED indicator for signal status, and digital display for working status and information changes.
- Support remote control via the infrared remote controller.
- Can set the priority of network audio, local audio and local microphone audio through the network.

II. Structure Description

2.1 Front Panel



1 Digital Display Screen and Remote Control Receiving Window

The digital display screen shows the working status and network information of the machine. As an infrared remote controller is embedded in the upper right corner of the display screen, the machine status can be controlled with the infrared remote controller.

2 Standby LED (STBY)

Standby LED (The LED will be on in standby status). The standby function is equivalent to mute function, and the network alarm and emergency signal can turn it on. That is, the alarm and emergency signal can cancel the mute state.

3 Network LED (Net Service)

The LED will be on when the machine and host

are successfully connected via the network.

4 Timing Point LED (Timing)

The terminal can be separated from the host to execute the edited timing point on the host. This LED will be on when the terminal can execute the timing point when separated from the host.

5 Amplifier Output Level LED (Signal)

The LED will be on when the terminal amplifier has a signal output. When the volume of the amplifier gradually increases, the LED will turn brighter; when the volume decreases, the LED will turn darker.

6 Mounting Hole

The terminal can be mounted on the wall or the same. There are 4 mounting holes on the machine. During installation, the machine can be mounted on the wall with screws provided.

7 Play/Pause Button

When playing local MP3 programs, use this button to conduct play/pause operation; when performing address setting operation, use this button to save the setting results.

8 USB Button

USB play/stop button; press this button to exit the setting state during the address setting operation.

9 ◀◀ Button

USB play mode: Select the previous song.

IP settings mode: Move one screen / one bit to the left, to select the parameter to be viewed/set.

10 F1 Button

Used when adjusting the volume. Switch among three audio sources: AUX IN, MIC2 and MP3.

11 ▶▶ Button

USB play mode: Select the next song.

IP settings mode: Move one screen / one bit to the right, to select the parameter to be viewed/set.

12 Local Settings (Set)

Long press the button to enter the IP address viewing state, and press it again to enter the IP settings/modification state.

13 VOL- Button

Play mode: Volume down.

IP viewing mode: Switch the parameters to be viewed.

IP setting mode: Parameters Plus and Minus.

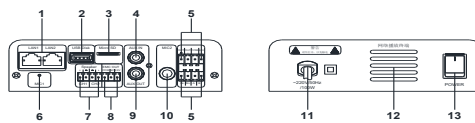
14 VOL+ Button

Play mode: Volume down.

IP viewing mode: Switch the parameters to be viewed.

IP setting mode: Parameters Plus and Minus.

2.2 Side Panel



1 Network Interface (LAN1/LAN2)

Dual Network design, support hand-in-hand connection, connect with Network POE.

2 USB Interface (USB Disk)

Insert a USB or a mobile hard disk or other memory devices with MP3 programs into this interface to provide a program source for

the built-in MP3 player.

3 SD Card Slot (Micro SD)

Insert a SD card with the timing point of the host into the slot. When the terminal is offline, it can play the audio for the host regularly.

4 AUX IN

Connect audio source devices (like DVD), to extend the program source for the machine.

5 Extension interface

For extending or customizing other functions. It can be extended to SOS, Dual Intercom Extension Controller, Network PA System On-Demand Terminal, GPS Calibration Module, IP Network Terminal with Built-in Amplifier, IP Control Panel with Bluetooth & MIC, Network Control Panel with Wireless Microphone. This terminal provides DC voltage power supply for the connected equipment. The wiring method needs to be connected with the equipment one by one according to the requirements. For the connection method, please refer to the instruction manual of the connecting equipment.

6 MIC1 Pickup Window

The built-in microphone pickup window. Speak to the window to release voice

broadcast directly.

7 Amplifier Output CH1/ CH2 (Speaker)

The machine has a built-in 2×25W digital amplifier. As the power of the output port is 25W, it is supposed to connect two constant resistance (4Ω) speakers respectively. It can also be bridged into single-channel mode of 50W to connect a 8Ω speaker. Please refer to the page 7 for connection methods.

8 EMC Override Output

The output signal of the interface is controlled by the host.

9 AUX OUT

Connect other amplifiers to extend the power of the terminal.

10 MIC2 Interface

Connect the microphone to realize local paging or site speech.

11 AC220V Power Cord

Provide working power for the machine.

12 Amplifier Cooling Window

13 POWER

Press “I” to turn it on, and press the other side of “I” button to turn it off.

2.3 Remote Controller

The structure of the remote controller is shown in the figure on the right side:

1. Button of mute.

2. Numeric keys:

Used for setting of IP address and setting of parameter value.

3. F5:

When inserting U-disk, press F5 button to play/stop.

4. Button of selecting last song:

CH+ is used to select the previous program of the music played currently.

5. Volume decrease:

V- is used to decrease the output volume of the terminal.

6. F7: Button of play/pause:

Repeat to press this button to switch over between playing on demand and pause.

7. Enter key:

In the idle state, press the Enter key to adjust the output of bass (Cycling from 0 to 15).

8. Button of selecting next song:

CH- is used to select the next program of the music played currently.

9. Cancel key:

In the idle state, press the Cancel key to adjust the output of treble (cycling from 0 to 15);

In the other states, press the Cancel key to cancel.

10. Volume increase:

V+ is used to increase the output volume of the terminal.

11. F3:

Button of IP address checking/modification; press this button to enter the state of checking, and then press the button of CH+/CH- to select the parameter to be checked, and press F3 to enter the state of setting; after the modification, press the Enter key to save it; otherwise, the modification is null. Press the Cancel key to exit without saving.

12. F1: Button of volume setting:

Select the sound source to be modified. After selecting, press V+ and V- to modify the volume. (AUXI indicates auxiliary input, MIC1 indicates microphone input, and MP3 indicates network sound source or U-disk)

13. Standby button

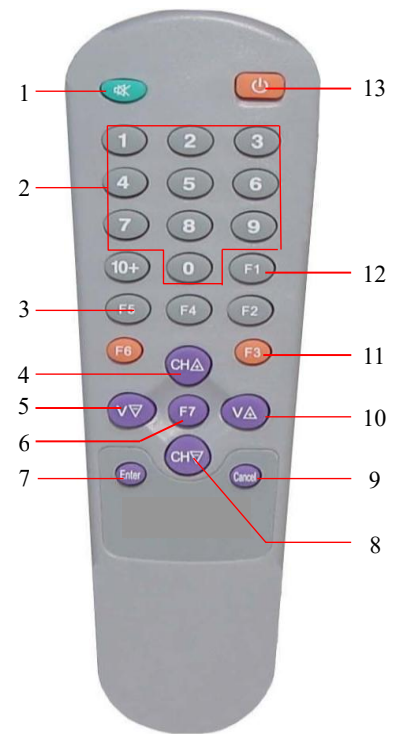
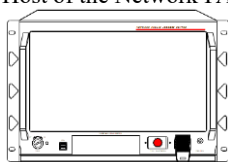


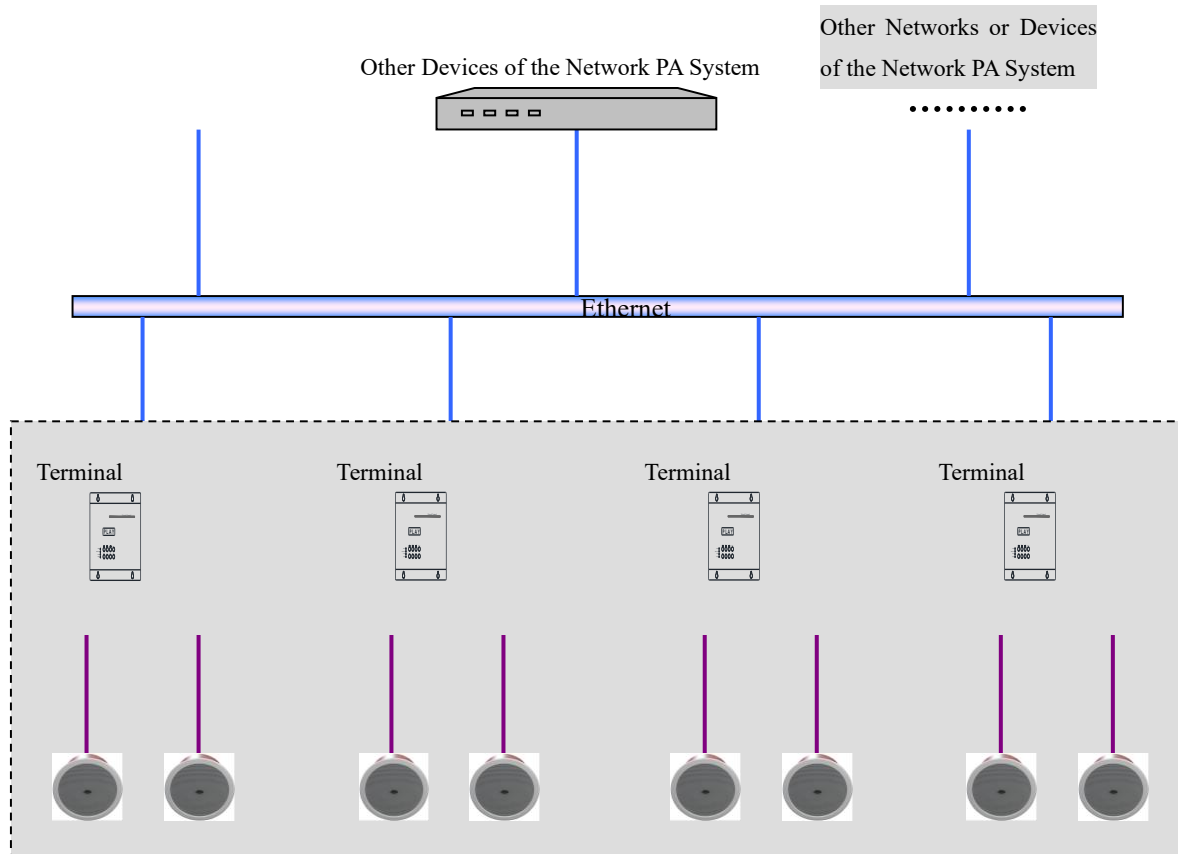
Figure (3)

III. Connection Diagram

3.1 Application Diagram of CNS401 in the System

Control Host of the Network PA System





Note:

- ① The diagram above only provides general instructions on application of CNS401. Please refer to the User Manual of the System Host for connection of the whole system.
- ② The diagram above is for reference only. Please refer to system connection diagram for detailed information.
- ③ The CNS401 must be connected to the system via a network switch, and set to corresponding address for realizing connection to the host.

3.2 CNS401 Interface Connection Diagram

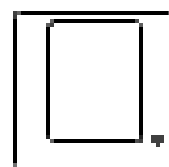
In addition to the self-contained MP3 player and network sound source, this machine is also equipped with one-channel auxiliary input and one-channel auxiliary output to connect other audio sources and amplifiers. The personalized design of this machine can meet the needs for large power and multiple sound sources at the terminal site. In the application without such personalized needs, it is allowed not to connect the external sound source and other amplifiers. The MP3 player and network audio stream in this machine can meet the requirement for sound amplification in most of the public places.

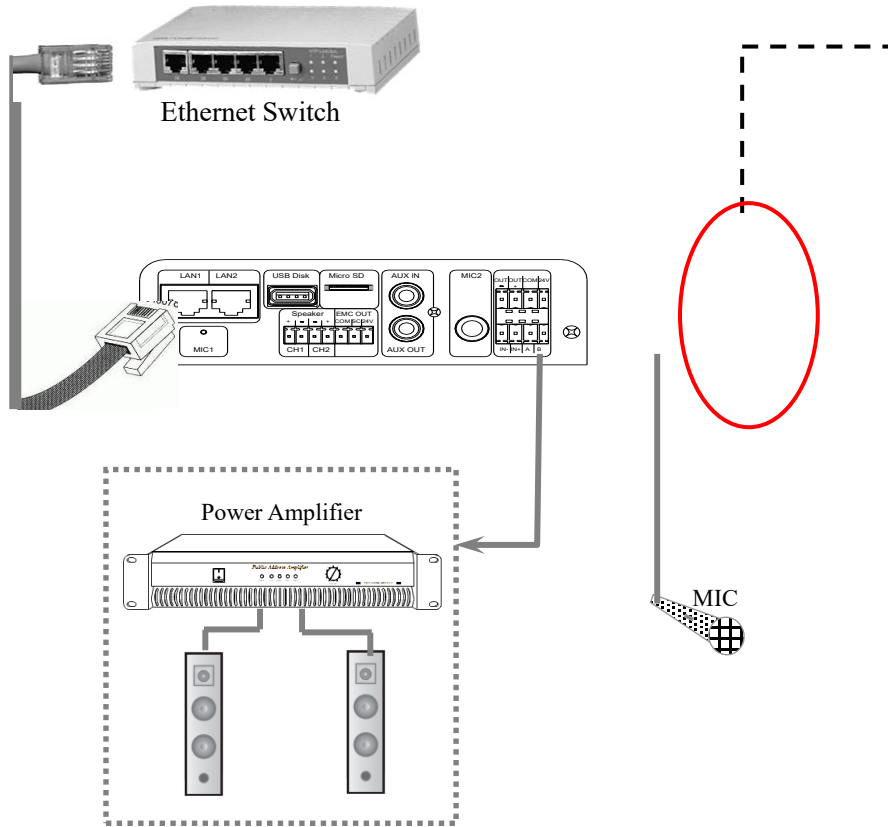
The connection diagram of the interface on this machine is as shown below:

CD Player

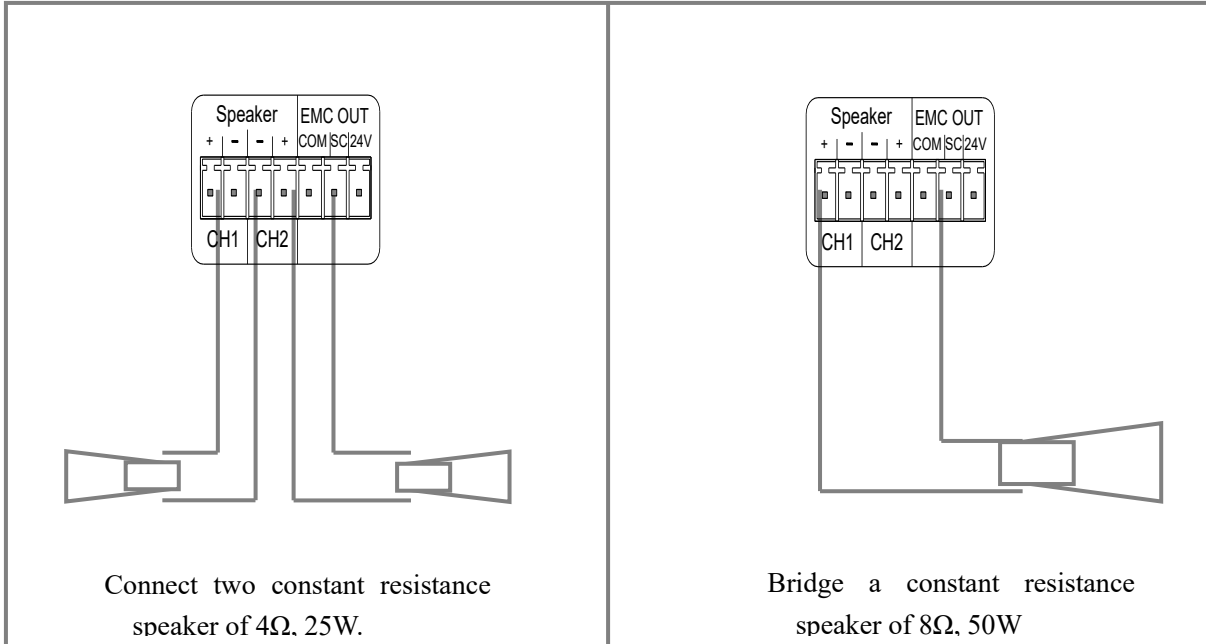


On-demand Terminal (Please refer to the user manual of the on-demand terminal for connection.)





2×25W amplifier output, with two application methods:



IV. Operating Instructions

1. Modification of volume:

- a) Press the button of “VOL+“ of “VOL-” to directly adjust the playing volume; press the button of “F1” to switch over among the volumes; when switching over to the current sound source, it is possible to adjust the volume of such sound source. The sound sources to be switched over include AUX.1, MIC.2, and MP3.3 (“AUX.1” represents input volume, “MIC.2” represents microphone collecting volume, and “MP3.3” represents the volume output from AUX OUT).
- b) After completing the operation of setting, it will automatically jump to the timing state.

2. Modification of IP address:

- a) Long press the “Set” key to enter the state of IP address check.
- b) Press “VOL+“ or “VOL-” to select the parameter to be modified (Local IP, slave IP, gateway, and sub-net mask); after selecting, it will automatically jump to display the corresponding parameter value.
- c) At this moment, press the “Set” again to enter the IP address modification state. When the parameter is flashing, press the button of ◀◀ or button of ▶▶ to shift the parameter bit, and press “VOL+” or “VOL-” to add/subtract the parameter; after the modification, press the button of “play/pause” to save the parameter; if not, the modified parameter will be invalid.

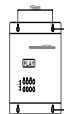
3. The digital tube displays “IP” representing the local IP address, “SIP.1”/“SIP.2” representing slave IP address, “GATE” representing gateway (recommending not to modify), and “MASK” representing the sub-net mask (recommending not to modify).

4. If the host is in the playing state, insert the U-disk, and press USB, it will display the “err” (error), indicating that it is unable to play the songs in U-disk, because the priority of the host is higher than that of the U-disk.

Attention: When plugging in and out the SD card, the power supply shall be turned off to prevent the damage to SD card; if the digital tube displays “err”, it indicates that the operation is invalid.

V. Installation

Note: The user can determine mounting holes based on the Installation Diagram.



Installation Diagram

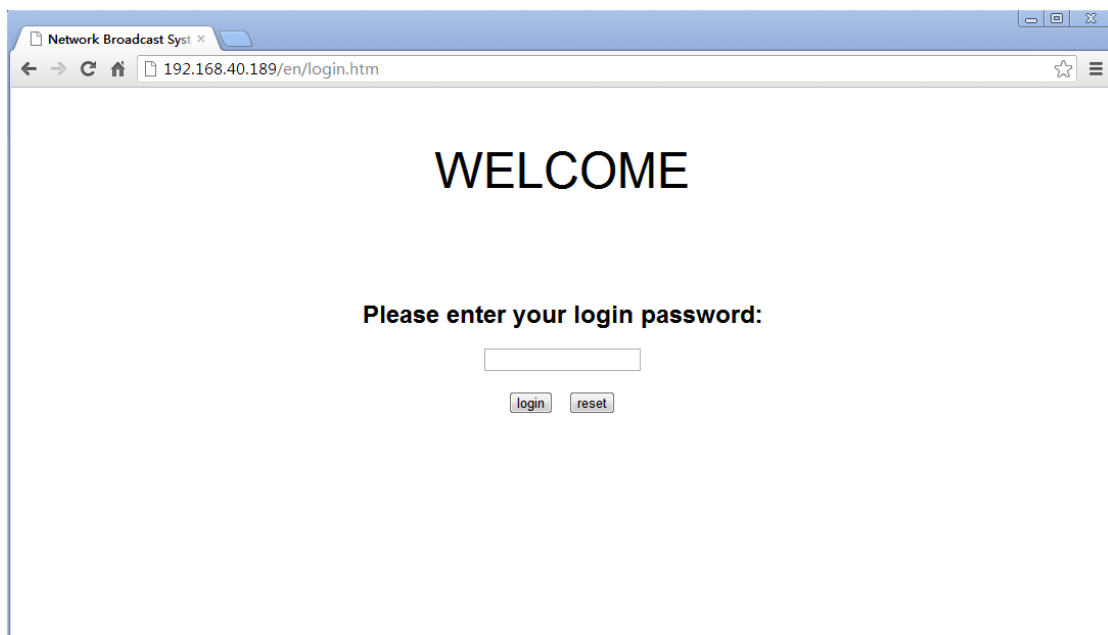
VI. Operating Instructions on Terminal Settings on the Host

6.1 IP Address Settings

This speaker can be customized to modify the network parameters. Please read this section in detail if you need to use this function. The alteration methods are as follows:

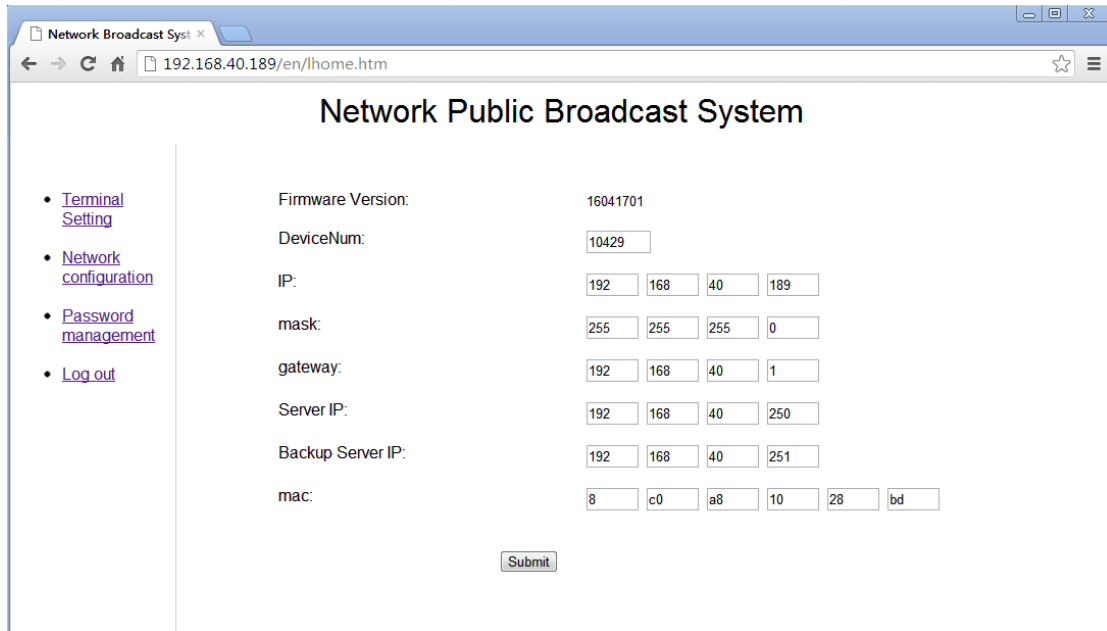
Method 1:

1. IP Modify the IP address of the configuration computer, requiring that the IP address of the configuration computer and the speaker must be on the same network segment. For example, when the IP address of the speaker is 192.168.66.5, the IP address of the configuration computer should be configured to 192.168.66.xx (Note: The IP conflict can be not present in IP settings)
1. Enter the IP address of the speaker on the IE browser after connecting the configuration computer and the speaker, and then access into the following interface as shown in Fig. 1, enter the password: 666666, enter the web settings interface;



(Pic. 1)

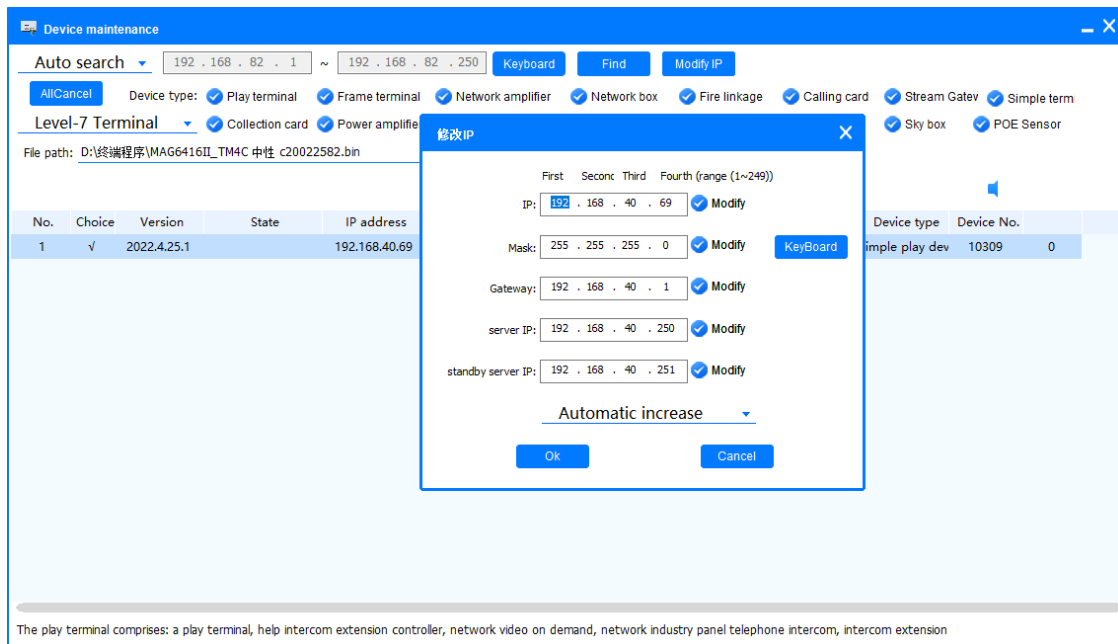
1. Click “Confirm”to save the changes successfully after altering the IP address or server address on “Network configuration”, as shown in Fig.2.



(Pic. 2)

Method 2:

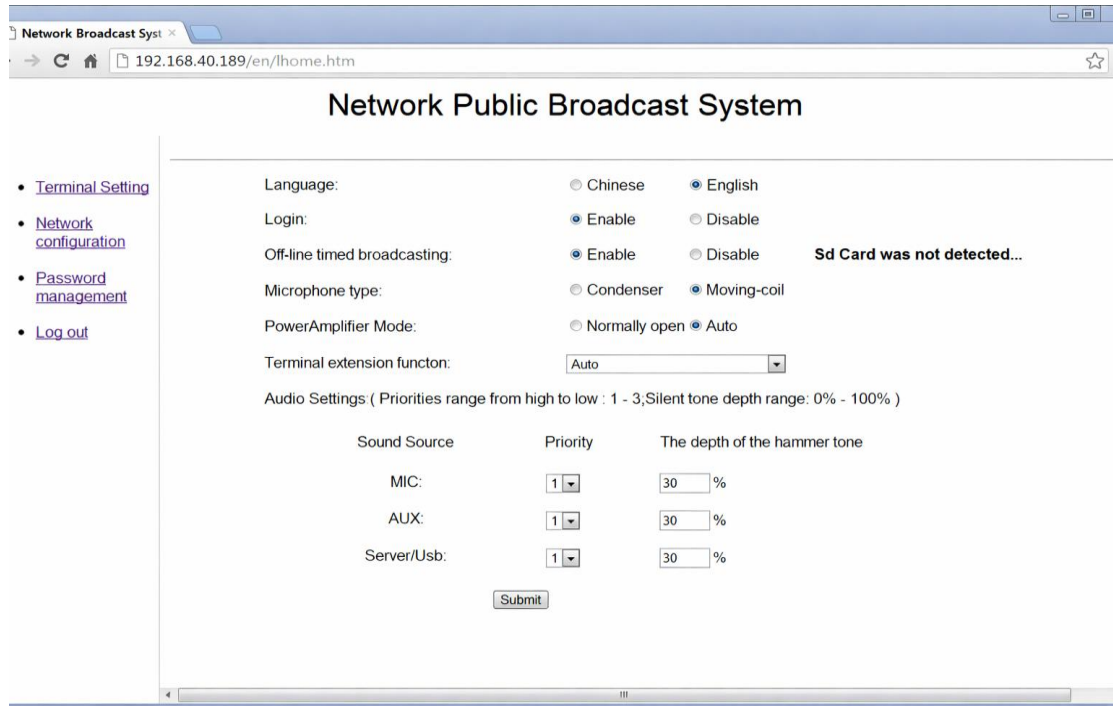
1. Enter the host software “Settings” -> “System Maintenance” -> “Device Maintenance”;
2. Find the IP address on the terminal label, select and click “Modify IP”;
3. As shown in Fig. 3, modify the parameters and click OK to see “Success” on the interface



(Fig. 3)

6.2 Instruction for the Terminal Function Setting

As shown in method 1 of 6.1 above, ensure that the host/computer and the terminal are on the same network segment, and then enter the IP address on the label of the terminal on the IE browser, enter the page as shown below, and click "Public Broadcast" to set the functions of this terminal (as shown in Figure 4 below).



(Fig. 4)

1. Language: Simplified Chinese and English are available. You can switch between Chinese and English according to your needs.
2. Login: There are two types of login options: enable and disable. Selecting the "Enable" option means that the login interface will be displayed when logging in; selecting the "Disable" option means that there is no login interface, enter the IP address in the browser and enter directly Function setting interface.
3. Offline timing point function: There are two modes of enable and disable. Please ensure that the current state is not switched to 100V, and you can activate the offline timing point function according to your needs. When you need to activate this function, select the "Enable" option and press the "Submit" button. Otherwise, select the "Disabled" option.
4. MIC type selection: please ensure that the current state is not switched to 100V, and you can choose condenser or dynamic MIC according to your own needs.
5. Amplifier mode: In the normally-on mode, the power amplifier is automatically turned on after powering on and is in the normally-on state; in the automatic mode, the power amplifier is automatically turned on when it has AUX/MIC input or is in playback state; when there is no AUX/MIC input and is in an idle state, the power amplifier is automatically turned off.
6. Terminal extension model: when "Auto" is selected, the terminal can automatically recognized and

configure it as the first connected extension panel type; when the extension panel type is fixed, the terminal is configured as the selected extension panel type, and other types of extension panels are not automatically recognized.

7. Audio source setting: set the priority of "microphone", "line input (AUX)", "network or USB disk", and the levels are 1-3 from high to low, please make sure that there is no switch to 100V state, when setting all three audio sources with different levels, the audio output will be set from high to low in order. The audio source with the highest priority, the terminal volume is dominated by the master volume, and the mute volume is invalid. The audio source with the second highest priority, the terminal volume is dominated by the mute volume and the master volume is invalid. The audio source with the lowest priority, the terminal volume is muted.

When two or three audio sources are set at the same level, the two or three audio sources will be mixed and output. The audio source with the highest priority will be dominated by the master volume of the terminal, and the mute volume will be invalid; the audio source with the second highest priority, the terminal volume is dominated by the mute volume.

Safety Precautions

1. Safety Precautions

- Please do NOT connect this device to the power source, before the system is correctly wired.
- It is important to ensure that input voltage to the device is the same as required voltage of the device, otherwise the device may be damaged.
- There is dangerous voltage in the device, which may cause personal electric shock. Please do NOT open the case without permission, to avoid potential risks of electric shock.
- The device is not completely disconnected from power source when it is switched to “OFF”. For sake of safety, please disconnect the device from the socket if it is not in use.
- Please do NOT place the device where it is extremely cold or hot.
- Good ventilation must be provided in the working environment of the device, to avoid excessive temperature during its operation, which may cause damages to the device.
- Please unplug the device from power socket in raining and wet days or if the device is not in use for a long time.
- Please disconnect the power plug from sockets, to ensure the device has been completely disconnected from power source, before any component is removed from or re-installed in the device or before any electric connector of the device is disconnected or reconnected.
- In case of any failure of the device, please do NOT open the case and repair without permission from a professional personnel, to avoid accident or additional damages to the device.
- Please do NOT place any corrosive chemicals near or on the device.

2. Matters needing attention

- Our company provides a three-year free warranty service (including free replacement parts) over quality issues as from the date of purchase, provided that the device is installed and used in accordance with requirements specified in the User Manual.
- For warranty, the user must show the Warranty Card and the receipt kept by the user and purchase invoice of the device as supporting documents.
- The following conditions are beyond the scope of warranty:
 1. Product damage due to improper installation, use or handling;
 2. Product damage due to abnormal conditions (such as excessive power source voltage or ambient humidity);
 3. Product damage due to natural disasters;
 4. Product SN is changed, altered or removed;
 5. Product has been repaired or modified by any person without duly authorization from our company;
- Please keep the User Manual and Warranty Card in good custody.
- For issues and precautions not mentioned in this User Manual, if required, please contact the distributor or visit our website.
- In case of any failure in the warranty period, please contact service personnel (or distributor) of our company for service. The company shall not be liable for damages due to unauthorized dis-assembly or maintenance or service by unauthorized personnel.

Packing List

No.	List	Quantity
1	Network Terminal	1 piece
2	1500MM/Audio Cable	1 piece
3	3000MM/8-pin Network Cable	1 piece
4	User Manual	1 copy
5	7P Green Plug 3.81MM	1 piece
6	4P Green Plug 3.81MM	2 pieces
7	AMP Registered jack8P8	2 pieces

Specifications

Item		Specification
AUX IN	Input Sensitivity	350mV±50mV
	Frequency Response	20Hz-16kHz(±3dB)
	Distortion	≤0.5%
	Noise	1.7mV
	SNR	≥77 dB
AUX OUT	Output Sensitivity	1000mV±100mV
	Frequency Response	20Hz-20KHz(±3dB)
	Distortion	≤0.5%
	Noise	0.12mV
	SNR	≥78 dB
Maximum Output Power of the Built-in Amplifier	Independent Channel Mode	25W/4Ω
	BTL Mode	50W/8Ω
Maximum Harmonic Distortion of the Built-in Amplifier		≤0.7%
MIC IN	Input Sensitivity	5mV±1mV
	Frequency Response	20Hz-16kHz(±3dB)
	Distortion	≤0.7%
	Noise	1.7mV
	SNR	≥77 dB
USB/SD /NET/MP3	Output Sensitivity	11V±1V
	Frequency Response	20Hz-16kHz(±3dB)
	Distortion	≤0.6%
	Noise	1.5mV
	SNR	≥77dB
External USB Capacity Supported		32GB
Power Supply		AC220V/50Hz
Over Current, Overheat, Over Voltage and Under Voltage Protection		Satisfied
Package Dimension (L×W×H mm)		330×270×125
Machine Dimension (L×W×H mm)		222×195×49.5
Net Weight		1.45kg
Gross Weight		2.145kg

CAUTION

- When the power switch is “OFF”, the machine is not completely disconnected from the power grid. For the sake of safety, please pull the power cord plug out of the socket when not using the equipment.
- The equipment shall not be subject to water drops or splashes and objects such as vases filled with water shall not placed on the equipment.
- To reduce the risk of electric shock, do not remove the cover. If necessary, please ask professional personnel to repair.
- The symbol ⚡ on the rear panel indicates hazardous live. The connection of these terminals must be operated by the instructed person.
- The equipment is connected to the power grid through the power cord plug. In case of equipment failure or danger, the connection between the unit and the power grid can be disconnected by pulling out the power cord plug. Therefore, it is required to place the power socket where the power cord can be plugged and unplugged conveniently.