itc *IP NETWORK PA SYSTEM*

IP

■ T-7760B/77120B/77240B/77350B/77500B/77650B
■ IP AMPLIFIER
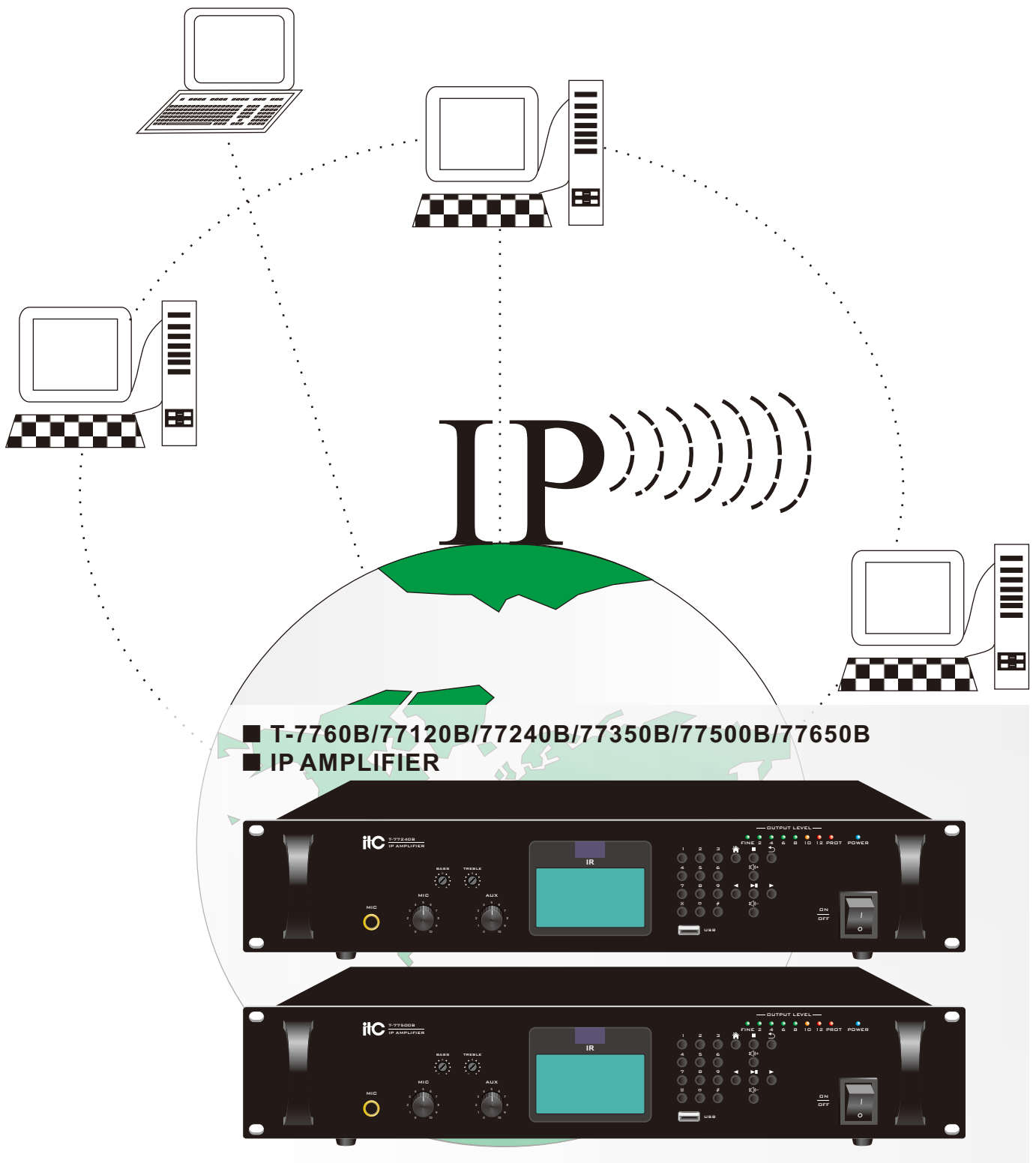

OWNER'S MANUAL

itc Please follow the instructions in this manual to obtain the optimum results from this unit.
We also recommend that you keep this manual handy for future reference.

TABLE OF CONTENTS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety

⚠ **WARNING**   Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.

⚠ **CAUTION**   Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

⚠ WARNING

When Installing the Unit

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in fire or electric shock.

- Use the unit only with the voltage specified on the unit. Using a voltage higher than that which is specified may result in fire or electric shock.

- Do not cut, kink, otherwise damage nor modify the power supply cord. In addition, avoid using the power cord in close proximity to heaters, and never place heavy objects -- including the unit itself -- on the power cord, as doing so may result in fire or electric shock.

- Be sure to replace the unit's terminal cover after connection completion. Because high voltage is applied to the speaker terminals, never touch these terminals to avoid electric shock.

- Be sure to ground to the safety ground (earth) terminal to avoid electric shock. Never ground to a gas pipe as a catastrophic disaster may result.

- Avoid installing or mounting the unit in unstable locations, such as on a rickety table or a slanted surface. Doing so may result in the unit falling down, causing personal injury and/or property damage.

When the Unit is in Use

- Should the following irregularity be found during use, immediately switch off the power, disconnect the power supply plug from the AC outlet and contact your nearest ITC dealer. Make no further attempt to operate the unit in this condition as this may cause fire or electric shock.
  · If you detect smoke or a strange smell coming from the unit.
  · If water or any metallic object gets into the unit
  · If the unit falls, or the unit case breaks
  · If the power supply cord is damaged (exposure of the core, disconnection, etc.)
  · If it is malfunctioning (no tone sounds.)

- To prevent a fire or electric shock, never open nor remove the unit case as there are high voltage components inside the unit. Refer all servicing to your nearest ITC dealer.

- Do not place cups, bowls, or other containers of liquid or metallic objects on top of the unit. If they accidentally spill into the unit, this may cause a fire or electric shock.

- Do not insert nor drop metallic objects or flammable materials in the ventilation slots of the unit's cover, as this may result in fire or electric shock.

⚠ CAUTION

When Installing the Unit

- Never plug in nor remove the power supply plug with wet hands, as doing so may cause electric shock.

- When unplugging the power supply cord, be sure to grasp the power supply plug; never pull on the cord itself. Operating the unit with a damaged power supply cord may cause a fire or electric shock.

- When moving the unit, be sure to remove its power supply cord from the wall outlet. Moving the unit with the power cord connected to the outlet may cause damage to the power cord, resulting in fire or electric shock. When removing the power cord, be sure to hold its plug to pull.

- Do not block the ventilation slots in the unit's cover. Doing so may cause heat to build up inside the unit and result in fire.

- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in fire or electric shock.

When the Unit is in Use

- Do not place heavy objects on the unit as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.

- Make sure that the volume control is set to minimum position before power is switched on. Loud noise produced at high volume when power is switched on can impair hearing.

- Do not operate the unit for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.

- Contact your ITC dealer as to the cleaning. If dust is allowed to accumulate in the unit over a long period of time, a fire or damage to the unit may result.

- If dust accumulates on the power supply plug or in the wall AC outlet, a fire may result. Clean it periodically. In addition, insert the plug in the wall outlet securely.

- Switch off the power, and unplug the power supply plug from the AC outlet for safety purposes when cleaning or leaving the unit unused for 10 days or more. Doing otherwise may cause a fire or electric shock.

An all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.

Due to product upgrades, while some of the features and specification in the user manual does not match the actual functions, sorry for any inconvenience and thanks for your kind understanding!

2. APPLICATION

The terminal is installed in the storey computer room or sub-control computer room of each broadcasting management area. It has a built-in high-fidelity amplifier, and is applicable to program broadcast and local broadcast in halls, corridors, outdoors and other places.

3. FEATURES

1. Standard 19-inch rack design, black alumina wire-drawing panel, sturdy handle, professional mechanical assembly process, and high-end appearance.
2. Industrial-grade 3.4-inch LCD display, which can clearly display most dot matrix patterns and working status of the machine; equipped with an infrared remote control, any content VOD of the server program library, flexible and simple operation of playback/pause.
3. The machine is designed with embedded computer technology and DSP audio processing technology.
4. Built-in 1 network hardware audio decoding module, support TCP/IP, UDP, realize the network transmission of 16-bit CD-quality audio signals.
5. Built-in high-fidelity professional digital amplifier, with 60W/120W/240W/350W/500W/650W constant voltage 100V power output.
6. One line (AUX) and one microphone (MIC) input interface, with independent volume and treble and bass adjustment potentiometer control, and support local paging function when disconnected from the network.
7. One EMC input interface, the input emergency alarm voice signal is straight through, with the highest priority.
8. Two audio signal auxiliary output interfaces, which can be extended to external amplifiers, standard RCA socket interface, wiring connection is very convenient.
9. One three-wire sound control override output interface, no need for override power supply.
10. Built-in intelligent power management, automatically cut off the amplifier when there is no music or call, automatically turn on the amplifier when there is a signal, and support the function of powering on the amplifier in advance by IP software programming.
11. Built-in 3 priority settings:
    EMC is the highest priority.
    The network alarm signal is prior to the MIC, AUX and network background music signals.
    MIC takes precedence over AUX and network background music signals.
    AUX and network background music are at the same level, without any priority.
12. Support the silent intensity preset reduction function, support the background music preset function; support the status light display, including the level indicator, protection indicator, standby indicator, etc.
13. Compatible with any network structure such as routers, switches, bridge gateways, Modem, Internet, 2G, 3G, 4G, etc.
14. Digital products, easy to extend, not restricted by geographical location, no need to increase computer room management equipment, adopt the design concept of shared network and no line construction, which is easy to install.
15. Support the PA system to upgrade the terminal firmware remotely, no need to upgrade the terminal locally, reducing the work intensity of maintenance personnel.
16. With USB playback function, access to U disk. Remotely play Random, Last, and Next music, pause, stop and so on (or select the panel button operation).
17. One short-circuit input can be used to trigger preset voice prompts (or alarms), and can also be used to control access control linkage to input short-circuit signals.
18. Come with 1 100V constant voltage power backup input interface, which can flexibly form a highly reliable public ringing system with one master and multiple standbys, multiple masters and one standby, and multiple masters and multiple standbys.
19. Built-in high-performance master/standby switching detection module, switch to standby power input within 0.3 seconds when the network is disconnected and the machine fails, to meet the requirements of a highly reliable public ringing system.

4.1 Front panel
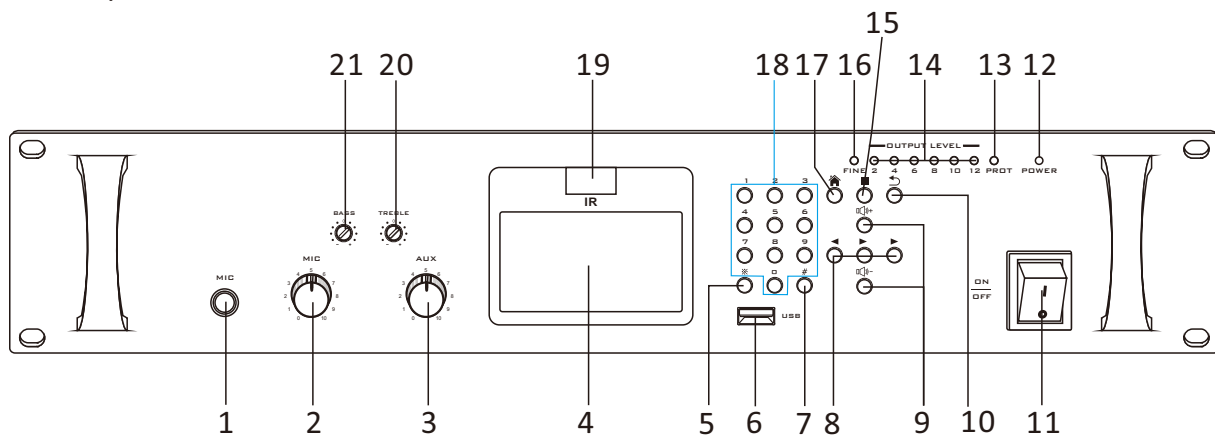
1. Local MIC input, Adopting 6.35mm MIC input interface.
2. Volume control of MIC input.
3. Volume control of AUX input.
4. Working status display screen, Mainly used for showing the different status in different quests.
5. "*" key - clear the fill code.
6. USB interface - used to read the U disk to store MP3 audio signals.
7. "#" key.
8. The left/right direction keys and the pause key, their functions are as follows:
   Leftward arrow key—mainly used for upward selection, if you press this key during local VOD, it will select the last music in the music list
   Rightward arrow key-mainly used for downward selection, if you press this key during local VOD, it will select the next music in the music list
   Pause-mainly used to pause.
9. Volume plus/minus key, its function is as follows:
   Volume plus key—Press and hold the volume plus key. The volume can be turned up;
   Volume minus key—Press and hold the volume minus key. The volume can be turned down.
10. Return key—It is mainly used to return to the previous step by pressing this key when a wrong selection or input is made.
11. Power switch-mainly used to turn on and off the machine. When the switch is turned ON, the machine will be turned on, and when it is turned OFF, the machine will be turned off.
12. Power indicator light—the LED light is on when the machine is turned on, and the LED is off when the machine is turned off.
13. PROT—Protection indicator.
14. OUTPUT LEVEL—level indicator.
15. Track stop button.
16. FINE—Status indicator.
17. Main menu key-mainly used to set the corresponding function after entering the menu.
18. 0-9 number keys-mainly used for the options corresponding to the home page line, and fill in the track number.
19. IR—Infrared receiving window.
20. TREBLE—Treble, adjust the response of the treble, rotate clockwise to increase the treble output, and vice versa.
21. BASS—bass, adjust the bass response, turn clockwise to increase the bass output, and vice versa.

4.2 Rear panel
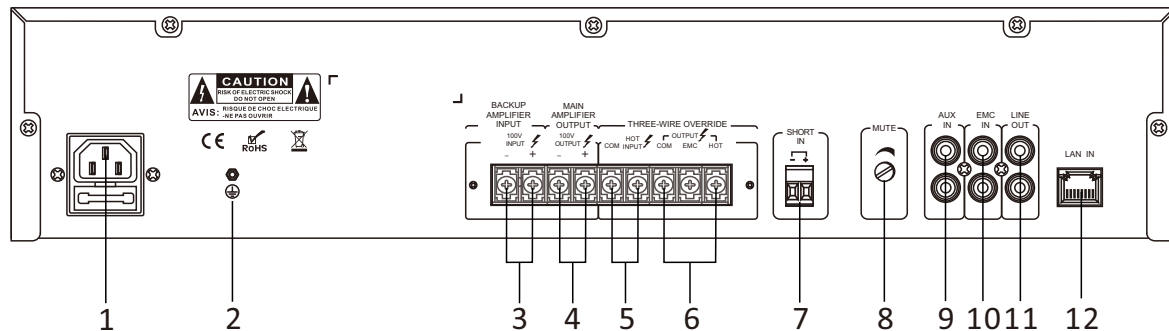
1. AC power input;
2. Case grounding pole;
3. The 100V input port of the standby amplifier is connected to the 100V output terminal of the amplifier;
4. The 100V signal output port of the amplifier can be connected to an external 100V constant voltage speaker;
5. The input port of the three-wire alarm override amplifier is connected to the output end of the amplifier;
6. Three-wire override alarm interface, connect to external three-wire volume controller;
7. Short-circuit signal input port; used to trigger preset voice prompts (or alarms), and can also be used to control access control linkage input short circuit signal
8. The silent potentiometer, when rotated to the rightmost, the mute intensity is the largest, and vice versa.
9. AUX IN — audio source input, unbalanced connection port;
10. EMC—emergency alarm music signal input, once a signal is input to this port, the machine will automatically play the music signal of this channel first;
11. LINE OUT—2-channel line outputs, unbalanced connection port;
12. LAN IN—The network cable connects to the Ethernet port/switch.

※ **Instruction for using the backup function:**
1. Power-off backup function: When the device is powered off, it will automatically switch to the 100V backup input channel.
2. Disconnected network backup function. To realize this function, two conditions need to be met:

① There is no signal input locally (such as AUN IN/EMC/MIC, etc.);

②The machine is in a disconnected state.

When the above conditions are met, the machine will automatically switch to the 100V backup input channel.

The terminal needs to be configured before installation, before installation, need make a installation plan including terminal name, terminal IP address, gateway IP address, server IP address, location of terminal installation, and label the information on the terminal to ensure the convenient use of the device. Please save the plan as an electronic document for future maintenance. After the system planning is completed, please configure parameters of each terminal includes "terminal IP address, subnet mask, gateway and server address".

1. Installing software. Find the IP network broadcast system software installation package, double-click to open it, click on the program "terminal configuration tool", after the installation of the program is completed, as shown below:
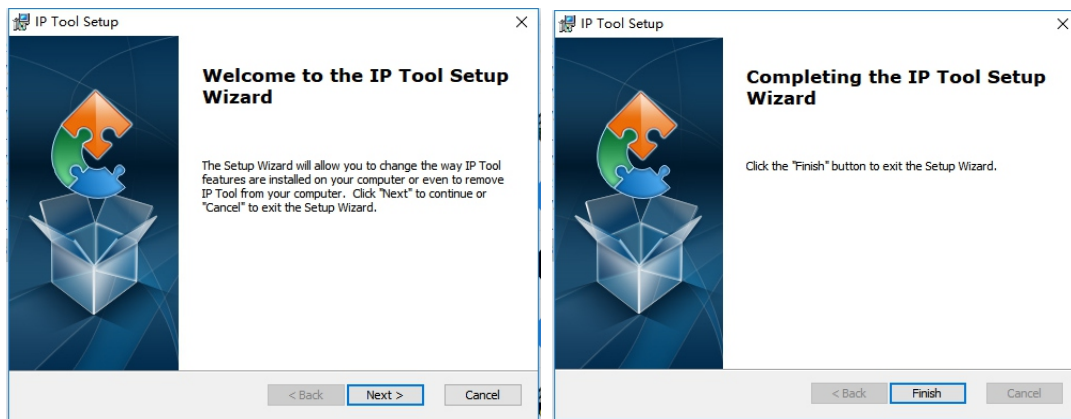
2. After the program is installed, a icon is generated on the desktop, as shown below:

3. Double-click the icon to run, and the "terminal configuration tool" window will pop up, as shown below:
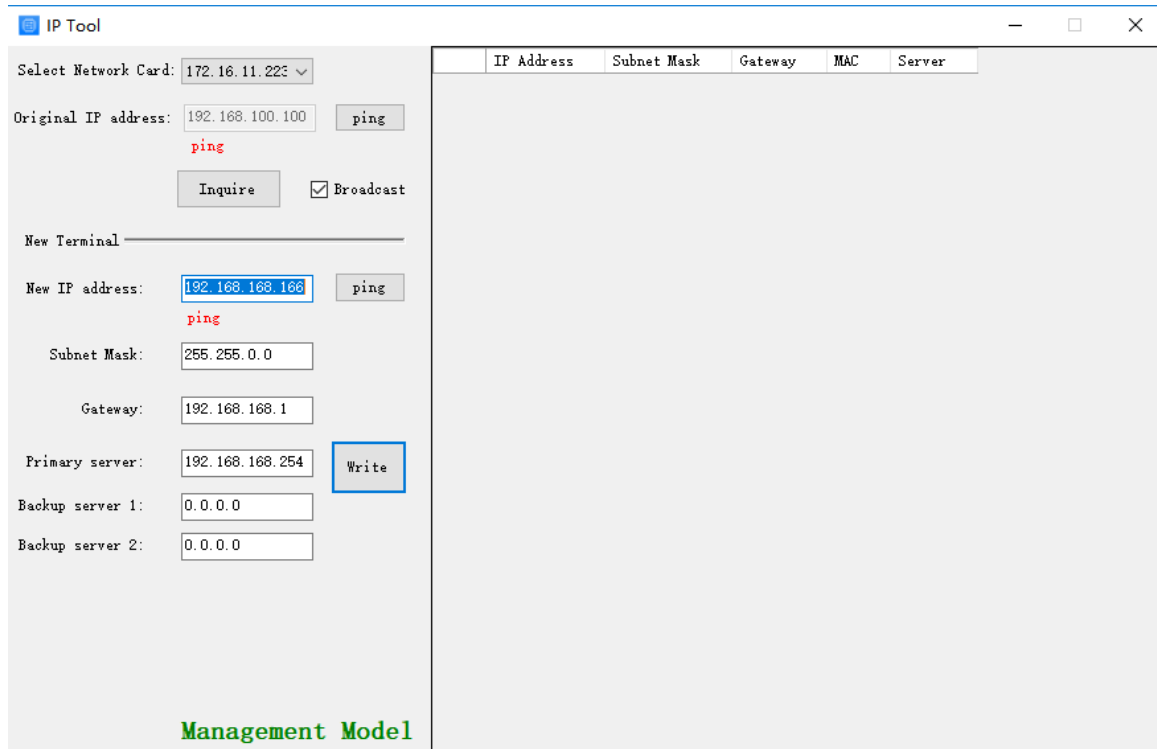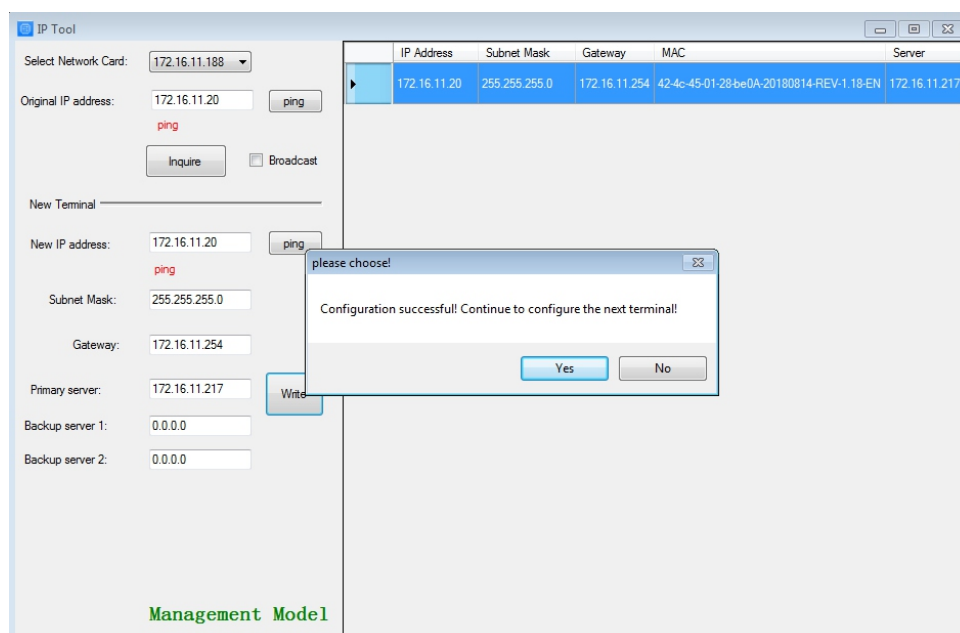
The configuration steps:

Step 1: Connect the terminal and the computer installed with the terminal configuration tool program by the network wire, Plug in the power until the termianl power indicator is on.

Step 2: double-click to open the shortcut icon of " terminal configuration tool", select the network card first, and left-click the "query" button in the window, to query the terminal's original IP address. Please pay attention to: local IP address of the computer should be set in the same network segment as the terminal, because the default IP of terminal is : 192.168.168.166, so the computer's local IP address should also be set to: 192.168.168.X, otherwise it maybe not match the IP terminal address.

Step 3: In the window of "Terminal Configuration Tool" , fill in correct "IP address", "Subnet mask", "Gateway IP" and "Server IP", as below :
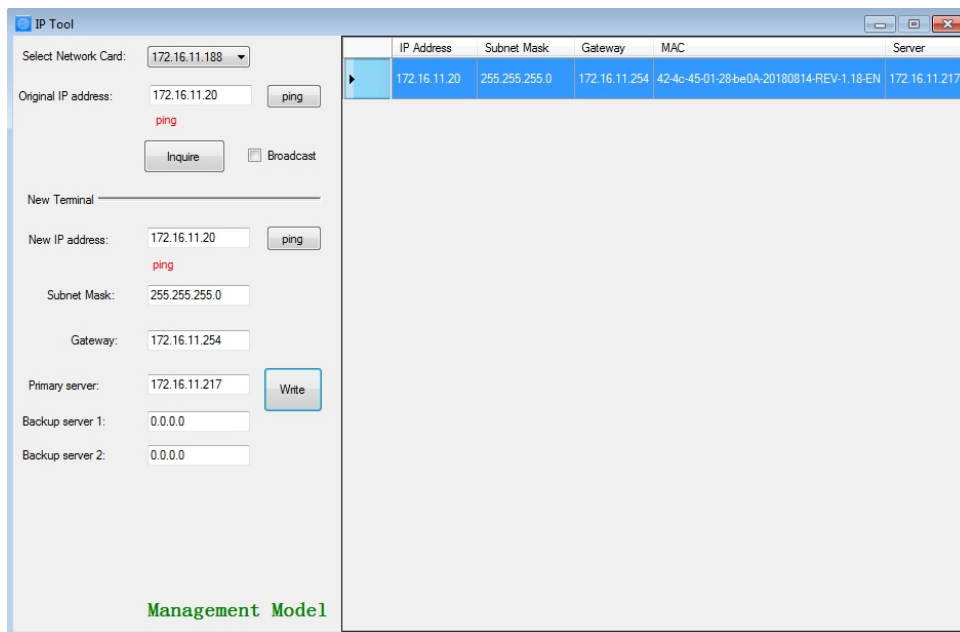

Step 4: left click on the "write" button, there will be a window prompt after the successful configuration; after that, left click on the "query" button, the parameters of the terminal will be re-read by the configuration program, if it display as the same as entered one, means that the configuration was successful.
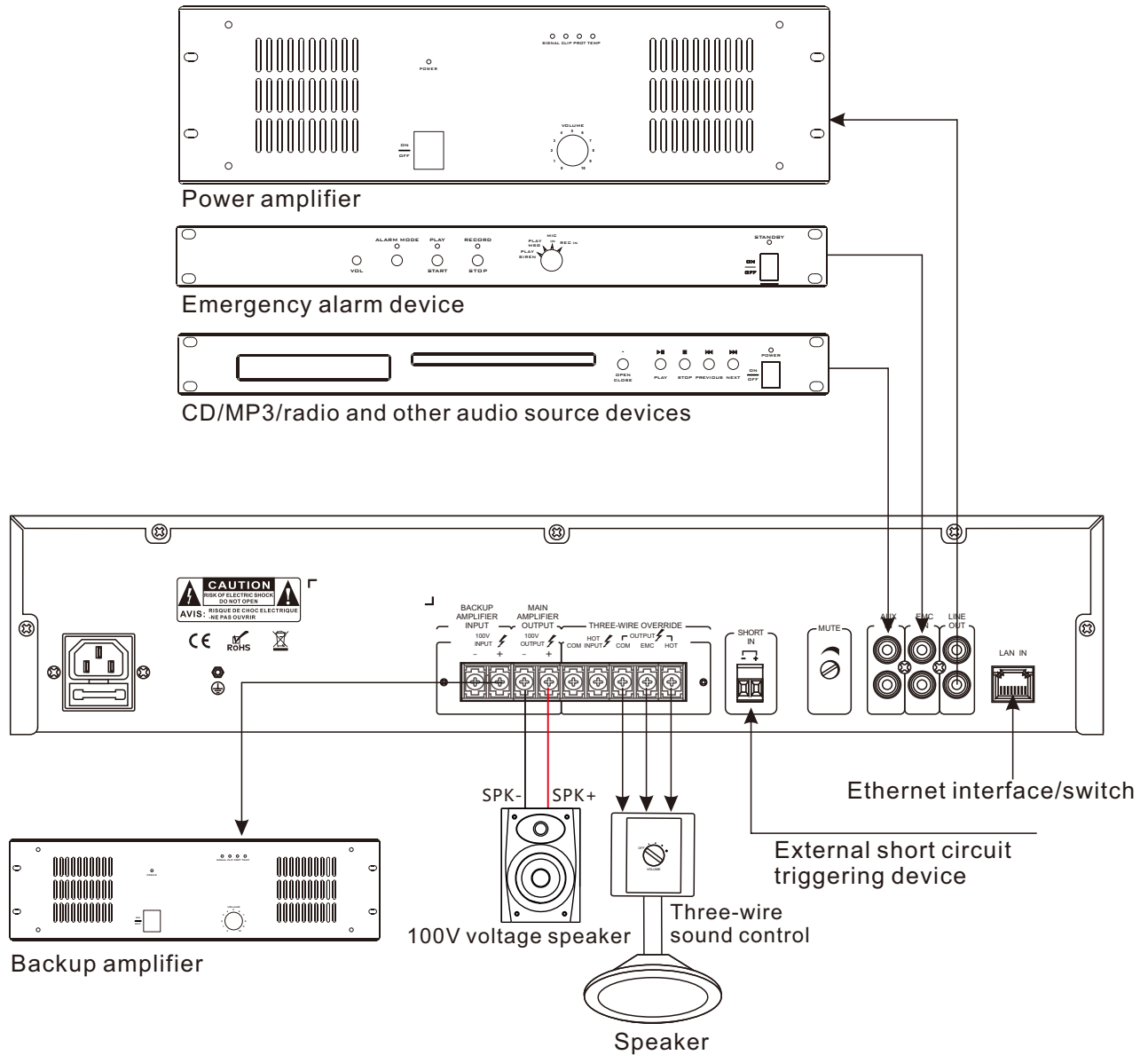
Step 5: If multiple terminals are in the same network segment, you only need to modify the IP address of one terminal, it is needed to click on the terminal in the queried terminals list, then cancel the choice of broadcast on the left interface, modify the IP address and click for configuration.
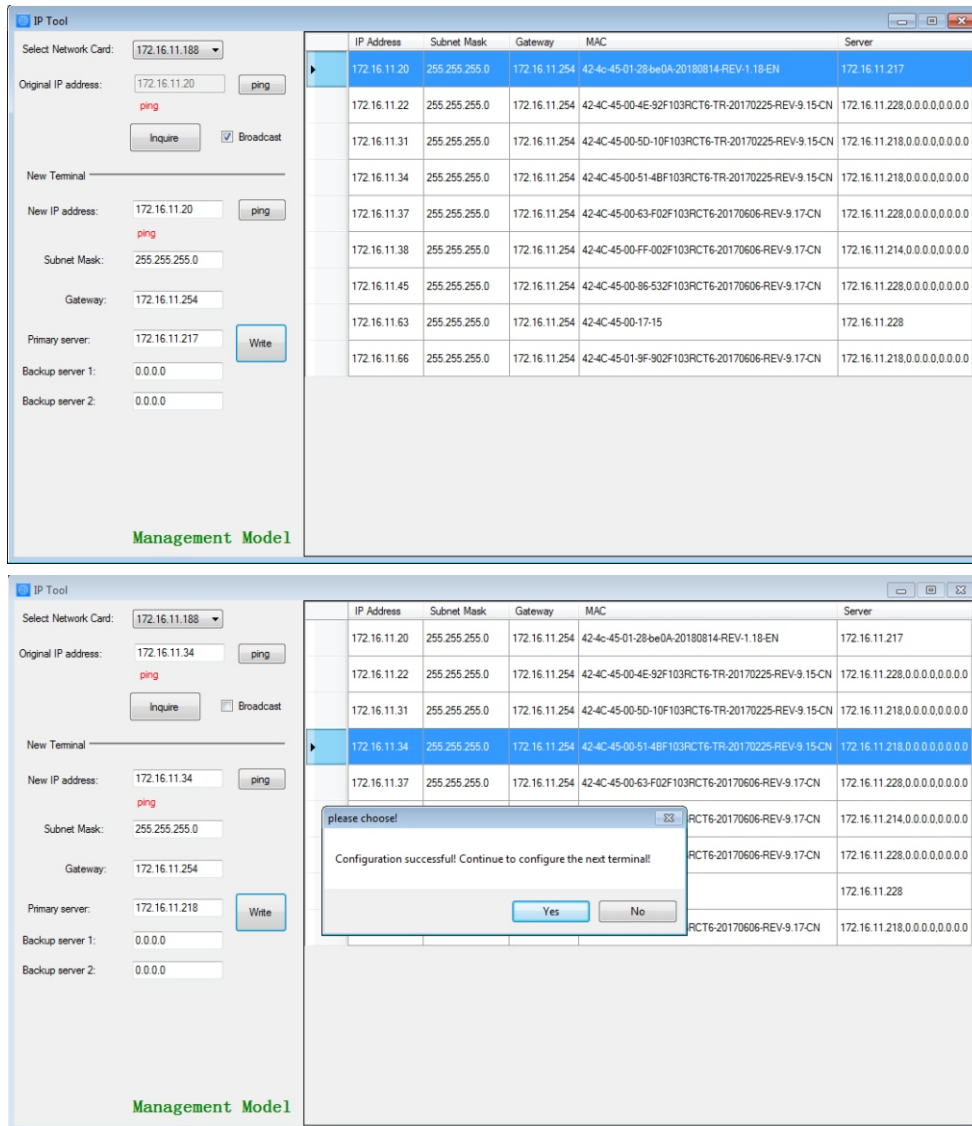
Notes: If the terminal data can't be queried or the network is blocked, the pop-up window will say Reconfigure the IP address or IP adress writing error. In this case, please reconfigure the network, check the network cable, and turn off the firewall, etc.

Power amplifier

Emergency alarm device

CD/MP3/radio and other audio source devices

Backup amplifier

SPK-   SPK+

100V voltage speaker

Three-wire
sound control

Speaker

Ethernet interface/switch

External short circuit
triggering device

Model	T-7760B	T-77120B	T-77240B
Network Interface	RJ45		
Transmission Speed	100Mbps		
Communication Protocol	TCP/IP, UDP		
Audio Format	Mp3		
Audio Mode	16 digit stereo CD sound level		
Sampling Rate	8K~48KHz		
Bit Rate	8K~512Kbps		
EMC Input Sensitivity	775mV (unbalance)		
AUX Input Sensitivity	350mV (unbalance)		
MIC Input Sensitivity	5mV (unbalance)		
AUX output amplitude	1000mV, 1 RCA output		
AUX output impedance	470Ω		
Treble	±10dB		
Bass	±10dB		
Power Output	60W	120W	240W
Power Consumption	90W	180W	370W
Standby Power Consumption	<10W		
Frequency Response	80Hz~16KHz(+1dB, -3dB)		
THD	≤1%		
S/N	≥65dB		
Speaker Output	70V, 100V & 4-16ohms		
Protection	DC output, High temp, overload and short-circuit		
Working Temp	5℃~40℃		
Humidity	20%~80%, Relative humidity, without condensation		
Power Supply	☐ ~110V 50Hz ☐ ~110V 60Hz ☐ ~120V 50Hz ☐ ~120V 60Hz ☐ ~220V 50Hz ☐ ~220V 60Hz ☐ ~230V 50Hz ☐ ~230V 60Hz ☐ ~240V 50Hz ☐ ~240V 60Hz		
Dimensions	484x359x88mm		
Weight	6.6Kg	6.8Kg	6.9Kg

Model	T-77350B	T-77500B	T-77650B
Network Interface	RJ45		
Transmission Speed	100Mbps		
Communication Protocol	TCP/IP, UDP		
Audio Format	Mp3		
Audio Mode	16 digit stereo CD sound level		
Sampling Rate	8K~48KHz		
Bit Rate	8K~512Kbps		
EMC Input Sensitivity	775mV (unbalance)		
AUX Input Sensitivity	350mV (unbalance)		
MIC Input Sensitivity	5mV (unbalance)		
AUX output amplitude	1000mV, 1 RCA output		
AUX output impedance	470Ω		
Treble	±10dB		
Bass	±10dB		
Power Output	350W	500W	650W
Power Consumption	540W	750W	900W
Standby Power Consumption	<10W		
Frequency Response	80Hz~16KHz(+1dB, -3dB)		
THD	≤1%		
S/N	≥65dB		
Speaker Output	70V, 100V & 4-16ohms		
Protection	DC output, High temp, overload and short-circuit		
Working Temp	5℃~40℃		
Humidity	20%~80%, Relative humidity, without condensation		
Power Supply	☐ ~110V 50Hz ☐ ~110V 60Hz ☐ ~120V 50Hz ☐ ~120V 60Hz ☐ ~220V 50Hz ☐ ~220V 60Hz ☐ ~230V 50Hz ☐ ~230V 60Hz ☐ ~240V 50Hz ☐ ~240V 60Hz		
Dimensions	484x359x88mm		
Weight	7Kg	7.1Kg	7.3Kg

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