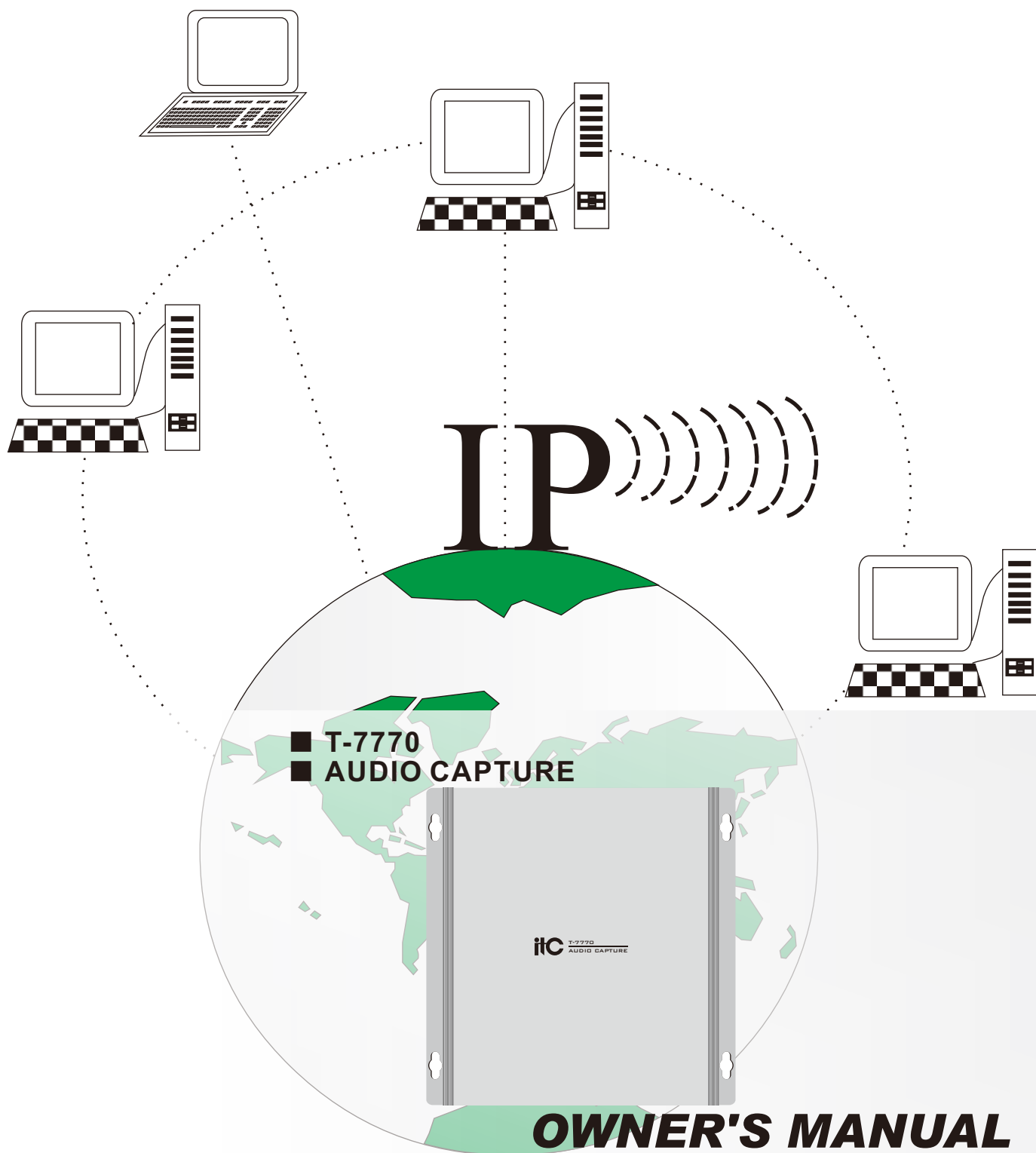


# itC *IP NETWORK PA SYSTEM*



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.

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# 1. SAFETY PRECAUTIONS

- 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.

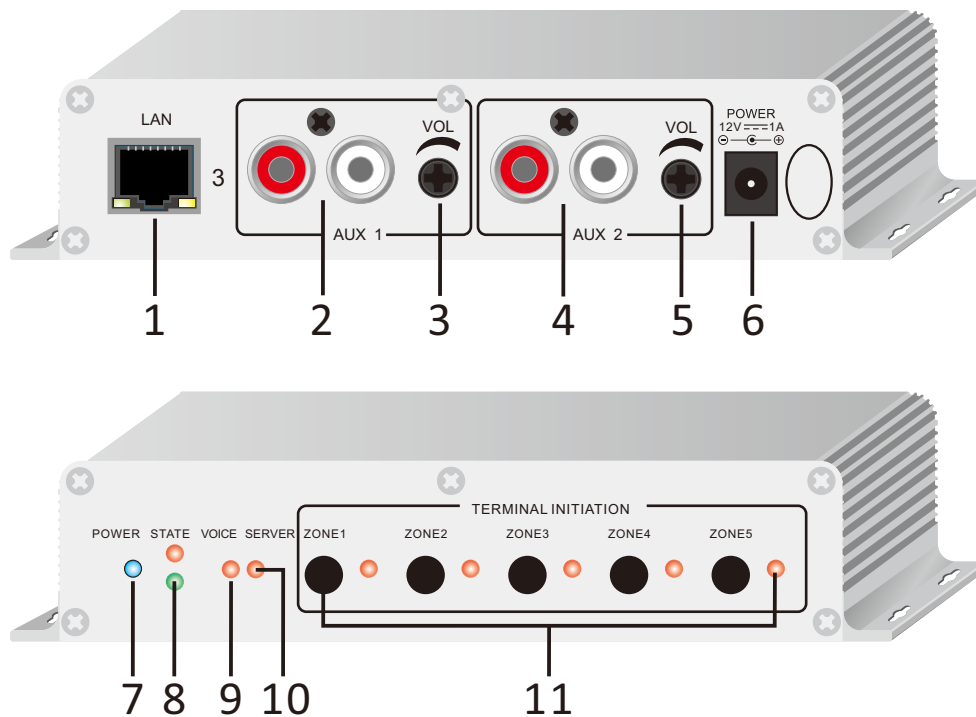
## 2. APPLICATION

The network collector is specially designed for the IP PA system to collect external analog audio signals. It can encode the analog audio into digital audio, which can be transmitted to the terminals of designated areas to play through the network.

## 3. FEATURES

1. All-aluminum shell technology, sturdy and durable materials, compact and exquisite appearance .
2. Adopt embedded computer technology and DSP audio processing technology.
3. Built-in 1 network hardware audio coding module; support TCP/IP and UDP protocols to realize network transmission of 16-bit CD quality audio signal.
4. Two sets of built-in RCA input terminals, with input volume adjustment; flexibly adapt to various audio devices with different sensitivities, and support input audio compression function.
5. Support 5-zone independent triggering to turn on or off the collector. The panel has 5 zone triggering buttons and indicator lights.
6. Support timed and temporary audio collection and playback tasks. The order of the tasks can be preset through the server.
7. Three kinds of collection and playback modes: "normal collection and playback", "intermediate collection and playback" and "advanced collection and playback". The normal mode can obtain network collection effect with ultra-low latency; the intermediate mode can obtain network collection effect with low-latency and general sound quality; the advanced mode can obtain network collection effect with extremely low distortion.
8. Support all network structures such as router, switch, network bridge and gateway, Modem, Internet, 2G, 3G, and 4G.
9. Support the PA system to upgrade the remote terminal firmware, and do not need to upgrade the terminal locally, reducing the work of maintenance personnel.

## 4. NOMENCLATURE AND FUCTIONS

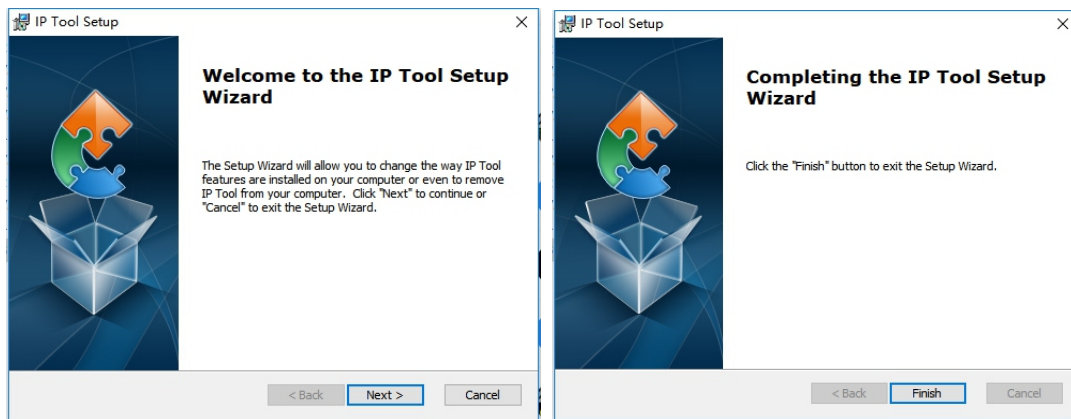


- 1) LAN: connect to the network interface.
- 2) AUX1: cable signal input; L/R input sensitivity is 350mV respectively.
- 3) VOL 1: volume adjustment of cable signal input.
- 4) AUX2: cable signal input; L/R input sensitivity is 350mV respectively.
- 5) VOL 2: volume adjustment of cable signal input.
- 6) POWER: power input socket, with external DC adapter DC12V/1A.
- 7) POWER: power indicator light.
- 8) STATE: state indicator; red and green alternately flash slowly when the collector is idle.
- 9) VOICE: signal status light; the light will be on when the AUX signal is detected.
- 10) SERVER: start collecting; the light will be on when the collection task is performed.
- 11) Terminal initiation: a selection of zone 1~5; terminal button initiates collection tasks, and the zone indicator light will be on, indicating that the zone is performing collection tasks.

## 5. TERMINAL CONFIGURATION OPERATING INSTRUCTIONS

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”.

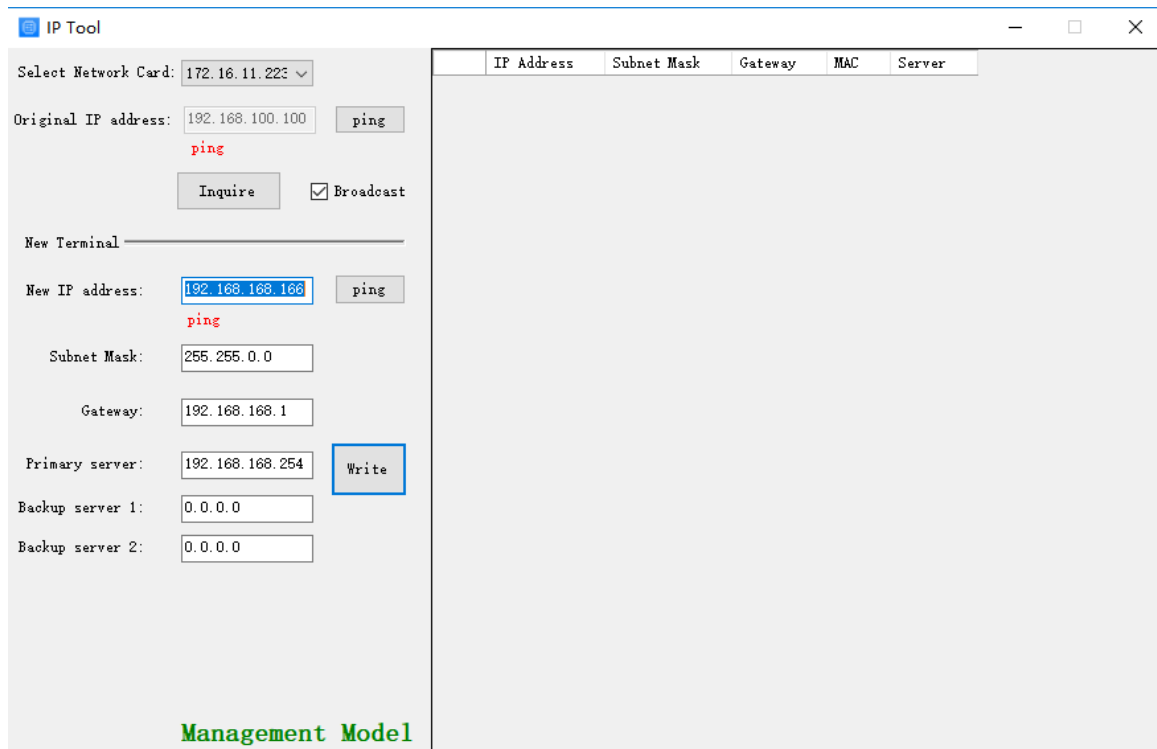
1. Installing software. Find the IP network broadcast system software installation package, double-click to open it, click on the program “terminal configuration tool”, after the installation of the program is completed, as shown below:



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:



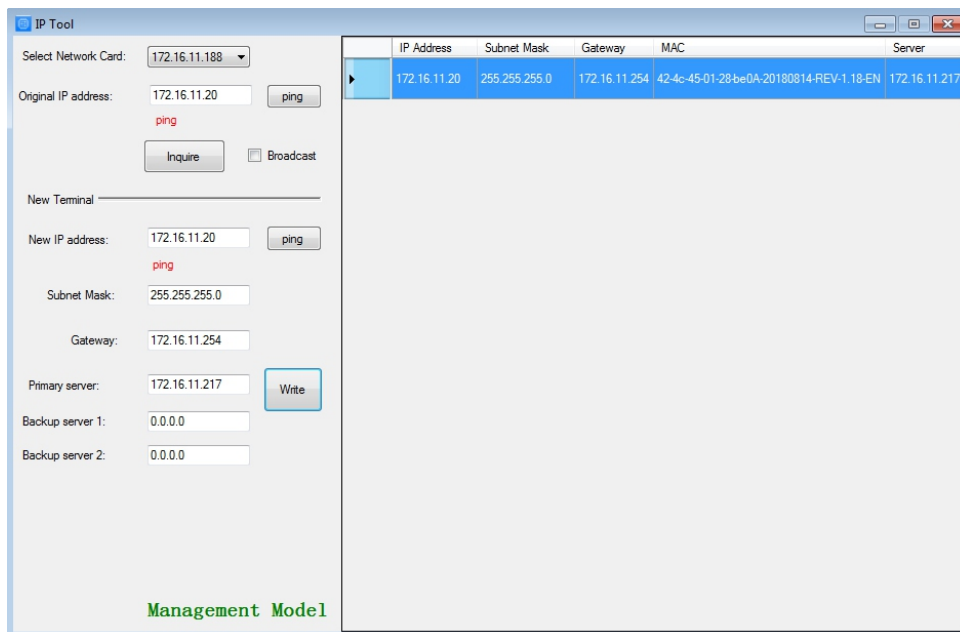
## 5. TERMINAL CONFIGURATION OPERATING INSTRUCTIONS

The configuration steps:

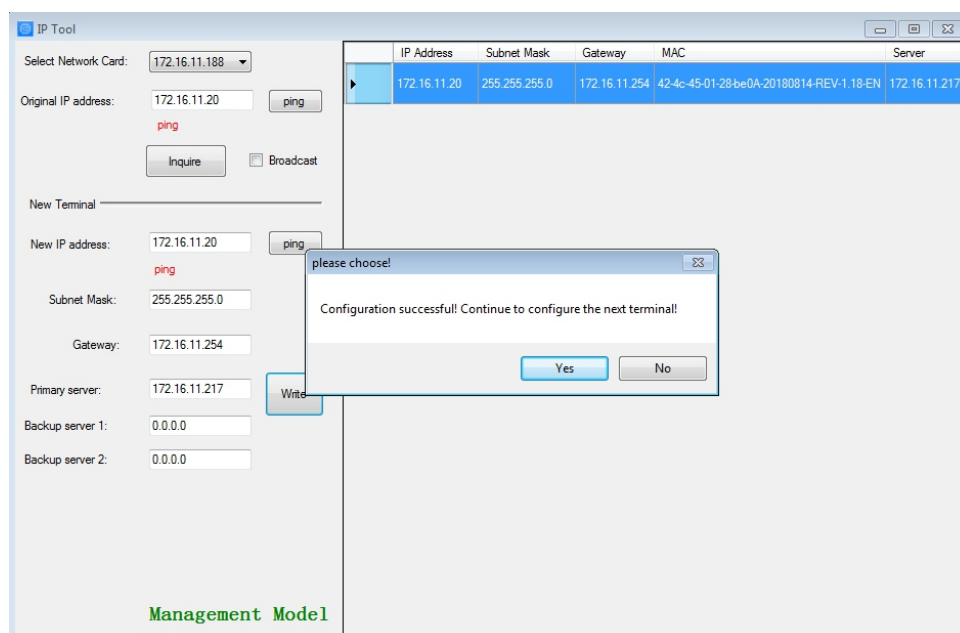
Step 1: Connect the terminal and the computer installed with the terminal configuration tool program by the network wire, Plug in the power until the terminal power indicator is on.

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.





## 5. TERMINAL CONFIGURATION OPERATING INSTRUCTIONS

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.

The IP Tool interface consists of a configuration panel on the left and a terminal list table on the right.

**Configuration Panel (Left):**

- Select Network Card: 172.16.11.188
- Original IP address: 172.16.11.20 (with ping and inquire buttons)
- Broadcast
- New Terminal section:
- New IP address: 172.16.11.20 (with ping button)
- Subnet Mask: 255.255.255.0
- Gateway: 172.16.11.254
- Primary server: 172.16.11.217 (with Write button)
- Backup server 1: 0.0.0.0
- Backup server 2: 0.0.0.0

**Terminal List Table (Right):**

IP Address	Subnet Mask	Gateway	MAC	Server
172.16.11.20	255.255.255.0	172.16.11.254	42-4c-45-01-28-be0A-20180814-REV-1.18-EN	172.16.11.217
172.16.11.22	255.255.255.0	172.16.11.254	42-4c-45-00-4E-92F103RCT6-TR-20170225-REV-9.15-CN	172.16.11.228.0.0.0.0.0.0.0.0
172.16.11.31	255.255.255.0	172.16.11.254	42-4c-45-00-5D-10F103RCT6-TR-20170225-REV-9.15-CN	172.16.11.218.0.0.0.0.0.0.0.0
172.16.11.34	255.255.255.0	172.16.11.254	42-4c-45-00-51-48F103RCT6-TR-20170225-REV-9.15-CN	172.16.11.218.0.0.0.0.0.0.0.0
172.16.11.37	255.255.255.0	172.16.11.254	42-4c-45-00-63-F02F103RCT6-20170606-REV-9.17-CN	172.16.11.228.0.0.0.0.0.0.0.0
172.16.11.38	255.255.255.0	172.16.11.254	42-4c-45-00-FF-002F103RCT6-20170606-REV-9.17-CN	172.16.11.214.0.0.0.0.0.0.0.0
172.16.11.45	255.255.255.0	172.16.11.254	42-4c-45-00-86-532F103RCT6-20170606-REV-9.17-CN	172.16.11.228.0.0.0.0.0.0.0.0
172.16.11.63	255.255.255.0	172.16.11.254	42-4c-45-00-17-15	172.16.11.228
172.16.11.66	255.255.255.0	172.16.11.254	42-4c-45-01-9F-902F103RCT6-20170606-REV-9.17-CN	172.16.11.218.0.0.0.0.0.0.0.0

**Pop-up Dialog Box (Bottom Screenshot):**

please choose!

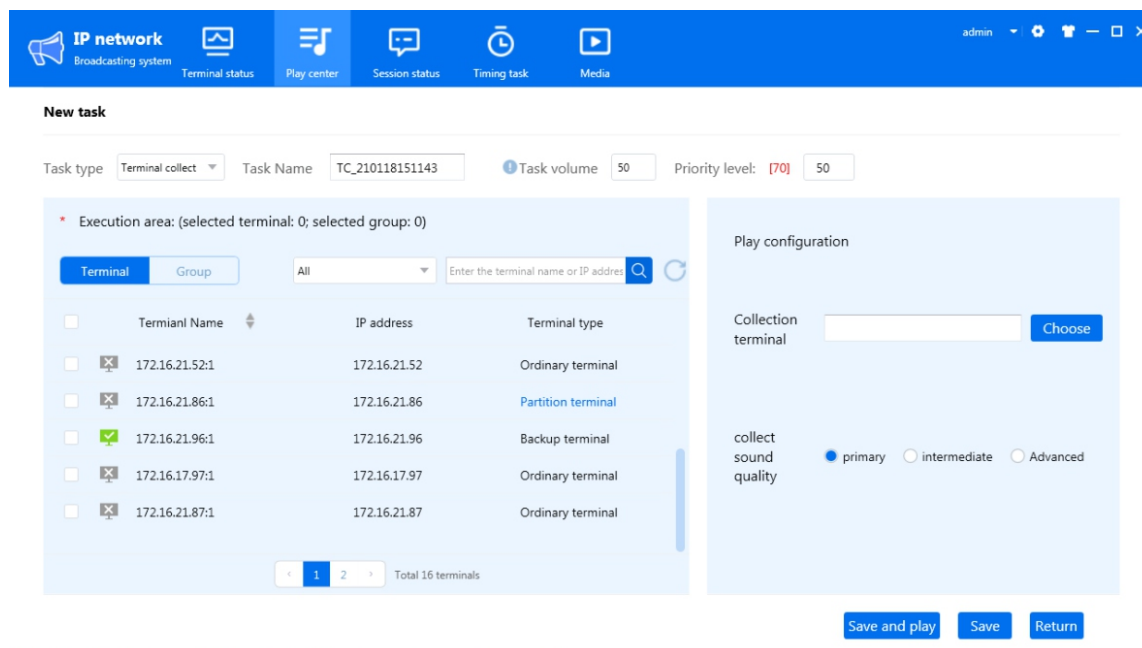
Configuration successfull. Continue to configure the next terminal!

Yes No

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 address writing error. In this case, please reconfigure the network, check the network cable, and turn off the firewall, etc.

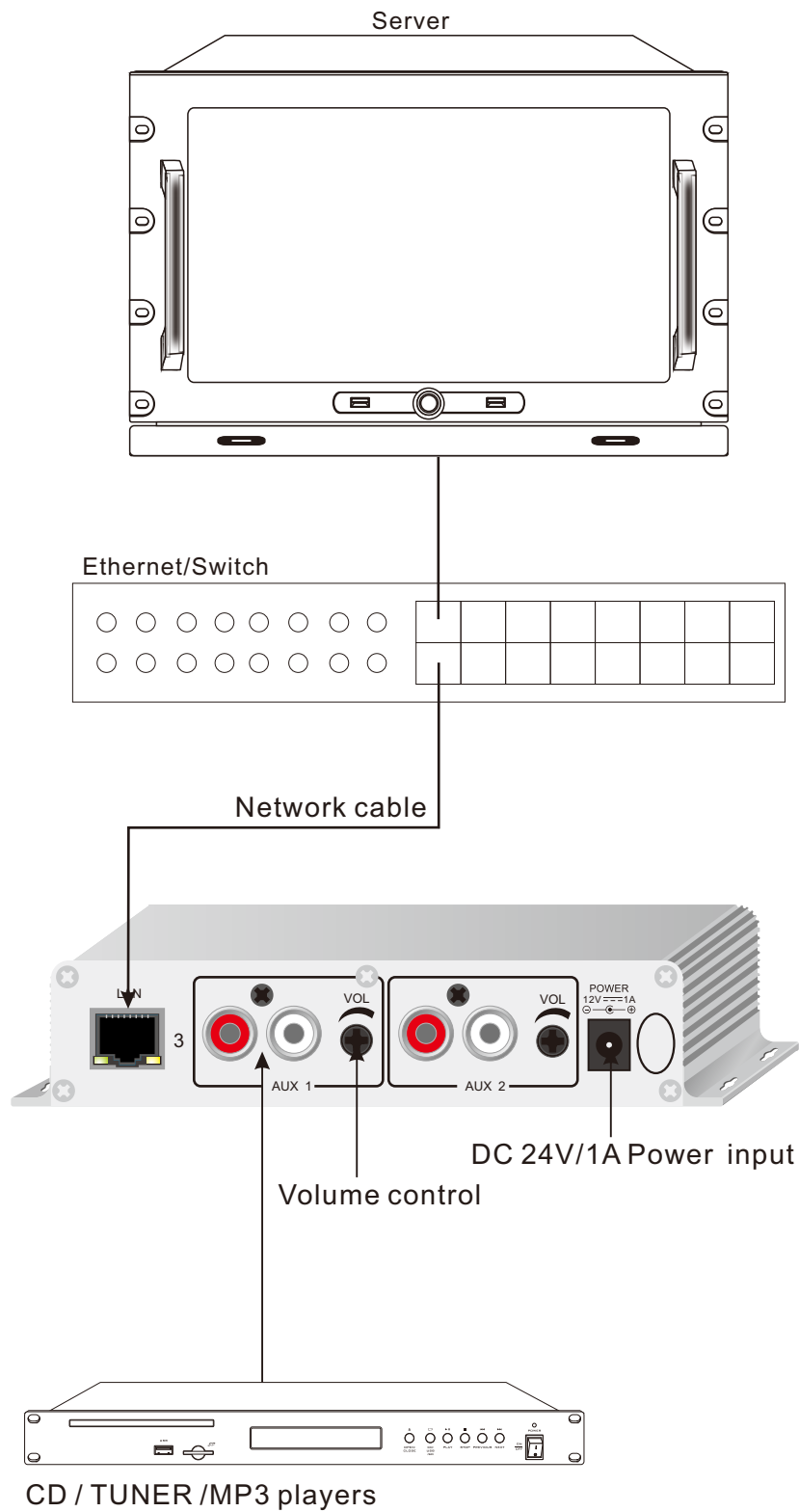
## 6. PLAYBACK CENTER

In the playback center of the PC software, select terminal collection as the playback mode, as shown in the following:

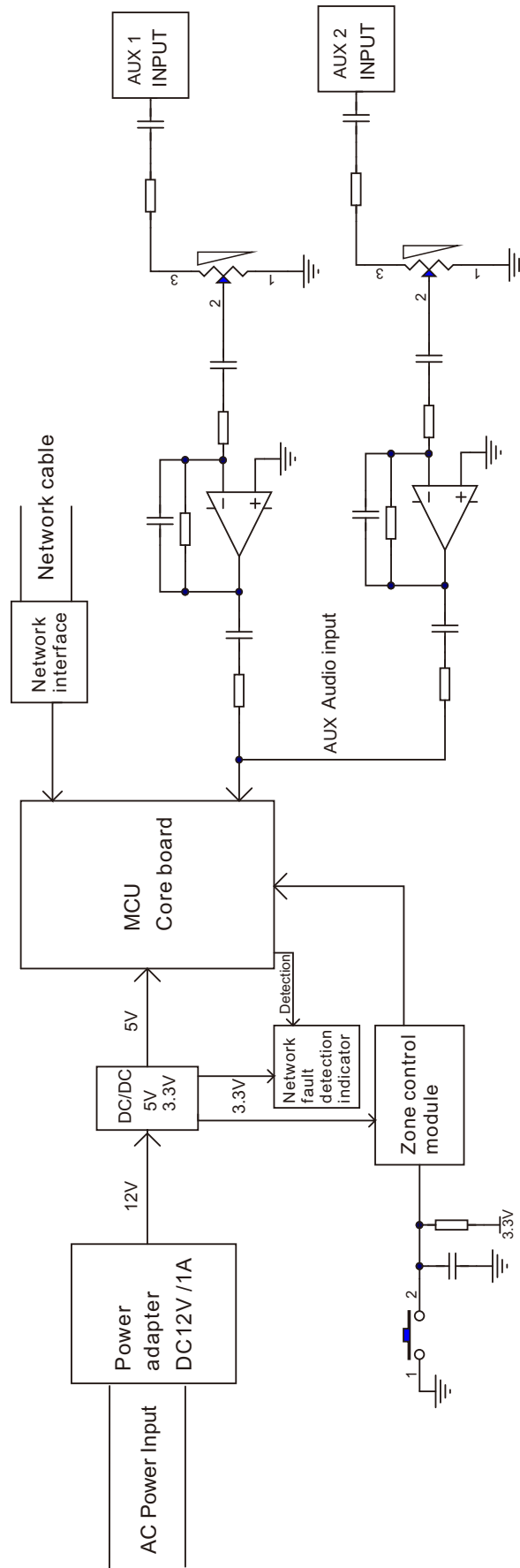


1. Task name: the name of user's new playback task (such as BGM collection), can be edited according to the actual requirement(required).
2. Task type: click the triangle arrow to select the type (terminal collection).
3. Task volume: check it as the task performing volume; when it is unchecked, the default volume of the terminal is used.
4. The terminal to be selected.
5. The terminal has been selected by this task.
6. Power-control zone. This function is the zone selection function for terminal with 8 zones (please ignore the terminal without 8 zones); click the selected terminal and check the zone task that needs to be performed.
7. Collection terminal: select the audio collector terminal.
8. Two collection modes: "normal collection and playback" and "intermediate collection and playback".
  - 1) Normal mode: based on 100M network bandwidth, it can only support a maximum of 300 terminals, and can obtain network audio collection effect with extremely low latency.
  - 2) Intermediate mode: based on 100M network bandwidth, it can only support a maximum of 200 terminals, and can obtain network collection effect with low latency and general sound quality.
9. Save the new task.

## 7. WIRING DIAGRAM



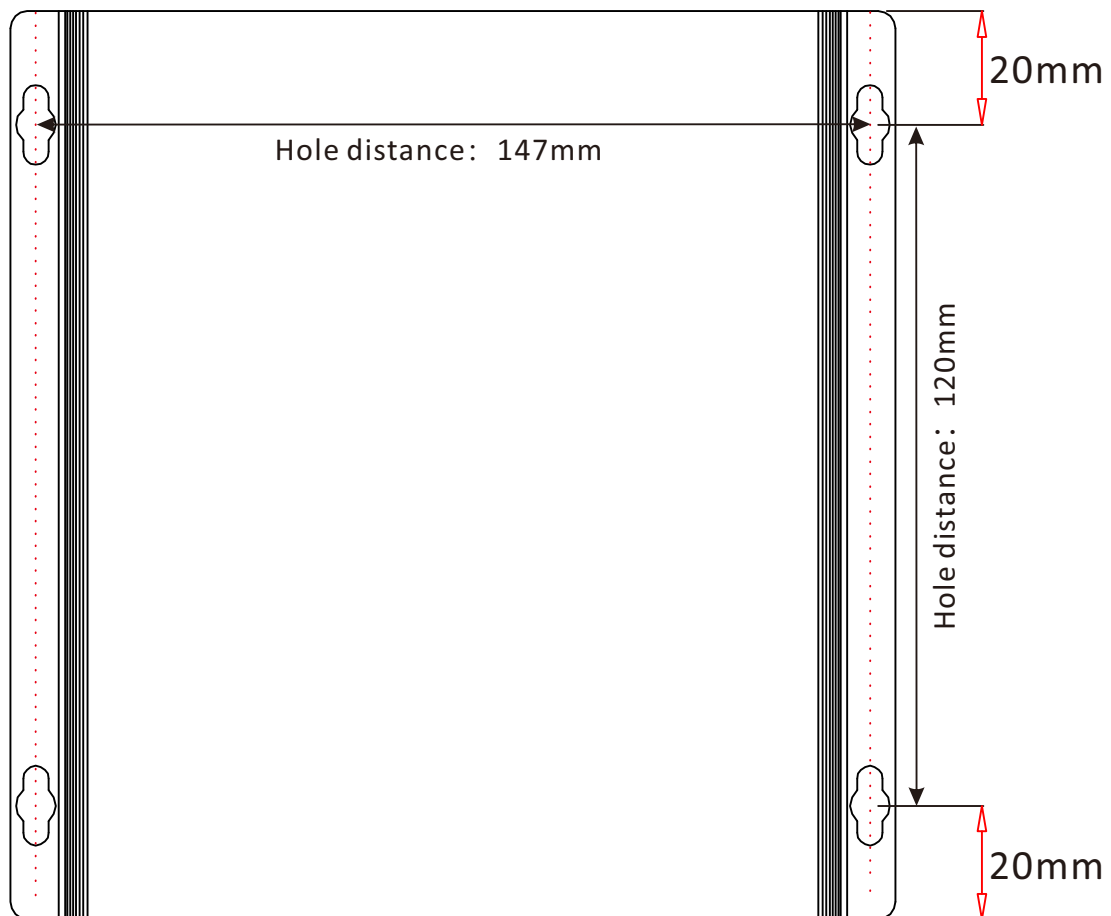
## 8. BLOCK DIAGRAM



## 9. SPECIFICATIONS

Model	T-7770
Network interface	Standard RJ45 input
Protocol	TCP/IP, UDP
Audio format	MP3、PCM
Sampling rate	8KHz~48KHz
Transmission rate	100Mbps
Audio mode	ADPCM PCM
Input frequency	80Hz~16KHz +1/-3dB
THD	≤0.3%
SNR	>65dB
Environment temperature	5°C ~40°C
Environment humidity	20% ~ 80% relative humidity, no condensation
Power consumption	≤10W
Input power	DC12V/1A
Size	165×156×33mm
Weight	0.5Kg

## 10. INSTALLATION METHOD



### Installation :

- 1) Drill four holes in the wall;
- 2) Insert four colloidal particles into the holes in sequence;
- 3) Pass four M4 tapping screws through the opening and fixing rubber hose of the mounting plate and fix them;
- 4) Align two M6 screws with the openings on the back of the machine and fix them;
- 5) Align the openings on the back of the mounting plate with the M6 screws that have been fixed to the machine and fix the plate.

# IP NETWORK PA SYSTEM

Version 0.1

