

# itC *IP NETWORK PA SYSTEM*



**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.

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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

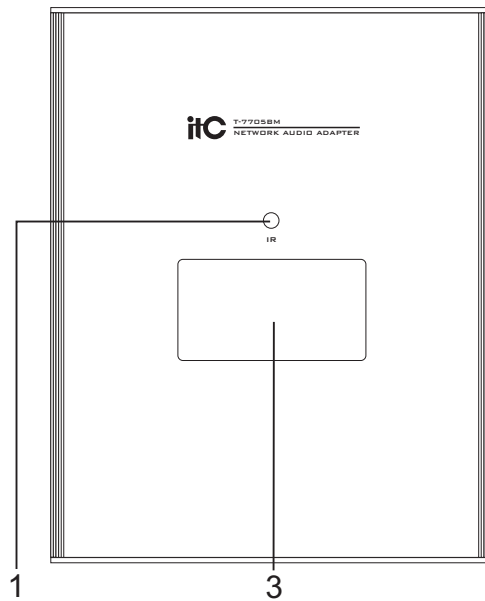
Applicable to schools, office buildings, conference centers, alarm centers, station lounges and other demand for amplifying places. The use of digital network transmission, playback background music set in the system, regular ringing tasks, collection of audio sources, one-way call and other functions.

## 3. FEATURES

1. Standard wall-mounted, compact size, aluminum alloy one-piece structure design, exquisite and beautiful, elegant craftsmanship, show high-grade quality.
2. 3.4-inch LCD display shows at a glance and has an infrared remote control for quick and easy operation.
3. The device is designed with embedded computer technology and DSP audio processing technology.
4. The built-in network IP decoding module can broadcast network music and call functions in real time; the network delay time for collecting and playing and calling work is less than 100ms.
5. Built-in high performance main/standby switching detection module, the main/standby switching time of disconnection and power down is less than 0.3 seconds, and the time of on-line power backup/master switching is less than 0.3 seconds.
6. Built-in on-demand acquisition module, can achieve real-time on-demand audio network media library capabilities.
7. Built-in 2×30W digital amplifier, fever and higher efficiency, CD-quality perfect sound quality.
8. One microphone input, one line input, suitable for on-site local PA broadcasting function.
9. Priority function:
  - 1) The network alarm is the highest priority.
  - 2) The local MIC and AUX are at the same level as network background music.
10. Compatible with any network structure such as routers, switches, bridge gateways, modems, Internet, 2G, 3G, 4G, multicast, and unicast.
11. Host and microphone automatically match the connection distance  $\leq 3$  meters, matching connection time  $\leq 3$  seconds.
12. Charging function, with charging management, support charging and work at the same time, charging with MicroUSB port, universal mobile phone charger.
13. Built-in 2.4G wireless audio module, transmission frequency: 2.400-2.53MHz, high fidelity, good anti-interference. For the industry's highest 64K@16bit×2, with HDCD sound quality, the best sound quality. Sound delay ( $< 0.5$ ms). Response frequency: 80Hz-16KHz.
14. 2.4G microphone volume supports volume adjustment function; built-in microphone reverb function. With laser pointer and PTT turning function.
15. To achieve encrypted transmission, the receiver supports automatic sweep function, easily avoiding interference.
16. The frequency range (power) can be set by itself.
17. With recording function.
18. Effective use distance up to 10 meters.
19. Digital products, easy expansion, without geographical restrictions, no need to increase the equipment room management equipment, the use of a common network from the design concept of line construction, easy installation.

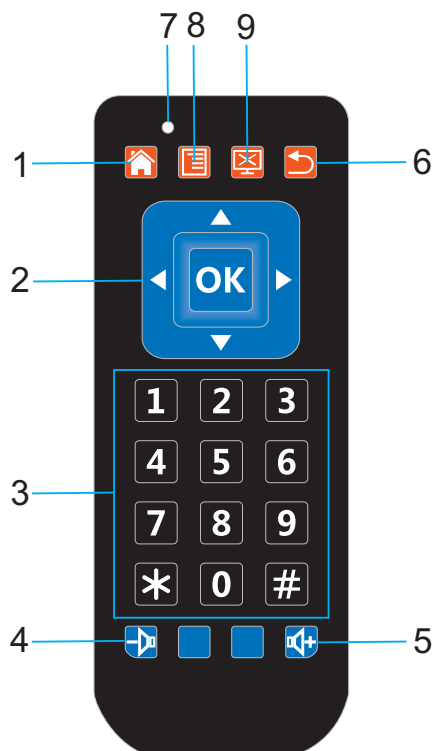
## 4. NOMENCLATURE AND FUCTIONS

### 4.1 Front panel



1. Infrared receiver, remote receiver port
2. The display shows all the current operating functions

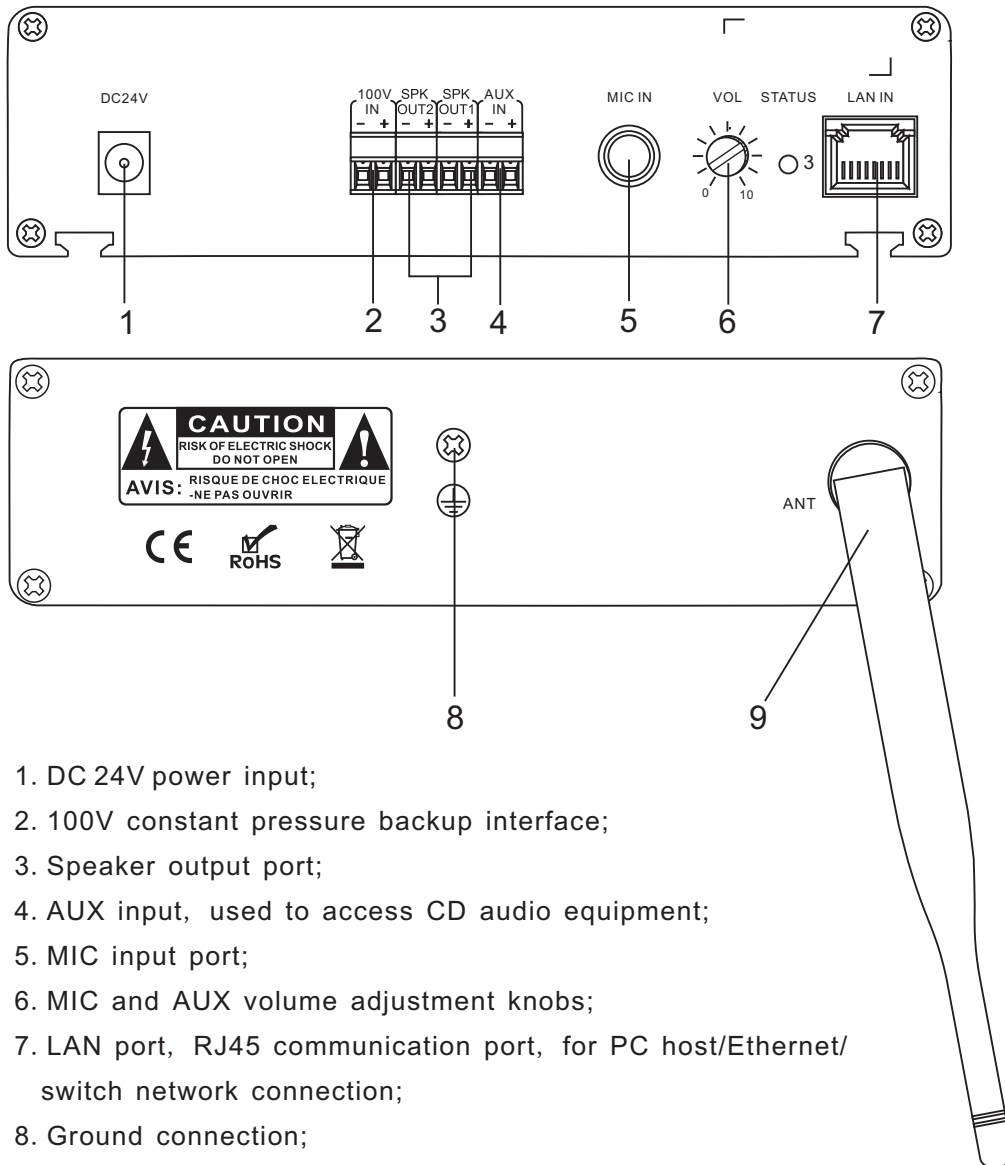
### 4.2 Remote control



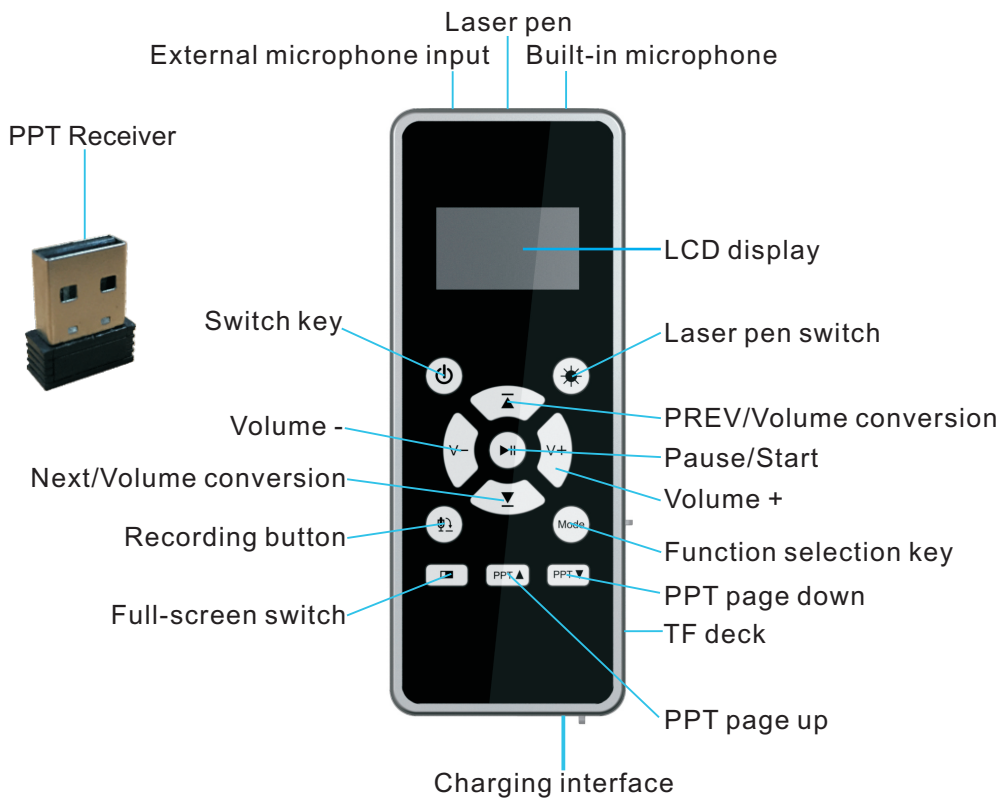
1. Back to Main Menu
2. Confirm button/up/down/left/right select direction button
3. Number button 0-9, button\*, button#
4. Volume reducing button
5. Volume increasing button
6. Return button
7. Work status indicator
8. Reserved function button
9. Stop button

## 4. NOMENCLATURE AND FUCTIONS

### 4.3 Side panel



## 5. 2.4G MULTI-FUNCTION MICROPHONE



1. LCD display: mainly display the volume, power, charging state, laser light state, PPT connection state, TF card music display.
2. Laser pen switch: Push to turn on and off laser pen (flash function).
3. PREV / volume conversion: press this button under MP3 mode, track descending, press this button under adjusting volume mode, MIC and MP3 volume can be conversion.
4. Pause / start: MP3 play/pause and menu confirmation key, work as confirmation key after entering menu; Long press means mute or turn on MIC.
5. Volume +: MP3 / MIC volume increase button: Press this button, volume ascending (press the volume key, LCD sequentially display MIC, MP3, volume on 1<sup>st</sup> row, display figure on 2<sup>nd</sup> row, display volume bar on 3<sup>rd</sup> row).
6. Function selection key: Function sets selection, play mode sets selection/ microphone reverberation setting, system setting, Chinese English setting and others.
7. PPT page down: Press this button and computer PPT page down.
8. PPT page up: Press this button and computer PPT page up.
9. Charging interface: for connecting power adapter to charge.
10. Full-screen switch: press this key, computer PPT can play and exit full-screen playback.
11. Recording button: MIC recording function, can save recording files in the TF card, and choose to play. Press this button to start and exit recording operations.
12. Next/volume conversion: press this button under MP3 mode, track ascending, press this button under adjusting volume mode, MIC and MP3 volume can be conversion.
13. Volume -: MP3 / MIC volume down button: Press this button, volume decreasing (press volume key, LCD sequentially display MIC, MP3, volume on 1<sup>st</sup> row, display figure on 2<sup>nd</sup> row, display volume bar on 3<sup>rd</sup> row).
14. Switch key: Long press this key 3 seconds to start up, under start up state, long press 3 seconds to turn off.



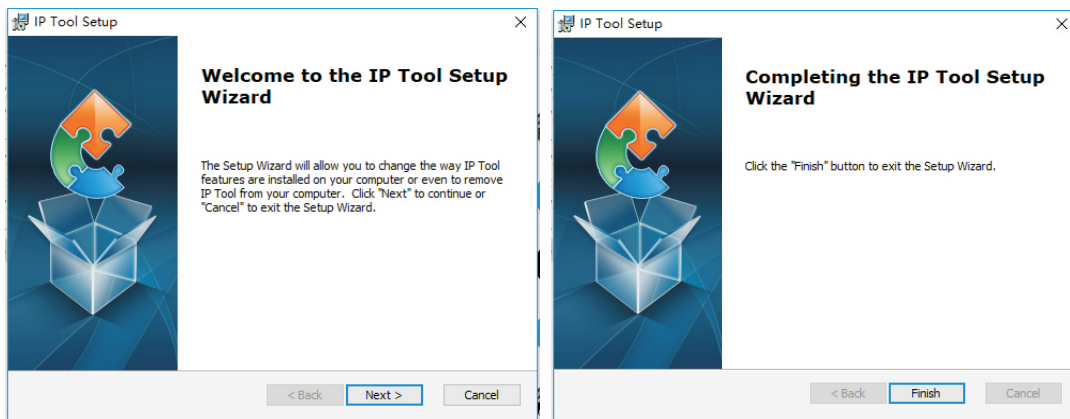
## 5. 2.4G MULTI-FUNCTION MICOPHONE

15. PPT Receiver: for inserting into computer USB. After turn on MIC PPT function, long press PPT▼/ PPT▲ button to pairing code , after successful pairing can start computer PPT control.
16. External microphone input: When the user wants to use an external microphone, can insert this interface to use, has priority to built-in MIC, when using this function, built-in MIC is mute.
17. Laser pen: by using this laser pen to open and close.
18. Built-in microphone: Built-in microphone can be adjusted to the appropriate volume for using.
19. TF deck: can read TF card, play MP3 inside TF card.

## 6. 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”.

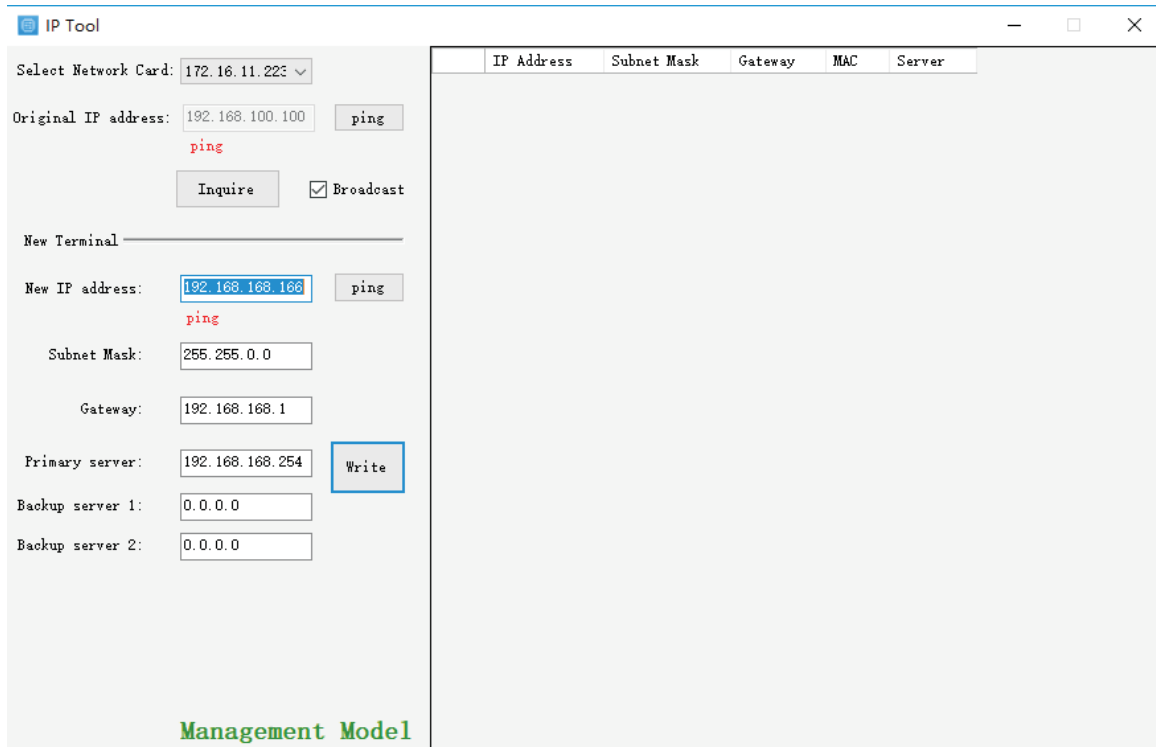
1. Installing software. Find the IP network broadcast system software installation package, double-click to open it, click on the program “terminal configuration tool”, after the installation of the program is completed, as shown below:



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:



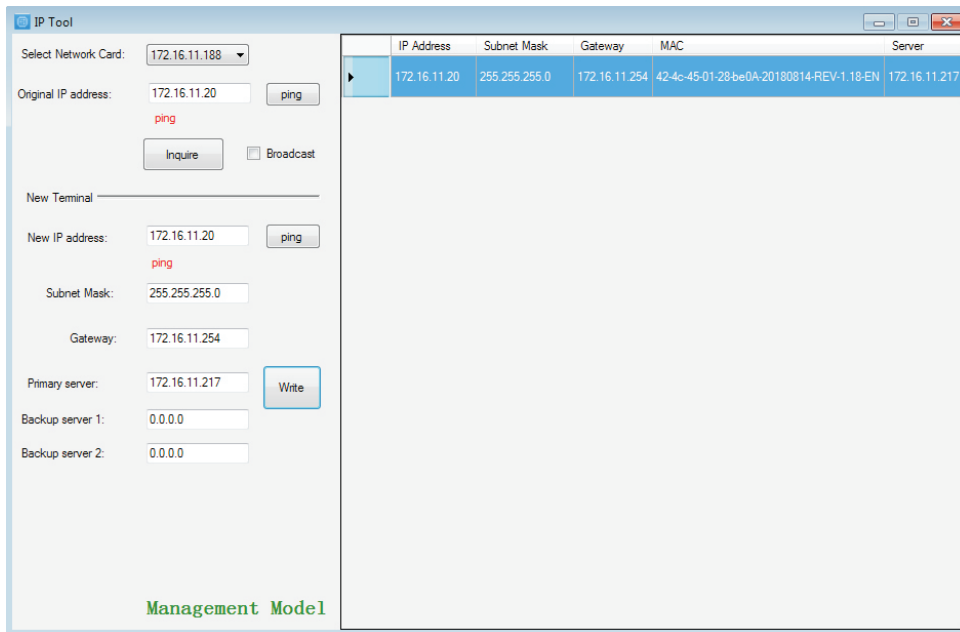
## 6. TERMINAL CONFIGURATION OPERATING INSTRUCTIONS

The configuration steps:

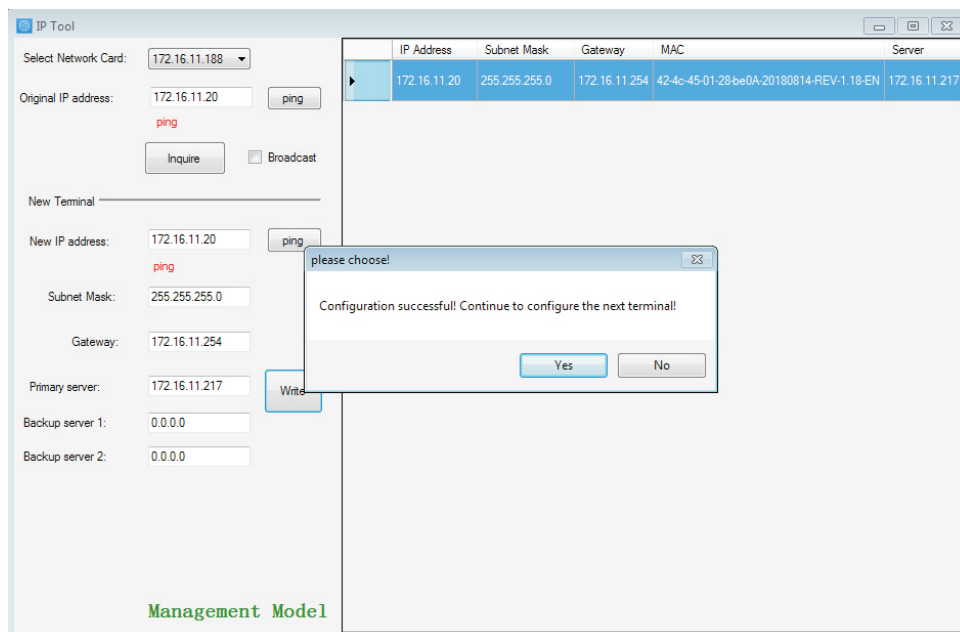
Step 1: Connect the terminal and the computer installed with the terminal configuration tool program by the network wire, Plug in the power until the terminal power indicator is on.

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.



## 6. 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.

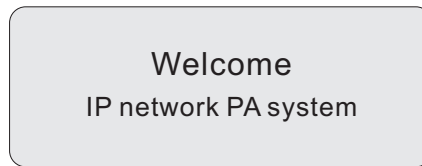
The IP Tool interface consists of a configuration panel on the left and a data table on the right. The configuration panel includes fields for network card selection, original and new IP addresses, subnet mask, gateway, and primary/backup servers. The data table lists terminal information including IP Address, Subnet Mask, Gateway, MAC, and Server.

| 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 |
| 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 |
| 172.16.11.34 | 255.255.255.0 | 172.16.11.254 | 42-4c-45-00-51-4BF103RCT6-TR-20170225-REV-9.15-CN | 172.16.11.218.0.0.0.0.0.0.0 |
| 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 |
| 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 |
| 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 |
| 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 |

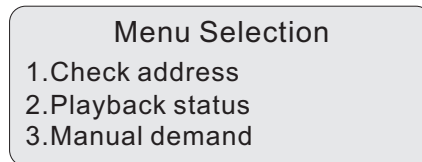
Notes: If the terminal data can't be queried or the network is blocked, the pop-up window will say Reconfigure the IP address or IP address writing error. In this case, please reconfigure the network, check the network cable, and turn off the firewall, etc.

## 7. DISPLAY SCREEN OPERATION INTRODUCTION

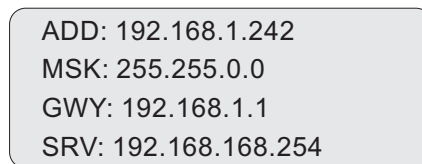
1) Power on, the screen shows as following picture:



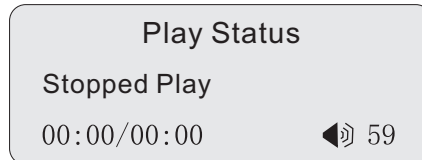
2) On standby mode, press "MENU", enter into the menu, the screen shows as following picture:



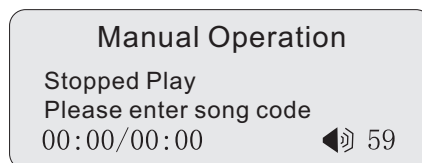
3) In the menu interface, press the number buttons on the panel of "1" to enter to view the IP address of the machine interface as follows:



4) In the menu interface, click on the panel keypad "2", you can view the current state of play as follows:



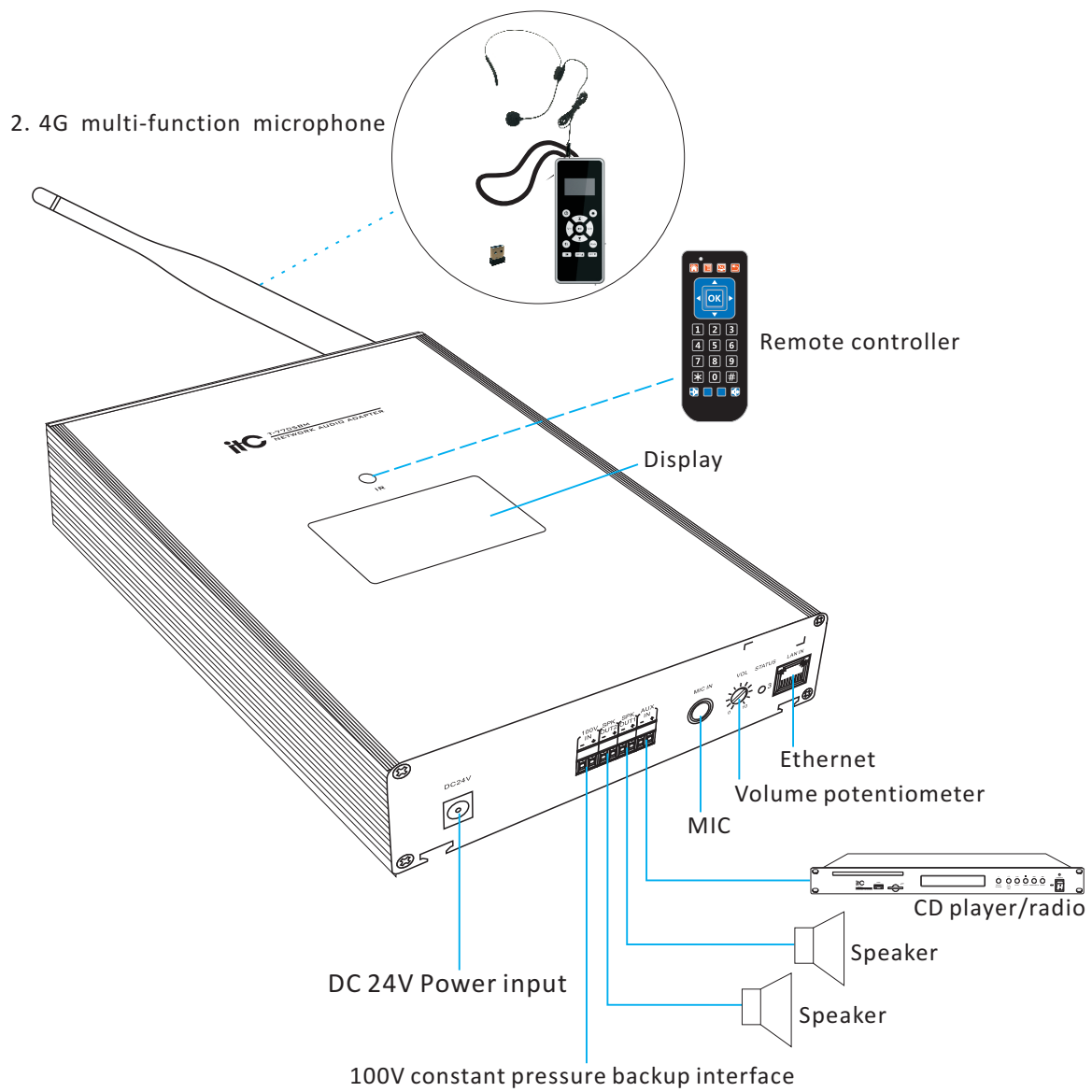
5) In the menu interface, click on the panel keypad "3", you can view the current state of play as follows:



## 8. 2.4G MULTI-FUNCTION MICROPHONE INSTRUCTIONS

1. Can match the frequency automatically when switch on, and the distance can be distinguished when match the frequency, close to the first priority. The distance of the frequency is about 2 to 3 meters, and the sound box is connected with the sound of "di" and "di".
2. 2.4G Multifunctional microphone working condition introduction:
  - ① Not connected state, 2.4G Connection icon is flashing, Connection icon will still flash if the signal is not so good after connection. The microphone will connect the speaker automatically in the effective distance.
  - ② When you use the PPT function in the first time, you should do frequency pairing in a short distance, you only to do this in the first time, it can do frequency pairing automatically.
3. For matching distance setting, main menu, function set->2.4Gset-> matching power-> Gear 1/ Gear 2/ Gear 3/ Gear 4, Matching distance with increasing gear, we called pair distance, Gear 1 < Gear 2 < Gear 3 < Gear 4, default state is Gear 1.
4. Reserve the function of matching power show and hide Settings, the default Settings to match open power, any mode, long press menu > 1 s after can realize the hiding and display function.
5. 2.4 G to master matching state power do read, when the speaker is not connected, ( The matching process) If the matching power are set to change, Shall enter into force after the change, when setting changes in the normal connection (normal use), it will not take effect immediately, it will in the take effect in the next match state.
6. Energy saving function. After the 2.4 G microphone connected and the speaker turned off, If 2.4G microphone is not connected within 3 minutes connection, it will be automatically closed 2.4G connection, when the microphone without any keystroke after connected, microphone will automatically shut down after 45 minutes.
7. It will not appear lyrics when download the songs, At the same time, there can not be a high quality songs. Otherwise it may cause the download songs cannot play properly.
8. Please regularly charge for 2.4 G multifunction microphone regularly, In order to make sure you have sufficient power supply when use.

# 9. WIRING DIAGRAM

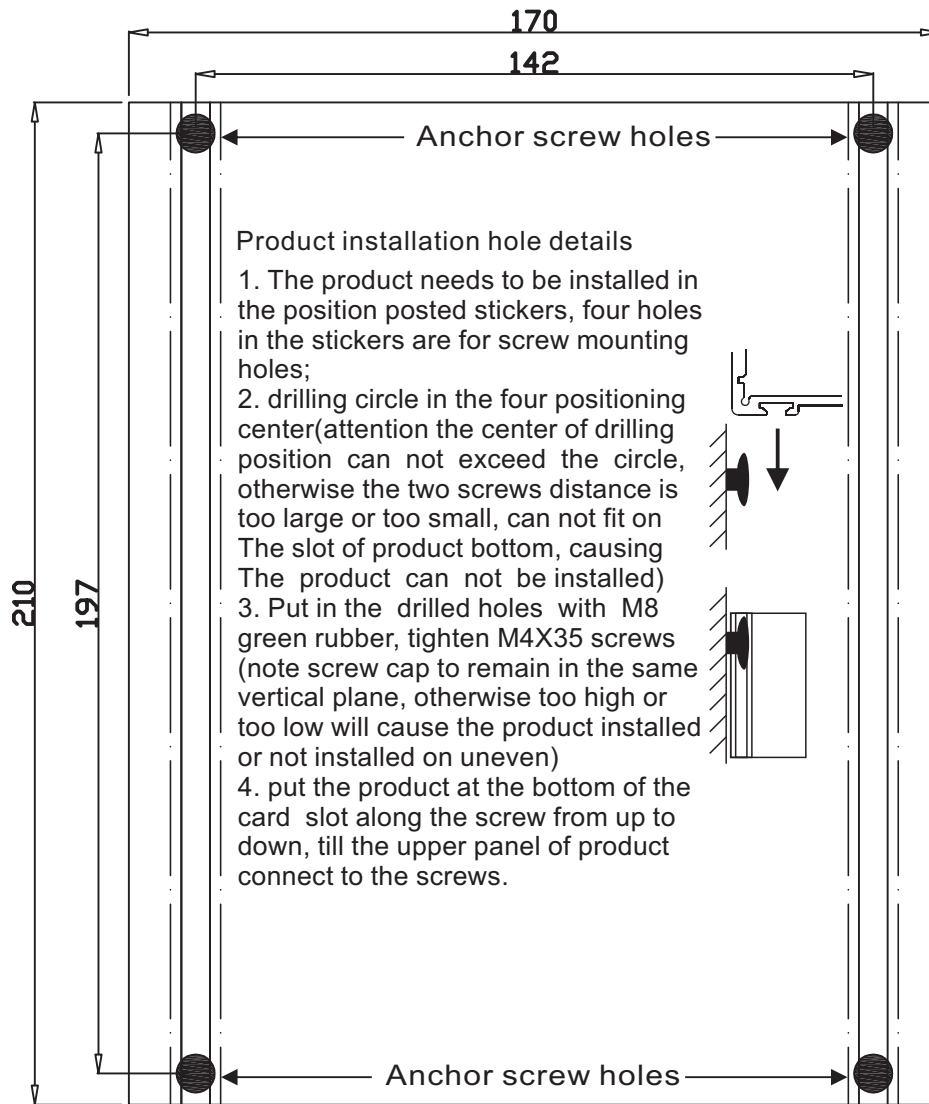


## 10. SPECIFICATIONS

|  |   |
|--|---|
| Model                                      | T-7705BM  |
| Network Interface                          | Standard RJ45 input                                     |
| Support protocol                           | TCP/IP, UDP, IGMP (Multicast)                           |
| Audio Format                               | MP3   |
| Sampling Rate                              | 8K~48KHz  |
| Transmission rate                          | 100Mbps   |
| Audio mode                                 | 16-bit CD sound quality                                 |
| Display size                               | 3.4 inch  |
| Display type                               | 128x64 dot matrix display                               |
| Operation method                           | Infrared remote control                                 |
| Remote control distance                    | ≤10 meters, straight, barrier-free                      |
| External speaker impedance and Rated Power | 2x30W   |
| THD  | ≤1%   |
| Frequency response                         | 80Hz~16KHz +1dB/-3dB                                    |
| SNR  | > 65dB  |
| AUX Input Sensitivity                      | 350mV Industry Standard Crimping Terminals              |
| MIC input sensitivity                      | 5mV   |
| Operation temperature                      | 5°C~40°C  |
| Operation humidity                         | 20%~80% relative humidity without moisture condensation |
| Power Consumption                          | ≤70W  |
| Operating Voltage                          | DC 24V  |
| Dimensions                                 | 210x170x45mm  |
| Weight                                     | 1.6Kg   |



## 11. INSTALLATION METHOD



# IP NETWORK PA SYSTEM

VersionV0.1

