itC

Fully Digital Conference System

User Manual

TS-0212/0212A

Before using this system, please read this manual carefully

Notification

⚠ **WARNING**

To ensure the reliability of the equipment and the safety of personnel, please observe the following when installing, using and maintaining:

● If any of the following conditions are found, please immediately turn off the power, plug out and quickly contact your nearest dealer. Do not continue using this unit, which may cause a fire or electric shock.

- ● If you find smoke or have a strange taste from the machine.
- ● If water or metal falls into the machine.
- ● If the unit is dropped or the case is damaged.
- ● If the wire is damaged (wire core exposure, broken wire, etc.).

● If the machine contains high-pressure parts, in order to avoid the fire or electric shock, absolutely don't open the case, if any questions please inform your nearest dealer.
● Do not place cups, bowls, vases or metal and other water-filled substances on the unit. Serious spilled liquid may cause a fire or electric shock.

● Never expose the unit to rain and any moisture or water, which may cause electric shock or fire.

● Do not place metal objects or flammable materials from the vents on the machine cover, nor place coins, which may cause fire or electric shock.

● Do not place heavy objects on the unit to avoid personal injury or property damage when the unit is slipping.
● Make sure that the volume is turned on at the beginning of the boot, and the high volume of the boot may cause hearing problems.

● Make sure that the volume is turned on at the beginning of the boot, and the high volume of the boot may cause hearing problems.

● For long-term accumulation of dust to be cleaned, please inform your dealer to regularly clean the machine, so as to avoid damage to the machine or cause a fire.

● The battery must be replaced with the same type of product and the correct installation should be made in order to avoid electrical damage and explosion hazard.

● The product is a Class III device. The device must be well connected to ground. The power plug must be connected to a power outlet with a grounding device to ensure that the equipment is fully grounded.

● This product uses a power plug or appliance input socket as a disconnecting device with the power supply, and must be disconnected if necessary for safety reasons.

● This equipment is only suitable for safe use at altitudes under 2000 meters.

Precautions

1. The installation environment

When installing the unit, in order to ensure the normal cooling of the host, should avoid the poor ventilation of the place or high temperature environment, to avoid direct sunlight.

Recommend to install cabinet or other well-ventilated place indoor. If you use the machine in the outdoors, please pay attention to waterproof, moisture, lightning protection measures.

Avoid installing in a violent place of vibration; do not place other equipment on the machine.

2. To avoid electric shock and fire

Do not touch the hands and the source with wet hands

Do not spill liquid on the machine, so as to avoid short-circuit or fire inside the machine.

Do not place other equipment directly on the top of the unit.

Non-professional service personnel Do not disassemble the unit yourself to avoid damage and electric shock.

3. Transport and handling

The packaging of the machine is designed and tested to ensure that the host will not be accidentally damaged during transport. It is best to use the original packaging when handling the unit.

Do not move the host device between the place or cold or over hot to avoid condensation inside the machine, affecting equipment life.

4. Please follow the warning instructions on this product, the warning signs on behalf of:

	Applicable to 2000 meters above sea level and below safe use
	Safe use only in non-tropical climates

5. Agreement

Please strictly follow the instructions in this manual. The software, hardware and appearance of this product will be upgraded and updated continually. The above changes will be made without notice.

Non-professional maintenance personnel, do not remove the product, to avoid damage and electric shock.

Content

1. Product Introduction

The integrated array microphone can ensure high-quality sound even when the speaker makes big movements. The speaker can move freely, including standing, sitting, turning his head, moving forward, and leaving the microphone for a certain distance, and the sound effect of the microphone will not be affected.

2. Product description

TS-0212/TS-0212A Wireless array microphone

| TS-0212 (Chairman unit) | TS-0212A (Delegate unit) |

2.1 Features

1. WiFi transmission technology, strict digital protection, to avoid eavesdropping and malicious interference, and protect the confidentiality of the conference.

2. With non-gooseneck microphone pickup, good directivity and cystic pickup area, the pickup distance of the array microphone can reach 50cm, and the surrounding noise pickup can be effectively controlled.

3. When the chairman unit/delegate unit is speaking, the indicator light turns red.

4. The OLED screen supports the display of microphone on/off, ID settings, power state, signal strength, and SSID.

5. Adopt uncompressed audio transmission technology, 48K sampling rate, and 80Hz-16KHz bandwidth perfect sound quality.

6. Support PC software microphone control, and support voice control function.

7. The delegate unit has the functions of speech stopwatch and speech timer; the chairman unit has the function of speech stopwatch, and the speaking time is not limited.

8. Support 5-band EQ adjustment function, which can adjust the sound effects according to the voice characteristics of different speakers to realize the perfect effect.

9. The delegate unit can apply for speaking, and the application can be approved through the chairman unit with the screen or the "3" button, or through the PC software.

10. The chairman unit has the priority to turn off the delegate unit that is speaking.

11. Built-in high-end 18650 standard lithium battery with charging and discharging protection, the battery capacity supports 12 hours of continuous speech or 16 hours of static standby.

12. Low sensitivity to electromagnetic interference.

13. Edit ID manually .

14. All state information of the microphone can be uploaded to the controller.

15. Support the controller turning off all units with one key.
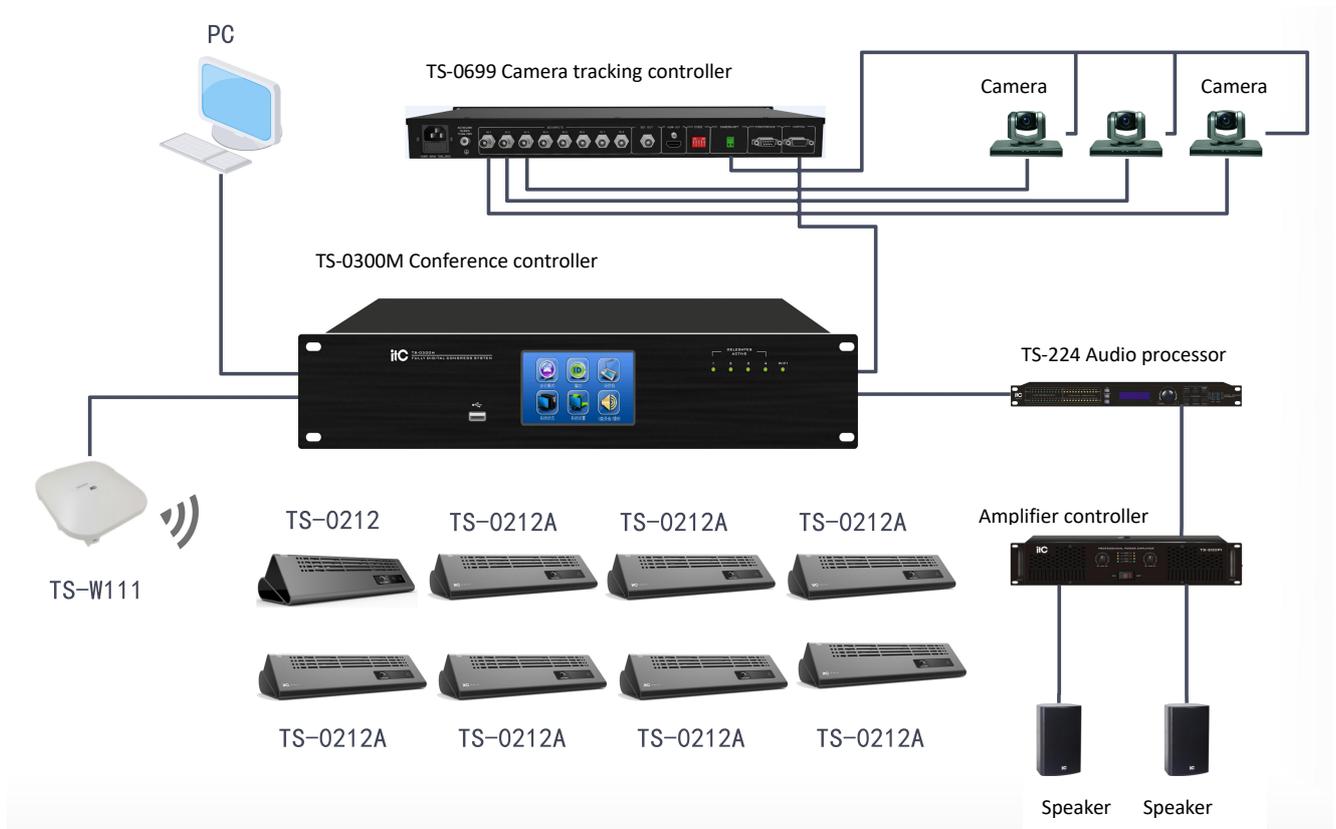
2.2 Interface introduction
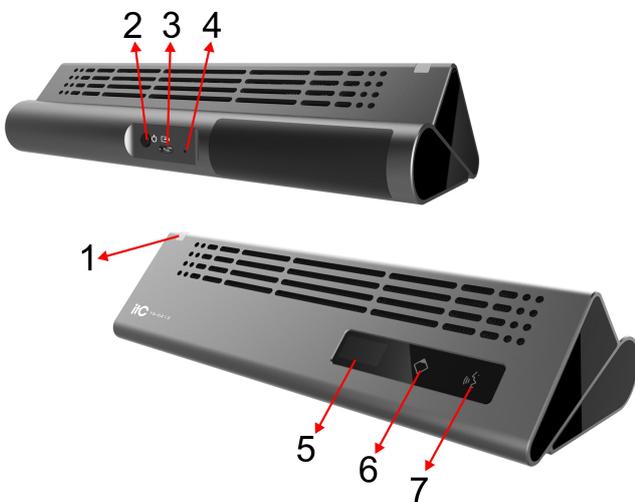
TS-0212（Chairman Unit）:   **TS-0212A（Delegate unit）:**
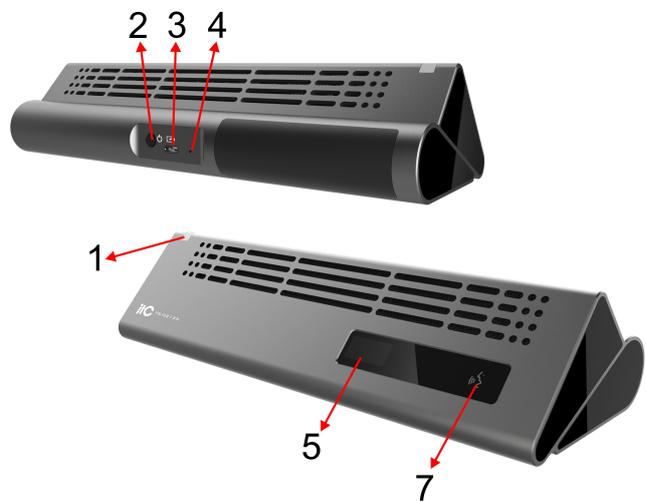
1. Microphone state indicator.

2. Power switch.

3. Charging interface and upgrade code interface.

4. Charging state indicator (red light when it is charging, and green light when full charged).

5. 0.96-inch OLED display.

6. VIP button-microphone priority button.

7. MIC button-microphone switch.

2.3 Technical Specifications

Model	TS-0212/TS-0212A
Microphone type	ECM wireless array microphone
Number of microphone	13
Frequency response	80Hz~16KHz
Microphone input impedance	200Ω
Sensitivity	-30dB (0dB=1V/pa, @1kHz)
SNR	>80dB(A)
Crosstalk	>70dB
Dynamic range	>80dB
Maximum SPL	112dB（THD≤0.5%, @1KHz)
THD	<0.1%
Maximum power consumption	1W
Directivity	Corridor type
Standard	IEC-60914
Power supply	18650 lithium battery
charging method	Connect to the charging box through the Type-C interface
Color	Graphite Grey
Sign-in function	Key sign in
Wireless frequency range	5.15~5.85GHz
Size (L×W×H)	250×90×50mm

3. System connection diagram

PC

TS-0699 Camera tracking controller

Camera

Camera

TS-0300M Conference controller

TS-224 Audio processor

TS-W111

TS-0212

TS-0212A

TS-0212A

TS-0212A

Amplifier controller

TS-0212A

TS-0212A

TS-0212A

TS-0212A

Speaker

Speaker

4. Operation instruction

4.1 Start up

Turn on the power of the controller to start the conference system, and the unit screen will display "System Loading...". The page is as follows:

The connection time is about 5 seconds, and the touch screen will display "WiFi Wireless Conference System" after the start-up is completed.
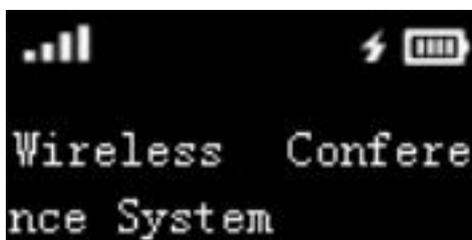
4.2 Microphone unit

The chairman unit has a microphone switch and a priority button. With the touch buttons, it can turn on/off the chairman microphone and turn off all delegate microphones.

The delegate unit has a microphone switch and no priority button. With the touch button, it can turn on/off the delegate microphone.

4.3 Conference management

The switch microphone of the unit is controlled by the conference management, and its permissions are configured by the conference controller, including FIFO/NORMAL/VOICE (voice control)/APPLY modes. Please refer to the conference mode description of the controller.

Press "MIC" to turn on/off the microphone, and the display is as follows:
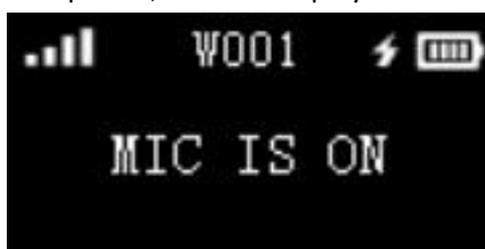
If the current unit is waiting to turn on the microphone, the display is as follows:
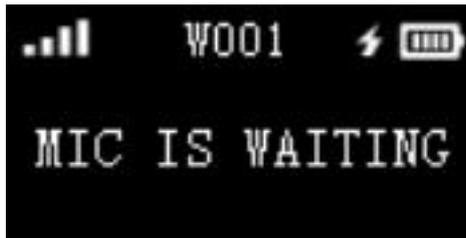
If the delegate unit is in APPLY mode, press the switch to turn on the microphone, and the display is as follows:
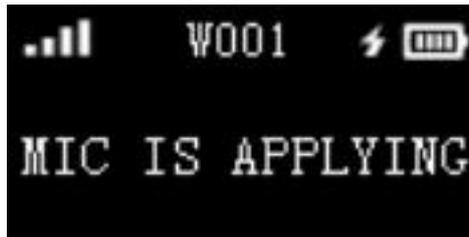
If the current number of microphones is full, the display is as follows:
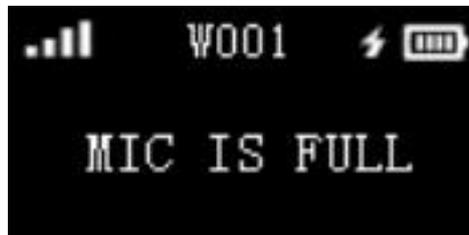
Press the priority button of the chairman unit to turn off all delegate microphones, and this chairman microphone is turned on. The delegate unit will display as follows:
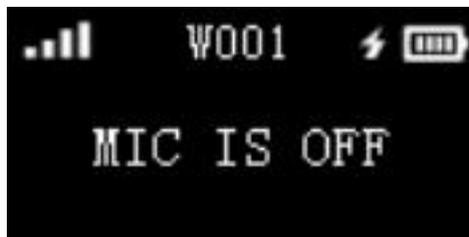
4.4 Fire alarm

When the controller sends out a fire alarm message, the unit screen will display "Fire Warning", and the red light of the microphone will flash until the controller cancels the fire alarm, and then the unit returns to the previous state. In the state of fire alarm, the buttons cannot be used.
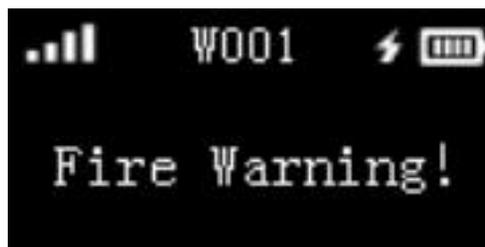
4.5 System state interface

In the power-on state and in the conference mode, short press the power switch to query the SSID and version number, and the display is as follows:

```
..ıl    W001   ⚡ ▥
SSID: WIFI_SYSTEM
_II
VER:1.0&0.8
```

SID: AP network name

Version number: for example: 1.0&0.8, which means that the software version of the single-chip computer is 1.0; the software version of the WiFi module is 0.8. The specific information of the version number is only for reference by the maintenance personnel and testing personnel of the company, which cannot be publicized.

4.6 Wireless AP disconnection detection

Turn off the power of the wireless AP for about 10 seconds, and TS-0212/TS-0212A will display the following pop-up window. If the wireless AP is powered on and working normally, the interface will return to the main page.

```
..ıl    W001   ⚡ ▥

   AP LOSE!
```
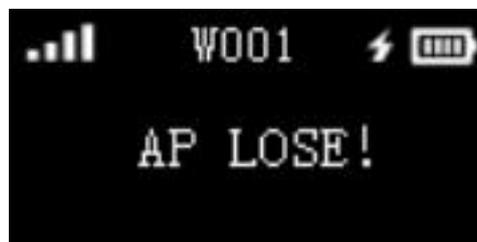
4.7 Controller disconnection detection

Unplug the network cable or turn off the power of the controller for about 60 seconds, and TS-0212/TS-0212A will display the following pop-up window. If the controller is powered on and working normally, the interface will return to the main page.

```
..ıl    W001   ⚡ ▥

  HOST LOSE!
```
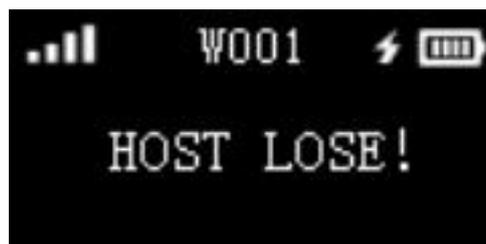
4.8 Rework programming mode

In the power-off state, open the upgrade tool on the PC, connect the USB port of the wireless unit to the PC, and then enter the USB upgrade mode. Please refer to the programming manual for USB upgrade details.

4.9 WiFi SSID and password modification

In the power-on state, connect the USB port of the wireless unit to the PC. And then use the SSID modification software. After the modification is finished, the wireless unit will display the following interface, and it will automatically be shut down after 2 seconds.
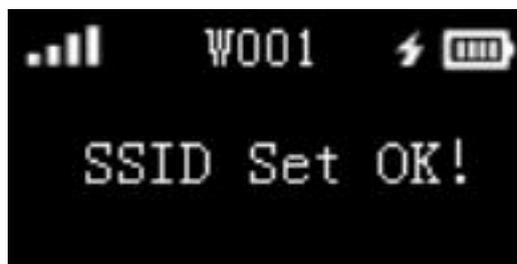
4.10 Repeated ID detection

If the ID numbers of the units connected to the controller are the same, the display is as follows. At this time, you need to press "Edit ID" button on the controller to reset the ID.
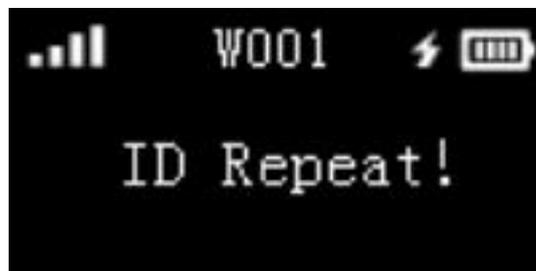
4.11 Edit ID

Press "Edit ID" on the controller to enter the ID editing mode. At this time, press the setting button or the microphone switch to set the ID.
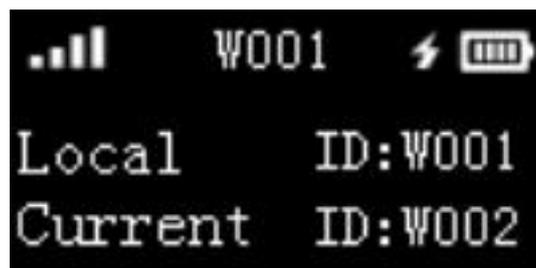
4.12 Charging, battery state, WiFi signal strength

WiFi signal strength, with 4 white bars; when no signal, there displays no signal bar:

Battery state, with 4 grids in total:

Charging:

4.13 Low-battery automatic shutdown

When the battery is too low, the wireless unit will display the following interface and then will be automatically shut down.
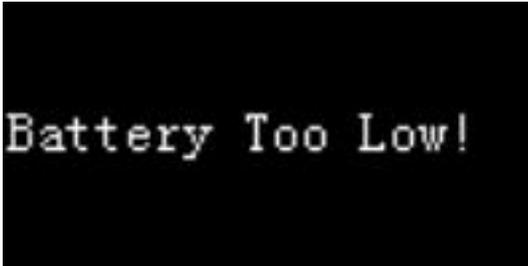
4.14 Power switch function

In the power-off state, short press the switch to turn on the system;

In the power-on state, long press the switch for 3s to shut down the system; in conference mode, short press the switch to view the SSID and version number.

4.15 Speech stopwatch and speech timer

When the speech stopwatch is set on the PC software:
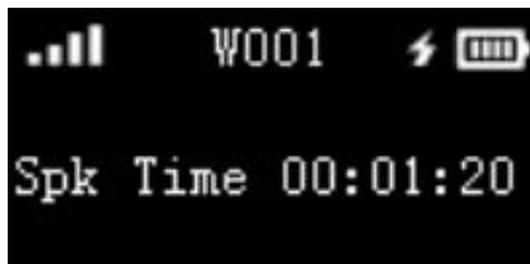
When the speech timer is set on the PC software:
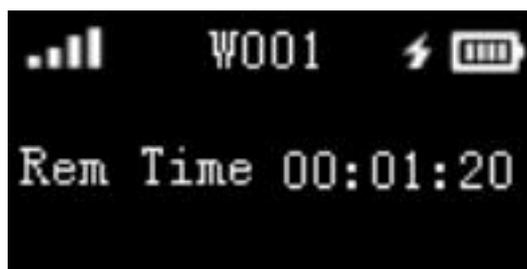
4.16 Sign-in mode

When the PC enters the sign-in mode, or the wired chairman unit initiates the sign-in, all units enter the sign-in mode. In this mode, the MIC light of the unit that has not signed in will flash, and the following interface will appear; the MIC switch supports sign-in function. After signing in, the MIC light stays on, and the MIC switch restores its function. Note: in the sign-in mode, if the current microphone is in APPLY mode, the delegate unit will automatically exit the APPLY state.
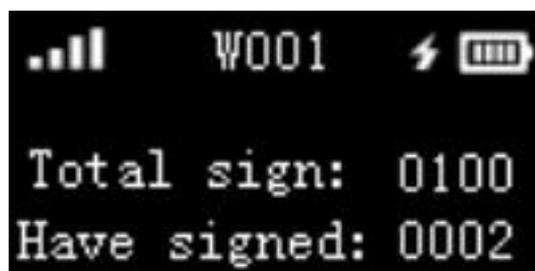
4.17 Voting mode

When the PC enters the voting mode, or the wired chairman unit initiates voting, all units enter the voting mode. In this mode, because there is no response to the button, the unit cannot participate in voting, as shown in the figure below. Note: in the voting mode, if the current microphone is in APPLY mode, the delegate unit will automatically exit the APPLY state.
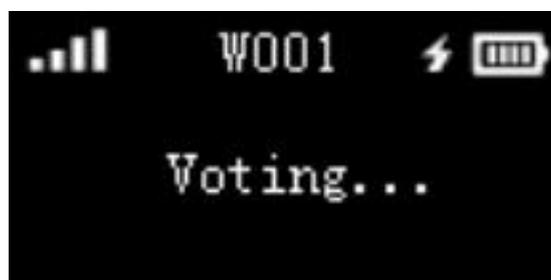
4.18 Low signal prompt

When the signal strength is too low and the unit cannot be used normally, and it is still connected with the AP, the following prompt will appear:
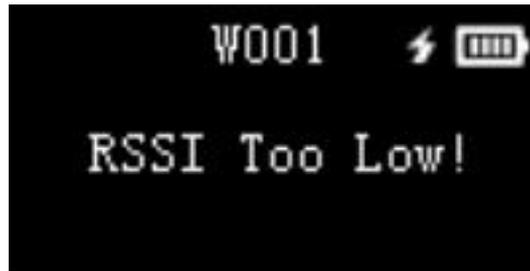
4.19 Fixed messages sent by PC software

In the conference mode, when the PC software sends out the fixed messages of "someone is looking for you, please go to the door of the conference room" and "someone is looking for you, please go to the console", they will be displayed on the screen. Note: the unit can only display these two fixed messages, and does not support customized messages.
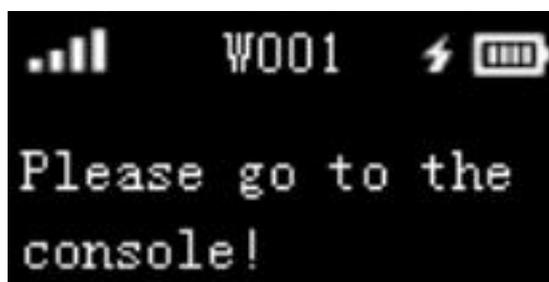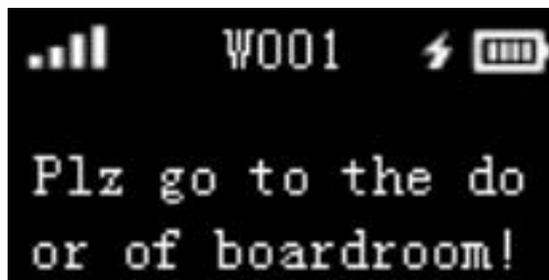
4.20 Language setting

Through the PC software, the language (Chinese/English) of all online units can be set uniformly.

5. Conference PC software

5.1 Software installation

1. Double click "Digital conference client", and then click "next" and "finish" as prompted.
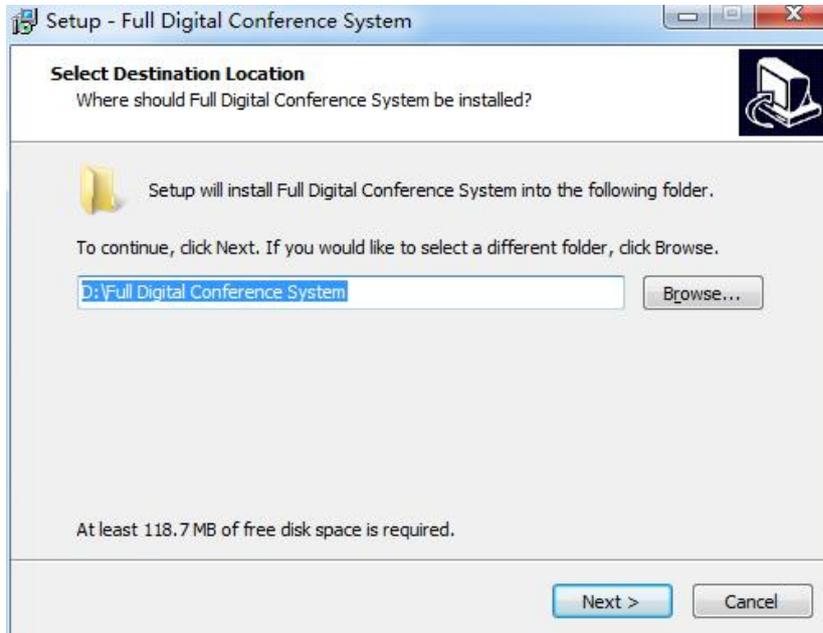
2. Server settings

Before usage, it is required to finish some necessary settings of the fully digital conference system. The main settings are as follows:

① Set the IP address of the computer

Step 1: right-click [Network Neighborhood], choose [Property] and then open [Local Area Connection]; right-click [Property], as shown in the figure below.
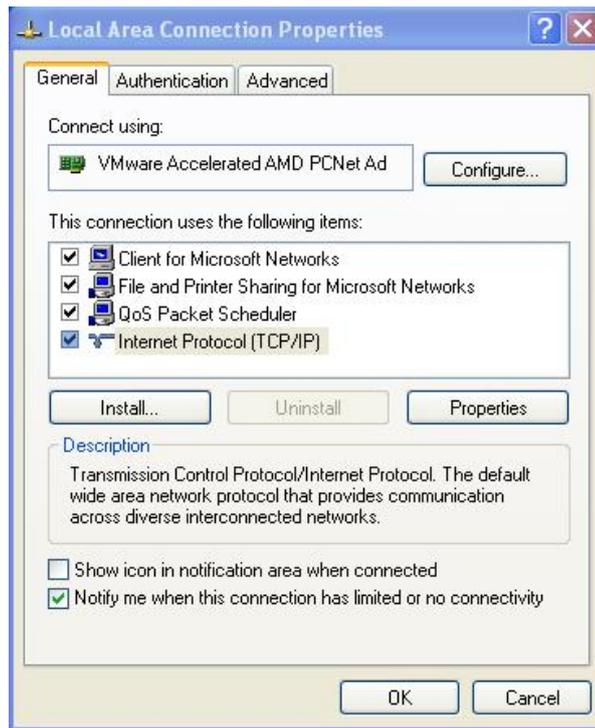
Step 2: double click 【Internet protocol (TCP/IP)】, and enter the setting interface of the IP address. And then enter the related information of the computer IP according to the controller IP, as shown in the figure below.
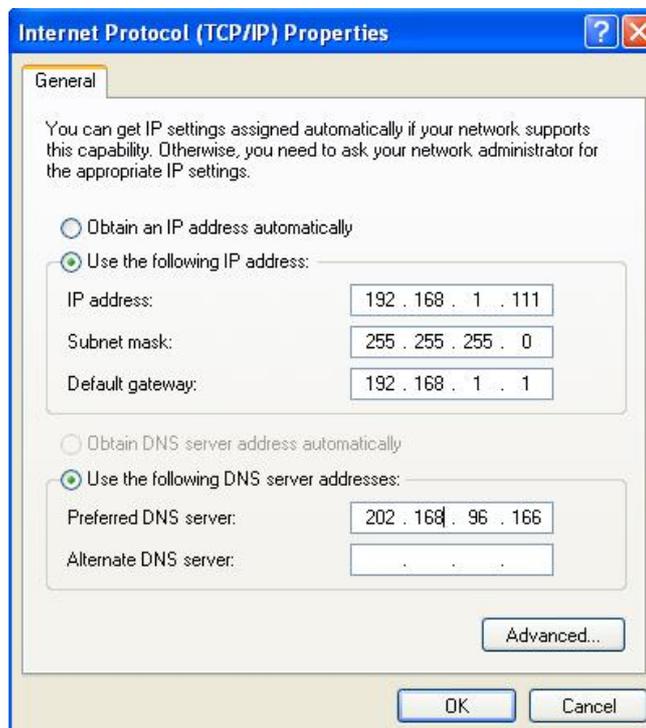
Step 3: modify the IP address. The controller IP is based on the "System Configuration" item of the controller; the IP configuration and the IP network segment can be viewed. You have to make sure that the computer IP and controller IP are in the same network segment. For example: when the current controller IP is 192.168.168.168, the computer IP should be 192.168.168.xxx. As for the subnet mask, it is by default.

5.2 System operation

1. After finishing installation, there will be a shortcut icon on the desktop:

2. Log in to the software

2.1 Double-click the shortcut icon to enter the right picture;

2.2 Click the gear-shaped icon in the upper right corner to enter the left picture and set the controller IP; make sure that it is the same as the IP of the conference controller;

2.3 Click "Test", it will give a prompt that the connection is successful; click "Back" to enter the right picture again, and enter the account admin and the password admin8888 to log into the software;

2.4 Click "Test", if it gives a prompt that the connection failed, please check whether the entered IP is the same as the IP of the conference controller and whether the network cable is disconnected.
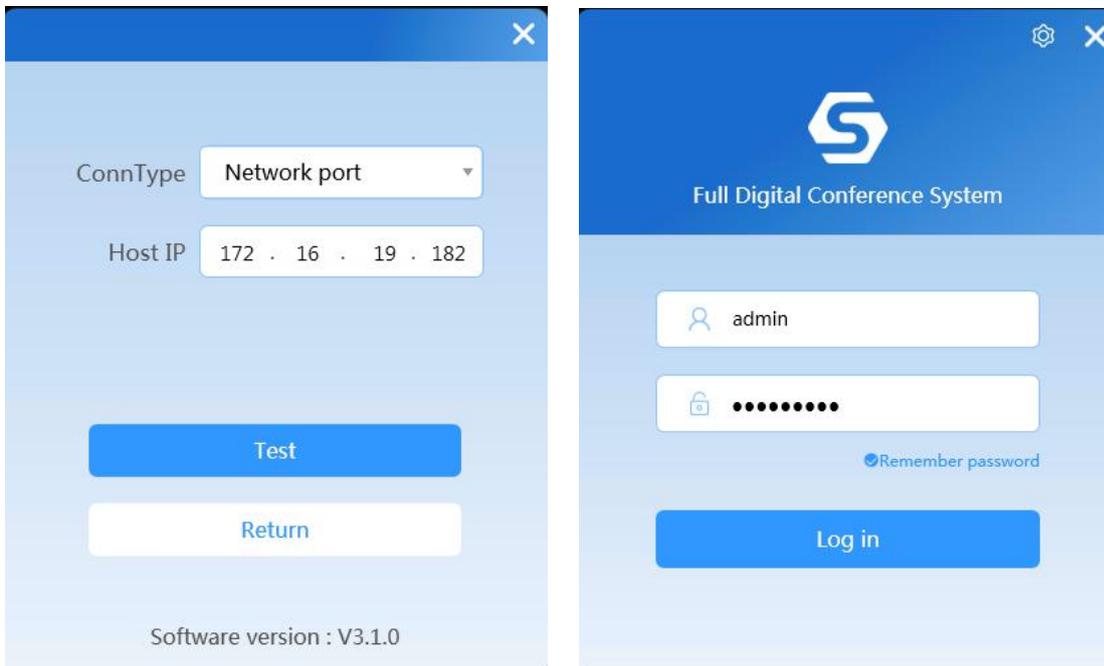
3. After logging in, enter "conference room layout", click "Scan online devices", and then click "Save".

4. Click "Personnel management" to edit the organization structure and participants.

5. Click "conference list" to create a conference.


6. For the created conference, you can click "Edit" to create voting and sign-in.

7. After the conference is created, click "Participant", select the participants, and then click "simulated seating" to arrange the seats of them. Finally, click "start the conference".
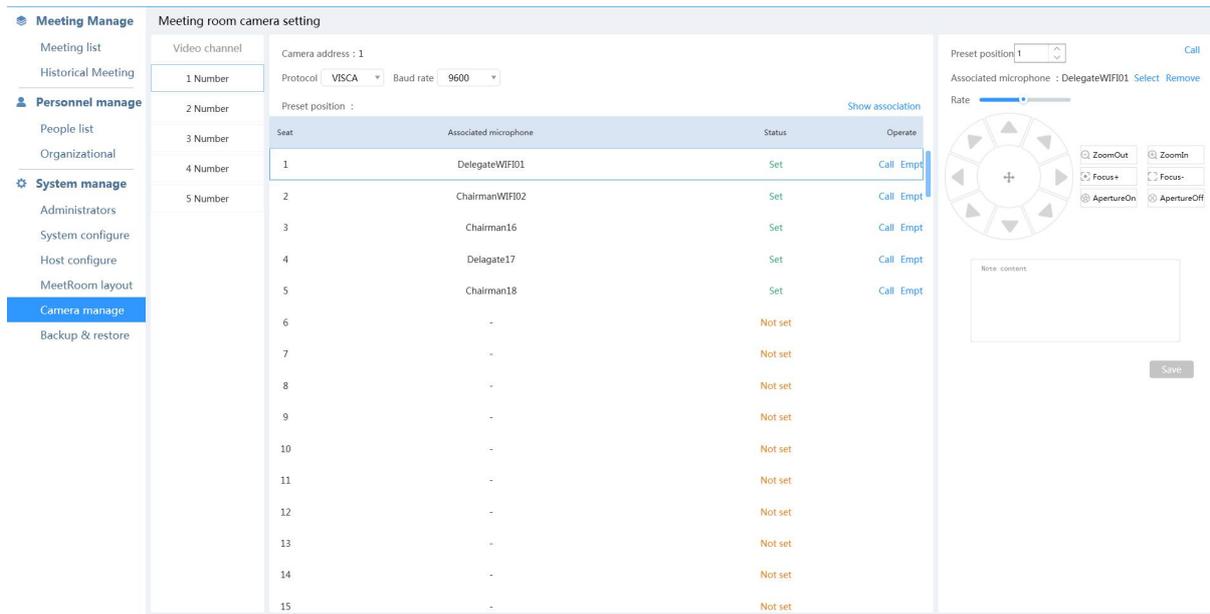
8. Click "system configuration", and you can set the configuration of the system, such as "use the camera". In this way can it support settings and using of video tracking.
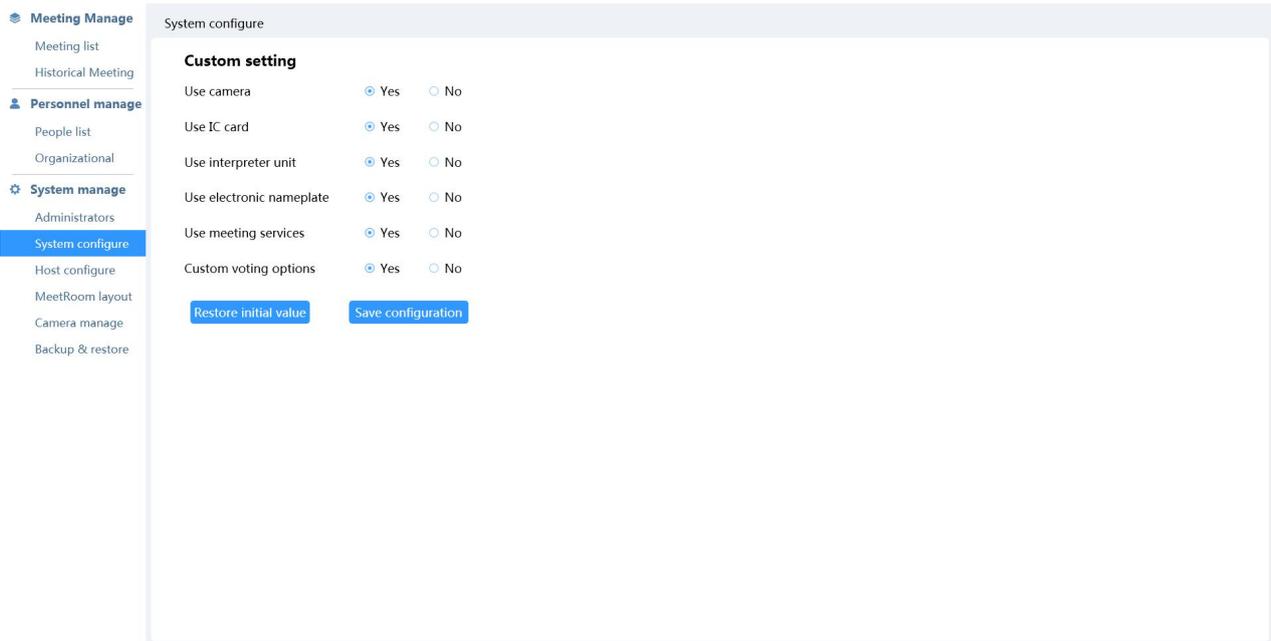
9. Click "use the camera" in system configuration, and a camera management interface will pop up. And then select different video channels and the preset positions of the corresponding microphones.

10. As for more details about the PC software, please refer to the user manual.

Log into the conference software, click the help icon in the upper right corner and then the user manual will pop up.

Fully Digital Conference System