



Wifi Digital Conference System

User Manual

TS-0300MS

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.
- 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 I 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.

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1.Product Overview

TS-0300MS conference system simple wireless conference system host uses 5GHz communication frequency band, with stronger anti-interference ability. It provides greater bandwidth and transmission speed, without being interfered by mobile phones and other Bluetooth devices, ensuring optimal signal reception. It is widely used in round table conference rooms, square table conference rooms, multi-function halls, banquet halls, lecture halls and other places.

2.Product Introduction

TS-0300MS Conference system simple wireless conference system host

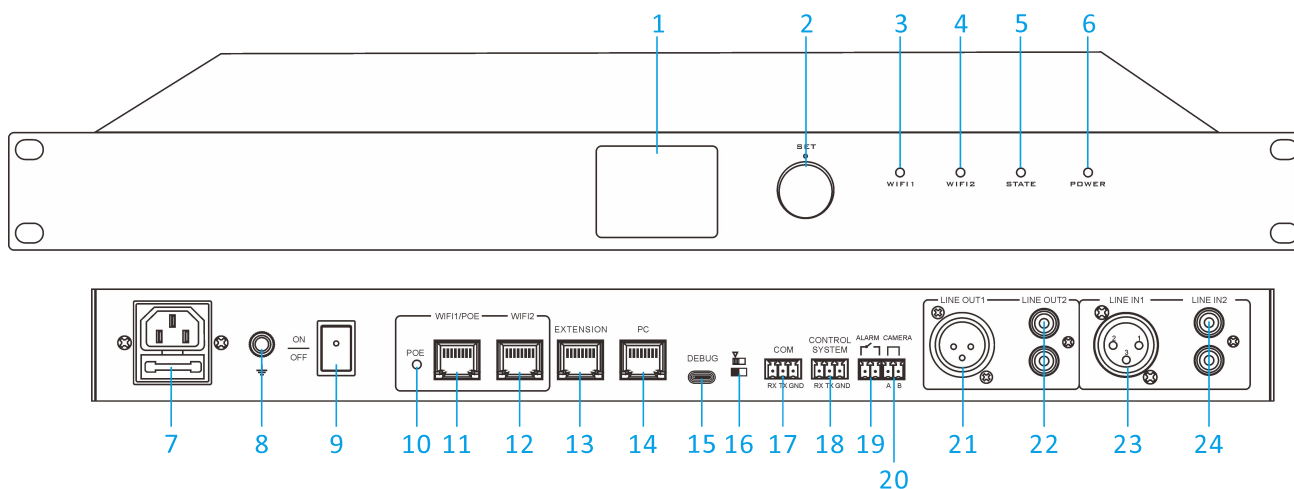


2.1.Features

1. Adopt original clock synchronization and transmission technology; 48K sampling rate, lossless compressed audio transmission.
2. Built-in high-performance DSP processor with EQ, volume, delay and other adjustment functions.
3. The audio input interface includes 1 RCA unbalanced input port and 1 XLR balanced input port. The audio output interface includes 1 RCA unbalanced output port and 1 XLR balanced output port.
4. The conference host uses TCP/IP network protocol and supports both C/S and B/S architectures, and can be controlled by PC software or browser.
5. Support controlling audio parameters (including EQ, volume, delay, microphone sensitivity, etc.), microphone status synchronization, switching between four languages: Chinese, English, Russian and French, and controlling role-separated hosts through WEB terminal.
6. Ultra-large system capacity, supporting up to 300 wireless conference units and up to 8 simultaneous opened microphones.
7. The conference host control panel supports switching between multiple languages including Chinese, English, Russian and French.

8. The PC software can check the battery power, WiFi signal strength and other information status of online wireless units, and supports shutting down all wireless units with one click.
9. It has a WIFI network interface (with POE function), which can directly connect to a wireless AP, or expand the number of wireless APs by connecting to a network switch to provide a larger wireless coverage range.
10. It has a fire alarm linkage trigger interface, providing fire alarm information, reminding venue personnel to evacuate at the first moment to ensure the safety of participants.
11. It has 1 RS-485 interface, supporting up to 5 cameras for camera tracking, and supports PELCO-D and VISCA control protocols. It can cooperate with the camera tracking host to achieve multi-channel video camera tracking function.
12. Support four microphone management modes: FIFO (first in, first out), NORMAL (normal mode), VOICE (voice-activated mode), and APPLY (Application mode).
13. The system has functions such as meeting check-in, voting, election, rating, satisfaction, and customization.
14. It has a 2.2-inch TFT-LCD display screen for setting or viewing parameters.
15. Powerful programmed ID function, can conduct programmed ID for wireless units, role separation hosts.
16. Support 10-band EQ adjustment function, and 2 LINEOUT output channels have 10-band EQ adjustment function.
17. Support AP channel scanning, which monitors the use of wireless channels on site. Support automatic or manual configuration of the optimal channel, and support AP online display list for easy management.
18. Support docking with speech transcription server to realize speech transcription function.
19. The conference host has the function of setting the host or slave. When the host fails, it can automatically switch to the slave to achieve dual backup function.
20. Support remote firmware upgrade via the web.

2.2.Product interface function introduction

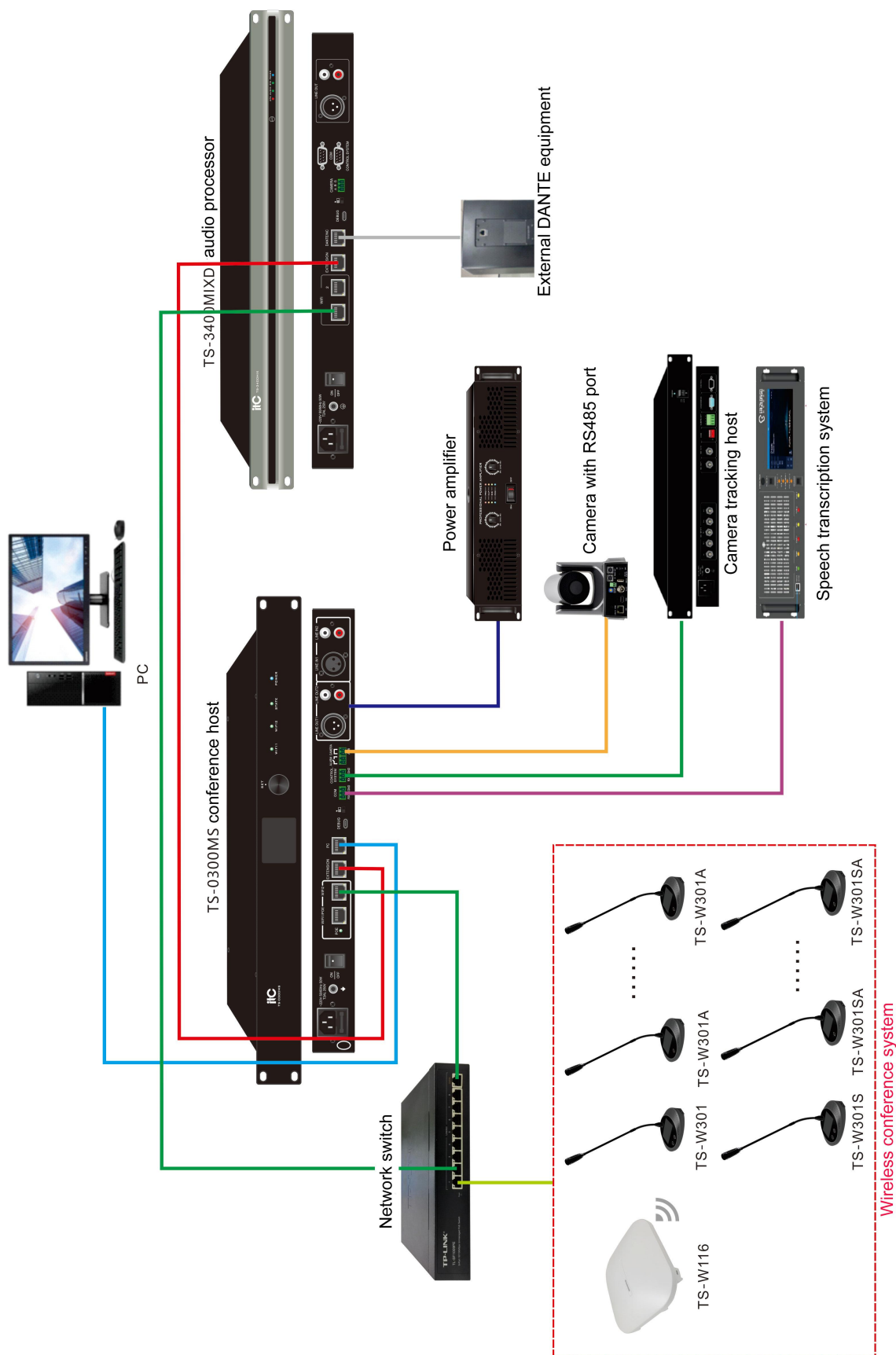


1. 2.2-inch TFT-LCD display;
2. Pulse code potentiometer, for selecting the edit menu;
3. WIFI1 signal indicator light;
4. WIFI2 signal indicator light;
5. Host working status indicator light;
6. Power indicator;
7. AC power input socket;
8. Enclosure grounding post;
9. Power switch;
10. POE detection indicator light;
11. WIFI network port, with POE power supply, can be directly connected to the wireless AP
(Note: the POE port must be connected with a standard network cable);
12. WIFI network port, used to connect to wireless AP;
13. EXTENSION, to connect conference system extension equipment;
14. PC network port, to connect to the network port of the computer host;
15. TYPE-C, internal debugging interface;
16. Debug switch; In normal use, dial the arrow to indicate the end;
17. Connect to external device RS-232 communication interface;
18. Camera RS-232 communication interface;
19. ALARM: short circuit trigger fire alarm interface;
20. CAMERA: Camera 485 communication interface;
21. Line audio XLR balanced output;
22. Line audio RCA unbalanced output;
23. Line audio XLR balanced input;
24. Line audio RCA unbalanced input.

2.3. Technical Parameters

Model	TS-0300MS
Microphone capacity	Wireless microphones ≤ 300 units
Frequency response	20Hz ~ 20KHz
Signal-to-Noise Ratio	>85dB(A)
Dynamic range	>80dB(A)
THD	<0.05%
Main power	100-240AC/50-60Hz
Audio output	LINE OUT 1: 1Vrms XLR balanced output; LINE OUT 2: 1Vrms RCA unbalanced output
Audio Input	LINE IN 1: 775mVrms XLR balanced input; LINE IN 2: 775mVrms RCA unbalanced input
EXTENSION	1 channel, to connect conference system expansion device
WIFI port	2-channel, to connect to wireless AP
PC network port	1 channel, to connected to computer
RS-232 interface	2-channel, 1 for camera tracking, 1 for connecting to external devices
RS-485 interface	1 channel, for camera tracking
Balanced input impedance	>10K Ω
Balanced output impedance	470 Ω
Unbalanced input impedance	>5K Ω
Unbalanced output impedance	470 Ω
Static power	7.1W
Output power consumption	≤ 30 W
Display	2.2-inch TFT-LCD display, resolution 240*320 pixels
Working temperature	-10 $^{\circ}$ C ~ +60 $^{\circ}$ C
Working humidity	20% ~ 80% relative humidity, no condensation
Color	Black
Dimensions (L×W×H)	484×258×44mm
Weight	3.2Kg
Installation	19-inch standard cabinet

3.System Connection Diagram



4.Conference Host Operation Instructions

4.1.Meeting management function



Enter the wireless microphone management mode from the conference mode on the main interface. There are 4 microphone modes, and you can switch to one of them as needed; the number of microphones is the current maximum number of microphones allowed to be opened (the range of wireless N is 1~8), and you can switch to one of them.

1. First-in, first-out mode (FIFO)

①FIFO delegate unit opening microphone management

First-in, first-out: When the total number of opened microphones is less than N, the delegate units directly enable the microphone; when the number reaches N and not all are chairman units, the delegate units enable the microphones one after another in a first-in, first-out manner.

②FIFO chairman unit opening microphone management

Preemption mechanism: The chairman unit can preempt the right to enable the microphone of the delegate unit (when the total number of opened microphones reaches N and there is a delegate unit among them, the microphone of the current chairman unit is opened, the earliest delegate unit with opened microphone is squeezed out of the opened microphone queue. The microphone of the delegate unit is disabled, and the microphone of the current chairman unit is opened);

Full opened microphone prompt: There is no FIFO mechanism between chairman units. When the total number reaches N and all the microphones are chairman units, and a new chairman unit is opened, its interface will display "Microphone full";

Priority: Press Chairman unit priority key to start the chairman priority function, which immediately turns off the microphone status of all delegate units. If the microphone of this chairman unit has not been turned on before, it will be turned on (when the current number of open microphones is full and all are chairman units, the microphone of the chairman unit will not be turned on).

2. Normal mode (NORMAL)

①NORMAL delegate unit opening microphone management

Waiting mechanism: When the number of opened microphones of the unit machines reaches N, and the microphone of the delegate unit is opened, then it will enter Waiting state. The maximum number of waiting machines is also N. The delegate unit can exit the Waiting state by pressing the microphone opening key in the Waiting state. When the microphone of a certain unit is turned off, the earliest microphone in the current Waiting state will be turned on automatically.

②NORMAL Chairman unit opening microphone management

Preemption mechanism: When the maximum number of microphones allowed to be opened is reached, and the microphone of the chairman unit is turned on, the delegate unit will be squeezed out of the opened microphone queue (that is, the microphone of the delegate units that opened the microphone earliest among the currently opened microphones is turned off, and its own microphone is turned on at the same time); Full opened microphone prompt: The chairman unit has no waiting mechanism. When the current maximum number of microphones is full and all the opened microphones are chairman units, press other chairman units and "Microphone full" will be displayed;

Priority: Press Chairman unit priority key to start the chairman priority function, which turns off the opened microphone status and waiting status of all delegate units. If the microphone of this chairman unit has not been turned on before, it will be turned on (when the current number of opened microphones is full and all are chairman units, the microphone of the chairman unit will not be turned on).

3. Voice-activated mode (VOICE)

①VOICE delegate unit opening microphone management

Waiting mechanism: When the number of opened microphones of the delegate units reaches N, and the microphone of the delegate unit is opened, then it will enter Waiting state. The maximum number of waiting machines is also N. In the Waiting state, press the microphone open key again to exit the Waiting state. When the microphone of a certain unit is turned off, the earliest microphone in the current Waiting state will be turned on automatically.

②VOICE chairman unit opening microphone management

Voice-activated mechanism: The microphone of the chairman unit can automatically detect the current speech. Speaking into the chairman unit will automatically turn on its microphone.

Preemption mechanism: When the number of opened microphones reaches the maximum allowed number N, the chairman unit turns on the microphone and the delegate unit will be squeezed out

of the opened microphone queue (that is, the microphone of the delegate units that opened the microphone earliest among the currently opened microphones is turned off);

Full opened microphone prompt: The chairman unit has no waiting mechanism. When the current maximum number of microphones is full and all the opened microphones are chairman units, press other chairman units and "Microphone full" will be displayed;

Priority: Press Chairman unit priority key to start the chairman priority function, which turns off the opened microphone status and waiting status of all delegate units immediately. If the microphone of this chairman unit has not been turned on before, it will be turned on (when the current number of opened microphones is full and all are chairman units, the microphone of the chairman unit will not be turned on).

4. Application mode (APPLY)

①APPLY delegate unit opening microphone management

Application mechanism: When the delegate presses Open microphone button, it will apply to the chairman to open the microphone. At this time, the chairman unit screen will display "Delegate unit applies to open the microphone" (the chairman unit presses "Agree" to open the microphones of the delegate units which applied to open the microphones in proper order). The maximum number of microphones that delegate units can apply to open is N. If it exceeds the limit, it will display "Microphone application full". In the application state, the delegate unit can exit the application state by pressing the microphone button again.

Automatic revocation mechanism: After the delegate unit enters the microphone application state, if the chairman unit does not agree to open the microphone within 15S, the delegate unit will automatically revoke the application and exit the application state.

②APPLY Chairman unit opening microphone management

Preemption mechanism: Within the maximum number of microphones allowed to be opened, when the microphone of the chairman unit is opened, the delegate unit will be squeezed out of the microphone opening queue (that is, the microphone status of the delegate units that opened the microphone earliest or applied to open the microphone earliest among the currently opened microphones will be turned off, and its own microphone will be turned on at the same time); Full opened microphone prompt: The chairman unit has no waiting mechanism. When the current maximum number of opened microphones is full and all the opened microphones are chairman units, press other chairman units and "Microphone full" will be displayed;

Priority: Press Chairman unit priority key to start the chairman priority function, which immediately turns off the opened microphone status and application status of all delegate units. If the

microphone of this chairman unit has not been turned on before, it will be turned on (when the current number of opened microphones is full and all are chairman units, the microphone of the chairman unit will not be turned on).

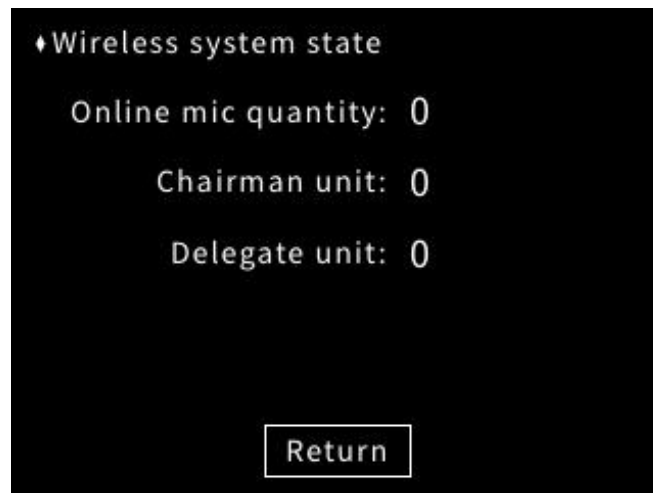
4.2.Programmed ID



The image shows a software interface titled "Edit ID". It features a label "Start ID:" followed by a text input field containing the number "123". Below the input field is a numeric keypad with buttons for digits 1 through 9, 0, a multiplication symbol (×), and "OK". At the bottom of the interface are two buttons labeled "Return" and "Start".

Programmed ID, enter the Programmed ID interface in the function main interface. If the starting ID number needs to be changed, you can check the box of starting ID number and press the keyboard to set the starting ID number of the Programmed ID. When the starting ID number is greater than 300, the starting ID of the wireless Programmed ID will start from 1, as there are only 300 wireless units at most. After finishing the setting, press “OK” to save the modified value; press “Start” to start the Programmed ID. At this time, you can manually operate all unit machine opening microphone key programmed ID (the unit machine will display the ID of the unit and the currently available ID), and the red light on the unit will be on after pressing the button, indicating that the operation is effective (the current ID is set to the local ID). Press “End” to end the software programmed ID status.

4.3.System Status



Enter the system status interface from function main interface to view the number and classification of all current online units. The current system only contains chairman units and delegate units. The actual changes in the system status can be viewed by turning the current chairman unit and delegate unit on and off.

4.4.System Settings



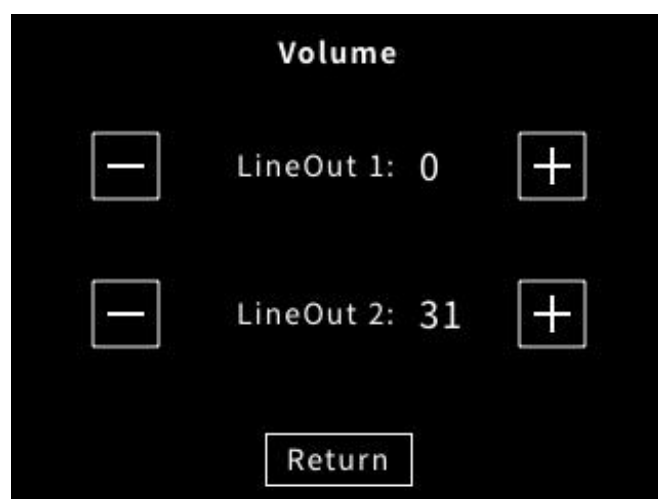
Enter the system status interface from function main interface, with 5 optional sub-items.

4.4.1.Language selection



There are four languages for selection: Chinese, English, Russian and French.

4.4.2.Volume adjustment



Hardware wiring method: Connect the external audio source to the background music input port LINEIN1/2, and output it from LINEOUT1/2 to the subsequent power amplifier speaker device.

After entering the system settings from function main interface, enter the volume adjustment to enter the volume adjustment interface. By rotating to the +/- button, press the button to adjust the volume level to hear the actual music changes. The volume can be adjusted from 0 to 31, and it is 0 when muted.

4.4.3.Restore default parameter settings



Enter the restore default interface and confirm whether to restore default. Restoring default means restoring the factory settings. The default parameters are as follows:

The conference mode is FIFO, and the number of wireless microphones is 8;

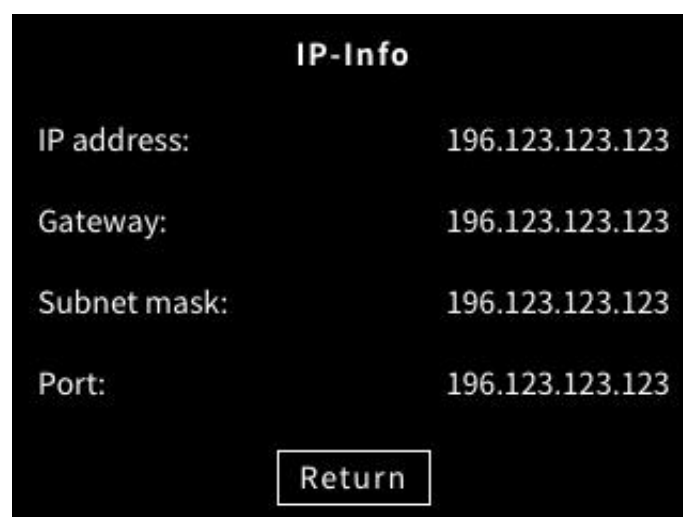
The starting ID of programmed ID is 001;

The default display interface is in Chinese;

The initial LINEOUT1/2 volume is 31;

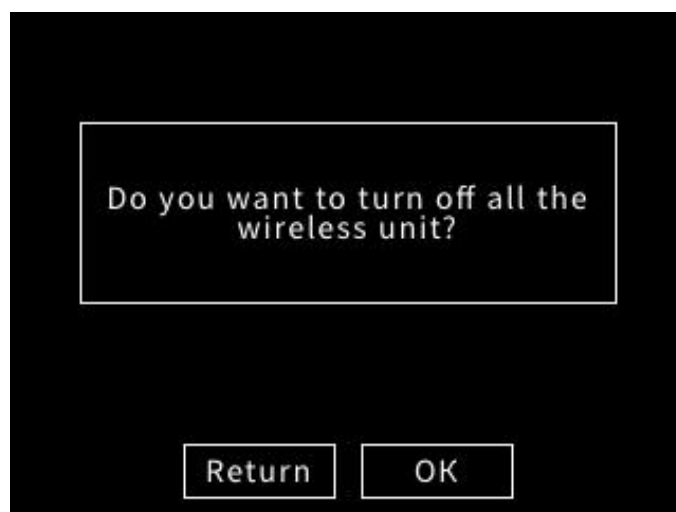
The local IP address is 192.168.168.168, with subnet mask of 255.255.255.0, gateway of 192.168.168.1, port of 50000.

4.4.4.Local IP



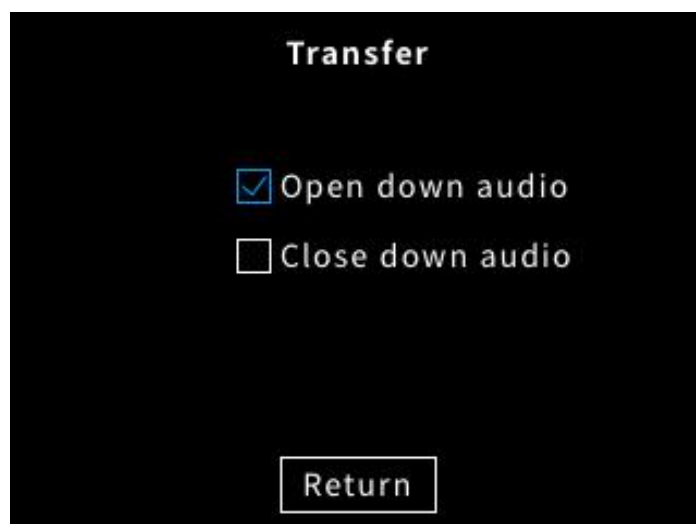
Enter the local IP to view the local IP address, gateway, subnet mask, and port number.

4.4.5. Turn off the wireless microphone



Enter the wireless unit shutdown function and press OK to shut down all wireless units.

4.4.6. Download function



Enter the download function, you can set to turn on or off the download of the wireless unit audio, which is Not opened by default.

4.5. Camera control

The conference host supports VISCA/Pelco_D camera protocols. Users can directly connect a single camera through the RS232/RS485 interface, or connect multiple cameras to the camera tracking host. The camera settings need to be implemented using PC software. The host plus PC software supports camera tracking of wireless microphones.

4.5.1.Camera connection and configuration

485 mode - Users can use the CAMERA-485 interface on the back of the host to connect directly to the camera, set the corresponding position through the PC software and then choose to save the preset position. After saving the preset positions of all the units in turn, select the panoramic position to save.

232 mode - Users can directly connect the camera to the CONTROL SYSTEM interface of the conference host through the 232 serial port direct line originally configured by the camera, and operate the camera in the same way as the 485 mode.

Connect the CONTROL SYSTEM interface to the camera tracking host through a 232 line, and connect the tracking host to the camera, so that the camera with VISCA/Pelco_D protocol can be controlled

4.5.2.Camera tracking instructions

Promotion: Turn on the microphone, and the camera will automatically track the position of the most recently opened microphone.

Demotion: Turn off the microphone and the camera automatically demotes to the microphone position in the last microphone opened state.

All microphones off status: The camera will point to the panoramic position.

4.6.Fire Alarm



By short-circuiting the two signal pins of the ALARM output on the back of the conference host (simulating sending a fire alarm signal to the host), the conference host and unit machines enter the alarm state. When the alarm state is released, the system automatically returns to normal.

4.7.web-side functions

With microphone mode that can be switched arbitrarily, and the output volume can be adjusted arbitrarily.

This screenshot shows the microphone settings page. It features a 'Microphone mode' selector with options: FIFO, Normal, Voice control (selected), and Application. Below this are two sets of radio buttons for 'Number of wired microphones' (1, 2, 4, 8) and 'Number of wireless microphones' (1, 2, 4, 6). The '8' and '6' options are selected. There are two volume controls, 'LINE OUT1 volume' and 'LINE OUT2 volume', each with a slider set to 0 dB and a 'Mute' checkbox. A tip for both indicates a range of -30dB to 0dB with a 1dB step. At the bottom are 'Reset' and 'Save' buttons.

Microphone mode	FIFO	Normal	Voice control	Application
Number of wired microphones	1	2	4	8
Number of wireless microphones	1	2	4	6

LINE OUT1 volume: 0 db ☐ Mute
Tip: range -30dB ~ 0dB, step value is 1dB

LINE OUT2 volume: 0 db ☐ Mute
Tip: range -30dB ~ 0dB, step value is 1dB

Reset Save

1)It has Network upgrade firmware function.

2)It has settings for voice control sensitivity and shut-off time, and IP information can be changed and take effect in real time.

This screenshot shows the voice control settings page. It includes a 'Voice control sensitivity' slider set to 20, with a tip indicating a range of 20 to 70. Below it is a 'Closing time of voice control' slider set to 0, with a tip indicating a range of 0 to 60s. At the bottom are 'Reset' and 'Save' buttons.

Voice control sensitivity: 20
Tip: the input range is 20 ~ 70

Closing time of voice control: 0
Tip: the input range is 0 ~ 60s

Reset Save

This screenshot shows the network settings page. It features three input fields for IP address, Subnet mask, and Gateway. The IP address is 172.16.14.205, the Subnet mask is 255.255.255.0, and the Gateway is 172.16.14.254. A 'Save' button is at the bottom.

IP address: 172 . 16 . 14 . 205

Subnet mask: 255 . 255 . 255 . 0

Gateway: 172 . 16 . 14 . 254

Save

3)It has independent five-band EQ adjustment and sensitivity setting for each microphone.

4)With four languages to switch arbitrarily.

4.8.Other Functions

4.8.1.CONTROL SYSTEM port usage

The CONTROL SYSTEM port on the rear panel of the host is connected to the camera tracking host.

4.8.2.485 interface usage

The host RS485 interface supports up to 5 cameras for camera tracking.

4.8.3.PC terminal function (see PC software operation manual for details)

It has functions such as check-in, voting, voting, election, rating, customization, etc.

With microphone mode that can be switched arbitrarily, and the output volume can be adjusted arbitrarily.

It has settings for voice control sensitivity and shut-off time, and IP information can be changed and take effect in real time.

It has the function of setting the preset position of the camera.

It has timer and Speech countdown settings, etc.

Wifi Digital Conference System

