Professional Digital Conference System

Full Function Conference System

Important Safety Instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- The MAINS plug serving as a disconnection device, should be easy to operate.
- The apparatus should be connected to the MAINS socke t-outlet with protective earth.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Do not place the equipment on any uneven or unstable stand; original product package or appropriate package should be used to avoid damage caused by strong impacts during transportation.
- Power supply cords:
- AC 100 V - 120 V 60 Hz or AC 220 V - 240 V 50 Hz
- For service, please contact the nearest Service Center.
- All products are guaranteed for definite time (see the WARRANTY CARD for details) excluding the following cases:
  - A. All damage or malfunction caused by human negligence;
  - B. Damage or malfunction caused by improper operating by operator;
  - C. Parts damage or loss caused by disassembling the product by non-authorized personnel.
- Use ONLY specified connection cable to connect the system equipment.
- Upon receipt of the product, please fill out the Warranty Card enclosed and post it to Service Center.

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

CAUTION: To reduce the risk of electric shock, DO NOT open covers, no user serviceable parts inside. Refer servicing to qualified service pers onnel only.

CAUTION: DO NOT use alcohol, ammonia or pet roleum solvents or abrasive cleaners to clean t he devices.

The lightning flash with an arrowhead symbol, with an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the products enclosure that may be of suffic ient magnitude to constitute a risk of electric shock to persons.

Important Safety Instructions

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To reduce the risk of fire or electric shock, DO NOT expose units to rain or moisture.

Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical or applicable local codes.

Power Disconnect: Units with or without ON – OFF switch have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON – OFF switch is in the ON position. The power cord is the main power disconnect for all units

WARNING: The apparatus should be connected to a mains socket outlet with a protective earthing connection.

Contents

Chapter 1: Introduction

1.1 Summary

This series of products is a brand-new intelligent full-function digital conference system, which perfectly introduces all-digital technology and integrated network technology in to the conference system, and fully combines advanced digital technology, network technology and audio technology. It can be seamlessly connected with smart phone systems, central control systems, video conferencing systems, and monitoring and fire protection systems, providing a more complete solution for efficient modern conference system engineering.

The "hand in hand" connection technology between the conference units in the system is simple to install and supports cascading functions. The system supports 48 kHz audio sampling frequency, and the frequency response can reach 20 Hz-20 kHz. The system is composed of conference controller, conference unit and application software. Among them, the conference unit has a chairman speaking unit and a representative speaking unit, and the application software is composed of multiple application software modules.

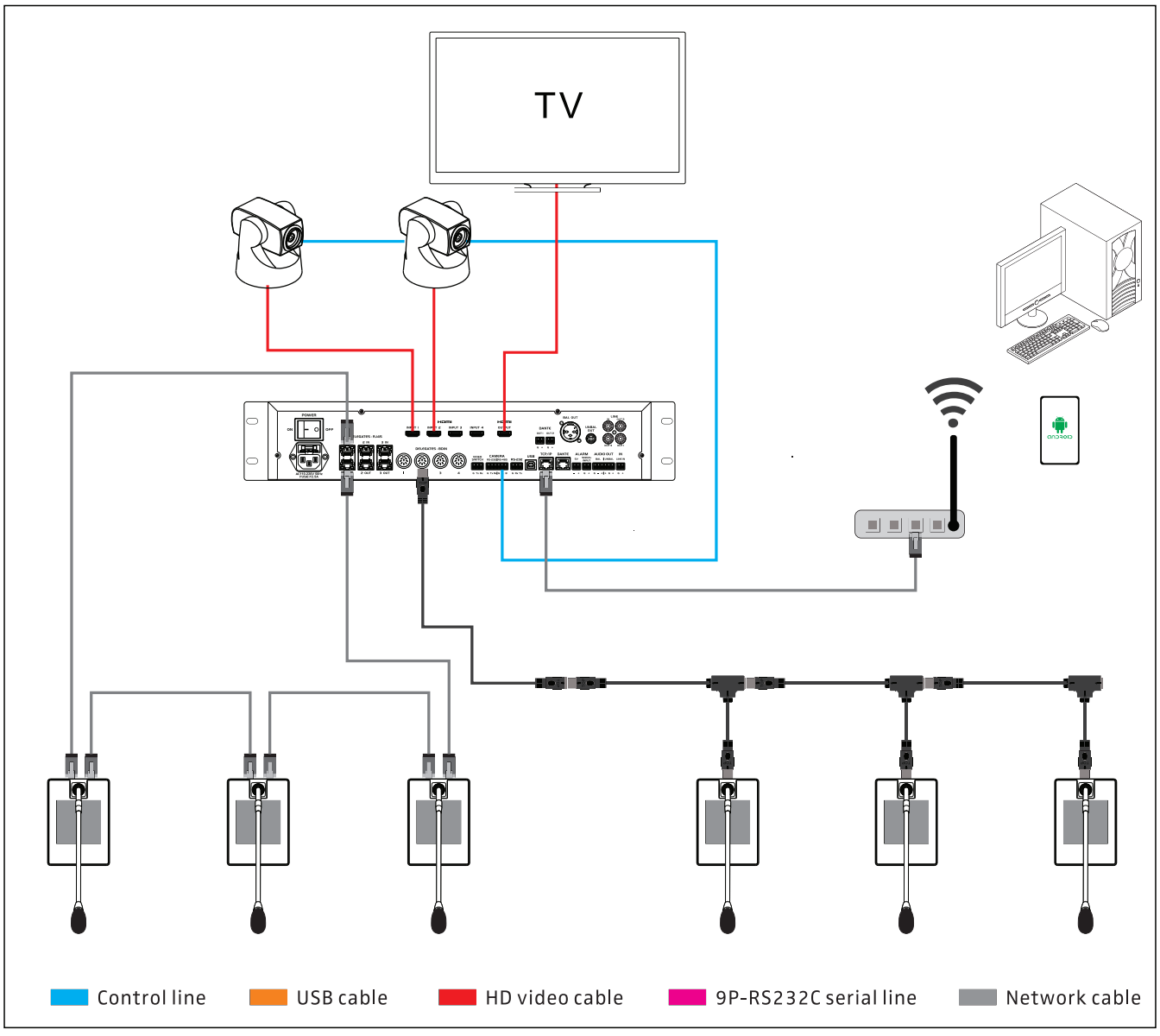


Figure 1.1 System overview

1.2 System technology

1. conference system controller

The conference system controller is the core equipment of the digital conference system . It supplies power to all conference units and is also the connection and control bridge between the system hardware and the system application software. The conference system controller can operate independently to realize basic conference control functions; in conjunction with the system software, it can realize more powerful management and control. Networked collaborative management, the system controller can set the IP address , has a TCP/IP network interface, can connect to a wireless router, and use computers, mobile phones,tablets and other devices in the same LAN to operate and set the controller, support Android/Windows In operating systems, the distance between the conference system controller and the computer can theoretically be arbitrarily far, which completely breaks through the limitation that the distance between the conference system controller and the computer cannot exceed 15 meters under the traditional RS-232 connection mode, and can realize the conference system Remote control, remote diagnosis and remote upgrade.

The introduction of network technology makes the conference system integrate with the rapidly developing Internet technology, communication technology, and mobile terminal technology, so that it can fully enjoy the convenience brought by modern technology. For example, using wireless local area network technology to wirelessly manage and control the conference system. The introduction of network technology also makes the conference system truly integrated into the entire building intelligent network.

This series of conference systems occupies an 8-core cable or CAT6 network cable. A single cable can transmit high-quality audio signals, control data and data data at the same time, and can adapt to the wiring requirements of various venue environments. The professional 8-core T-shaped cable or CAT6 network cable facilitates the installation and disassembly of the system; the "hand in hand" wiring design of the conference unit allows it to be connected at any node of the system, which facilitates the expansion and movement of the system.

2. Conference Unit

The system controller supports a variety of conference units, and is equipped with a variety of models according to different needs, ranging from desktop, embedded, speaker, and display conference units. The appearance of the microphone unit is humanized, which is convenient for users' various needs.

3. Accessories

Some special accessory equipment is involved in the connection and use of the system, including: connecting cables, wiring bases, earphones, video display cards and other equipment.

1.3 Application software

The supporting software of the system is rich and complete, and has the characteristics of simple operation, safety and reliability, and easy maintenance. byThe connection line of the system is integrated with all conference system equipment as a whole, and the operator can centrally check the conference system.The system implements all-round control, which simplifies operation and improves efficiency.

The conference system software adopts modular design, including:

1. Unit detection module
2. Proposal management module
3. Conference venue management module
4. Personnel management module
5. Sign-in management module
6. Conference control module
7. Proposal control module
8. Report statistics module
9. Data module
10. System control module
11. User management module

1.4 Functions and Features

1. Discussion function microphone settings

■ 5 "speaking modes" can be set:

- ◆ "FIFO" : If the maximal number (1-8) of active delegate microphones has been reached and if another delegate unit is activated, the delegate unit switched on first will be switched off first automatically
- ◆ "LIMIT": If the maximal number of active microphones, previously fixed, has been reached, delegates requesting to speak join a request-to-speak list. The first unit joining the list will become active when the active unit gets off.
- ◆ "FREE" : Allows up to 20 delegate speech units to be turned on at the same time, and is not limited by the "Speak Number"
- ◆ "APPLY" : When the delegate presses the microphone ON/OFF button to request to speak,the chairman unit can approve or reject his/her request.
- ◆ "VOICE" : The delegate's microphone is activated when spoken into.

■ The number of speakers can be set from "1-8".

■ Two "speaking time modes" can be set:

- ◆ "Timer mode" mode, you can set "0-999" seconds, the microphone will automatically turn off when the set time is reached.
- ◆ "Auto mode" mode, you can set "0-999" seconds, after the set time, if the microphone does not speak within the set time, the microphone will automatically shut down.

2. The number of chairman units is not limited and supports extended functions

■ The number of chairman units is unlimited. The main unit supports extended functions and supports up to 1200 microphones at the same time, which meets the requirements of the international conference program.

3. Camera automatic tracking function

■ Equipped with "SONY VISCA, PELCO P, PELCO D" communication protocol cameras can realize automatic tracking function and can record and record the panorama of the venue and speakers.

4. Efficient voting and sign-in function

■ As long as it is equipped with a chairman unit with a display screen, the voting function can be realized without a computer ("yes/abstain/no"), and the voting result is displayed on the LCD screen of the conference unit

■ The software can support various forms of voting:

- ◆ Voting method: yes/abstain/no
- ◆ Election method: 1/2/3/4/5
- ◆ Rating method:--/-/0/+/++

1.4 Functions and Features

5. Conference sign-in function

■ sign-in function (key-press sign-in)

6. Comprehensive meeting management

■ Conference office automation, arrange routine and tedious work in an orderly manner, process and release various information and data in the most timely manner;

■ Provides comprehensive control functions on the venue environment, meeting progress, and delegate arrangements.

7. Full remote control, remote diagnosis and remote upgrade

■ Networked collaborative management, the system controller can set the IP address, has a TCP/IP network interface, can be connected to a wireless router, and use computers , mobile phones, tablets and other devices in the same LAN to operate and set the controller, support Android/Windows systems

8. Seamless connection with conference sign-in system and central control system

■ The conference system is seamlessly connected with most Intelligent central control systems, thus forming a complete conference system solution, which not only has basic conference functions, but also comprehensively manages the multimedia peripheral equipment, ambient lighting, projection display and Sound system, etc.

9. Perfect anti-radio frequency interference performance (such as mobile phones)

■ The anti-interference circuit design prevents all mobile phone signal interference.

10. Multi-room configuration function

■ Multiple conference system controllers can be used as independent conference systems, or can be easily expanded to form a large-scale conference system. By setting the working mode of the mainframe as master mode or slave mode, flexible multi-room configuration functions can be realized.

Chapter 2 Conference System Controller

The main unit of the conference system is the core equipment of the digital conference system. It supplies power to all conference units, and is also the connection and control bridge between system hardware and system application software. The conference system controller can run independently to realize basic conference control functions; with the system software, it can realize more powerful management and control.

The conference system controller can connect up to 100 speaking units. If you need to connect more speaking units, you can connect to an expansion controller .

Product model:

QCC W8630D

Full function digital conference system controller (Discussing, Video tracking, Sign in, Voting)

2.1 conference system controller

2.1.1 function and indication

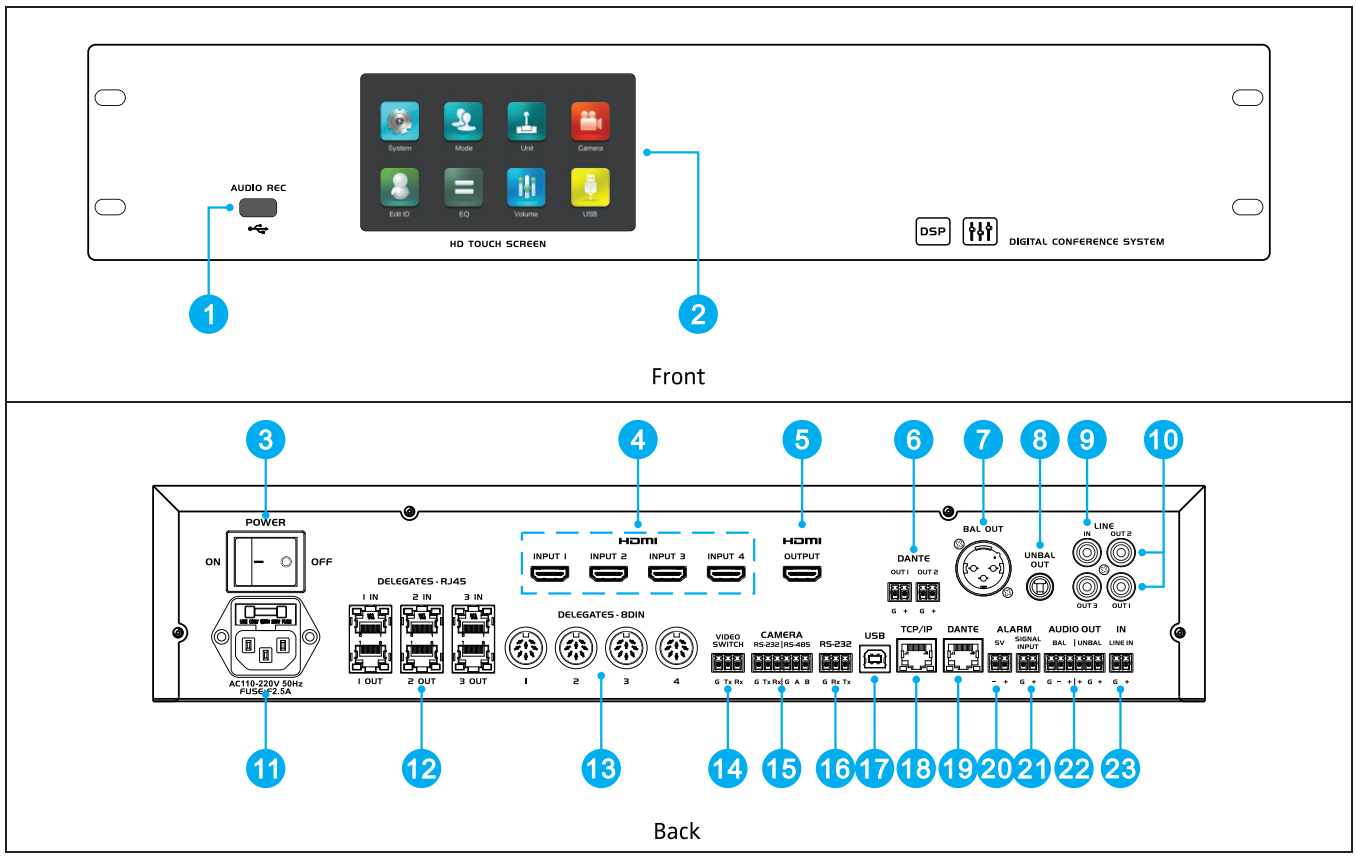


Figure 2.1 Front and rear panels

2.1 conference system controller

2.1.1.1 Front panel

1. USB recording output port
2. HD 5-inch touch screen

2.1.1.2 Rear panel

3. Power switch
4. HDMI input port 1-4 (optional)
5. HDMI output port (optional)
6. DANTE remote analog audio output port 1-2 (Phoenix plug interface)
7. Original sound channel line output interface (3-pin XLR balanced output)
8. Original sound channel line output interface (6.3mm jack/unbalanced input)
9. Background music audio input port (RCAx1)
10. Audio output port (RCAx3)
11. Power input interface (use a three-pin grounding plug)
12. Conference unit interface (RJ45, 3 groups in total, divided into input and output)
13. Conference unit interface (8 cores, 4 channels in total)
14. HD video 232 switcher interface (Phoenix plug interface)
15. Camera 232 communication interface, 485 communication interface (Phoenix plug interface)
16. Central control system 232 interface (Phoenix plug interface)
17. USB local communication connection interface
18. Ethernet interface
    - The host computer and PC or Android mobile terminals use TCP/IP protocol to communicate through the Ethernet interface, so that PC or mobile terminal control system
19. DANTE digital audio output (optional)
20. Fire alarm linkage trigger interface (Phoenix plug interface)ｆ
    - When +5 V is applied, all the microphones of the conference unit are turned off, and "ALARM" will be displayed on the LCD screen of the conference unitｆ
    - When this interface is disconnected, it returns to the working state before entering the alarm state
21. Fire alarm audio signal input (Phoenix plug interface)
22. Original sound channel line output interface
    (Phoenix plug interface balanced & unbalanced output)
23. Background music audio input port (Phoenix plug connector)

2.1.2 Installation

The conference system controller can be installed on a standard 19-inch cabinet. There are two screw holes on each side of the controller panel. Use snailsFix the four holes ① with the wire.

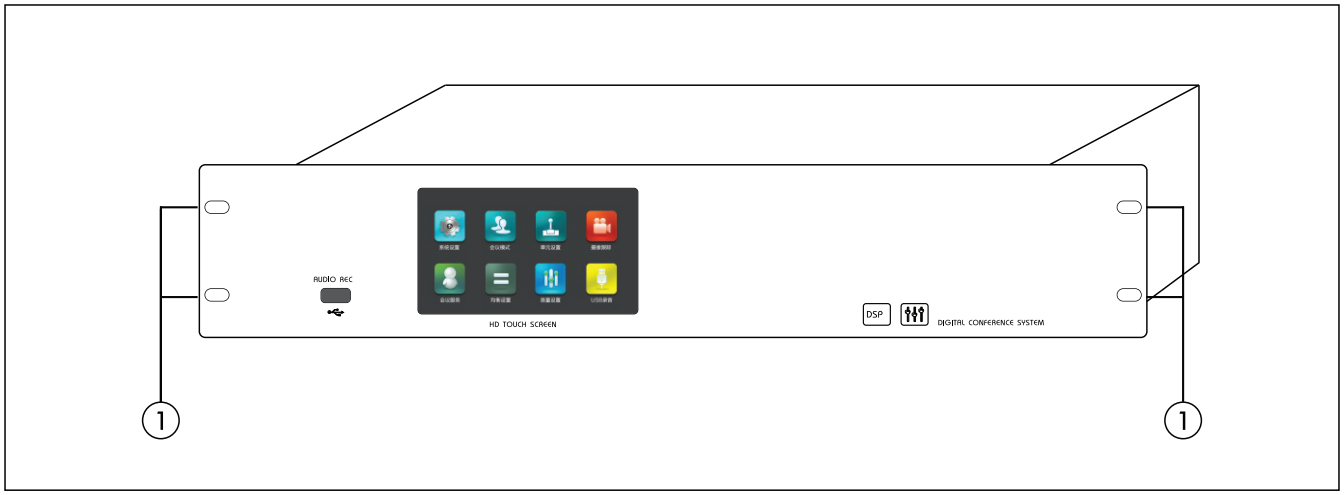


Figure 2.2 Installation

2.1.3 Connection

2.1.3.1 Connection with conference unit

The conference system controller has 3 groups of 6 RJ45 microphone unit interfaces and four 8P-DIN conference unit output interfaces. The system comes with a male standard cable (RJ or 8P-DIN interface) and the corresponding connection line delivered with the base .

When the controller is connected to the conference unit, just connect the RJ interface network cable or 8P-DIN male connector of the first conference unit to the output interface of the controller.

When the main unit is far away from the conference unit, it is recommended to use an 8P-DIN extension cable. Both ends of the cable are 8P-DIN male and 8P-DIN female. Connect the 8P-DIN female end of the extension cable with the standard 8P-DIN male end cable or T-shaped connecting wire that comes with the conference unit. Then connect the 8P-DIN male end of the extension cable to the output interface of the controller.

2.1.3.2 Connection with auxiliary equipment

The system controller has diversified auxiliary equipment interfaces, and with different auxiliary equipment, it can realize the input and output of signal and audio signals.

2.1.3.3 Expansion connection with conference controller

By connecting the expansion controller, the system can connect up to 1000 speaking units, as shown in Figure 2.4

2.1.3 Connection

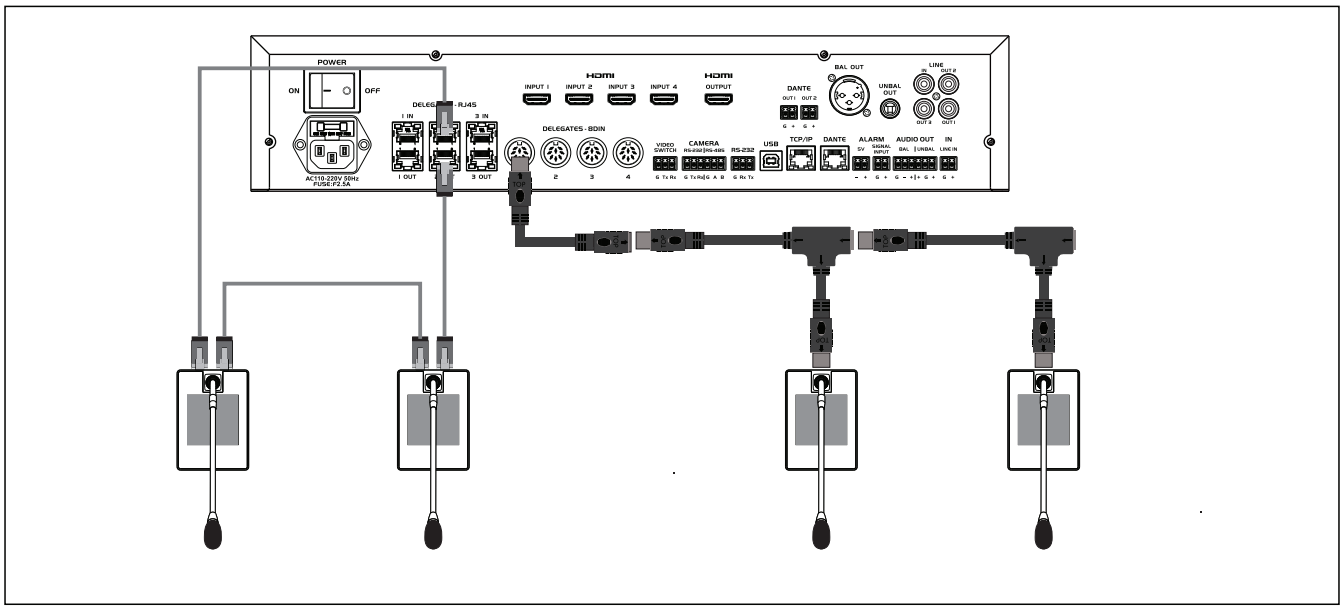


Figure 2.3 The connection between controller and unit

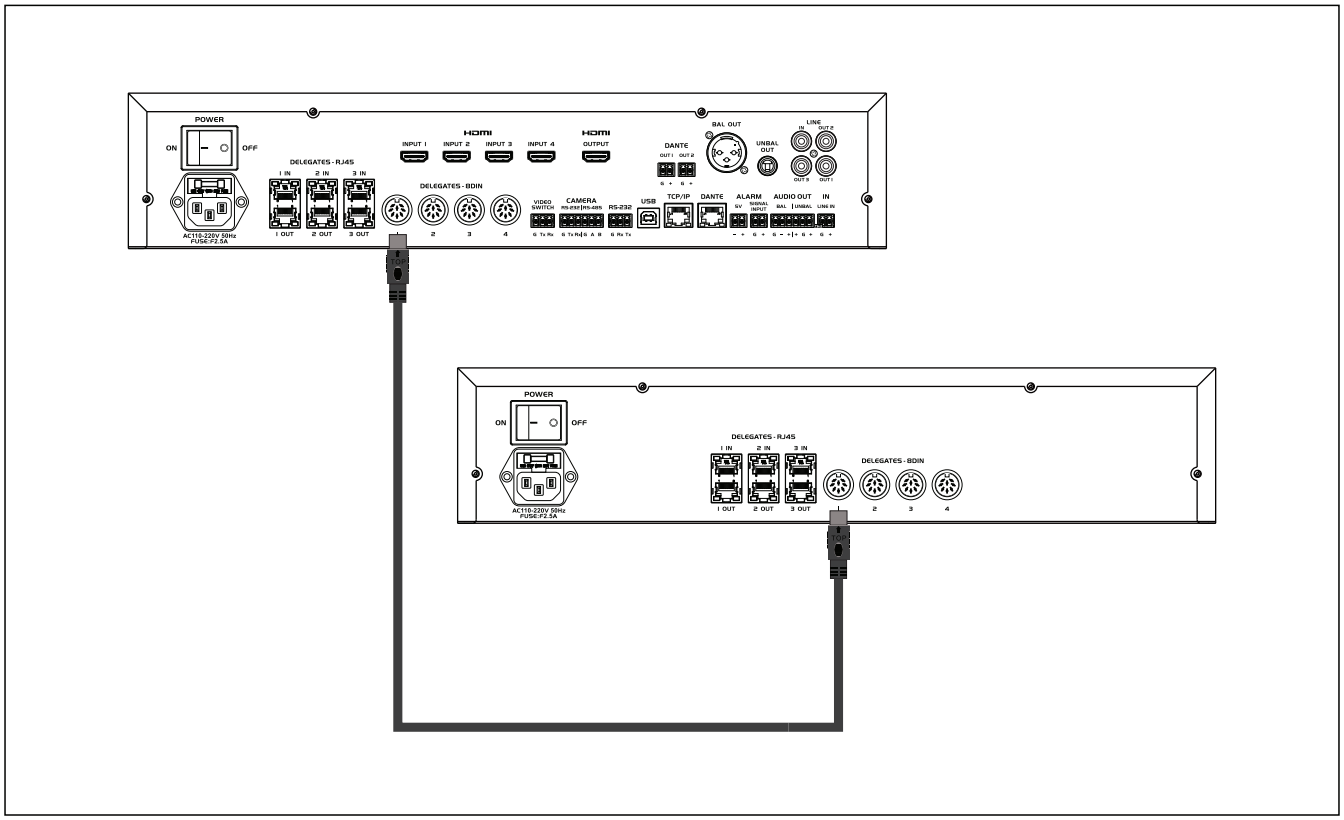


Figure 2.4 The connection of extended controller

2.1.4 Setting and operation

After completing the system installation and connection, you need to set up the conference system controller before the conference starts. The controller menu structure is shown in the figure below:

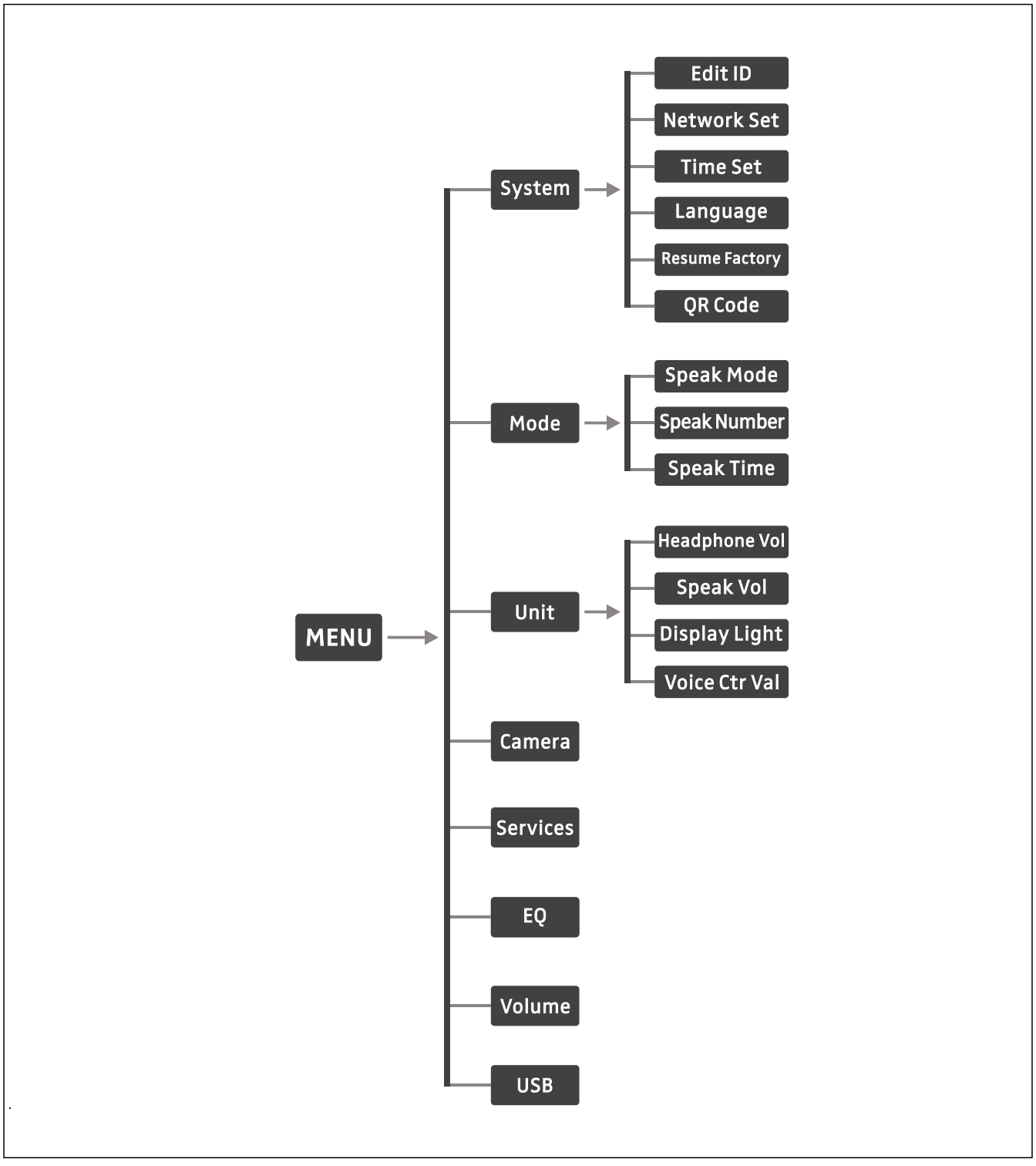


Figure 2.5 Menu of controller

A. Power on initialization

After connecting, press the power switch and the controller will enter the boot screen, as shown in Figure 2.6.1

Figure 2.6.1

After 2 seconds, it will automatically enter the standby mode, Swipe the screen to enter the main interface, as shown in Figure 2.6.2:

Figure 2.6.2

2.1.4.1 System Settiing

Press the "System Setting" icon to enter the system settings menu, as shown in Figure 2.6.3

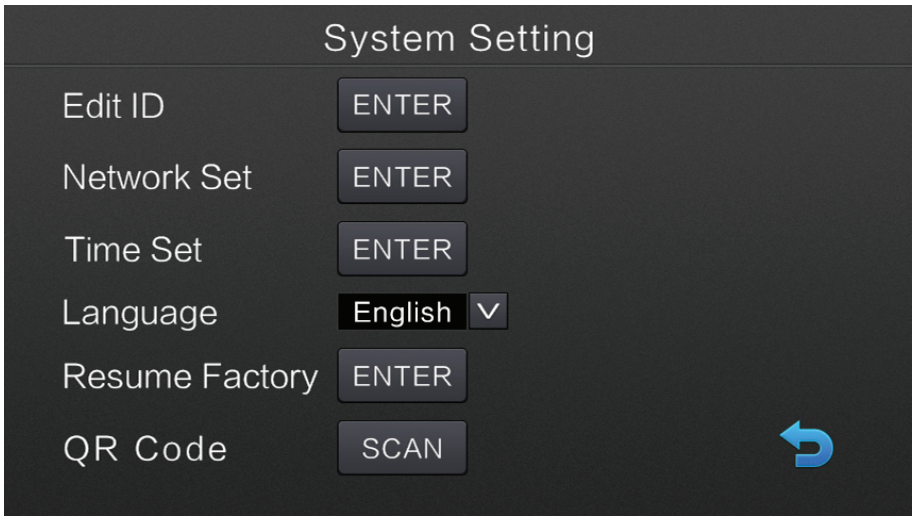


Figure 2.6.3

1.Edit ID

Press the "Edit ID" icon to enter the edit unit ID menu, as shown in Figure 2.6.4

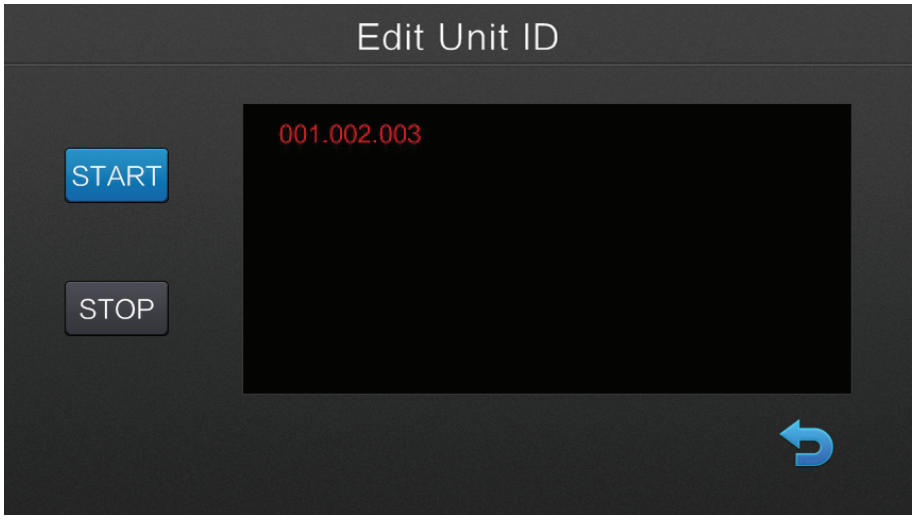


Figure 2.6.4

When the controller is connected to the speaking unit, you need to edit the ID for the first time. Click "Start", and then press the microphone speaking button of all units. After the editing is successful, the current ID will be displayed on the display of the unit. You only need to edit the ID once., ID number is automatically saved in the unit.

2.Network Setting

Set the Local IP, remote IP, netmask, etc. to realize the mobile device control system, as shown in Figure 2.6.5

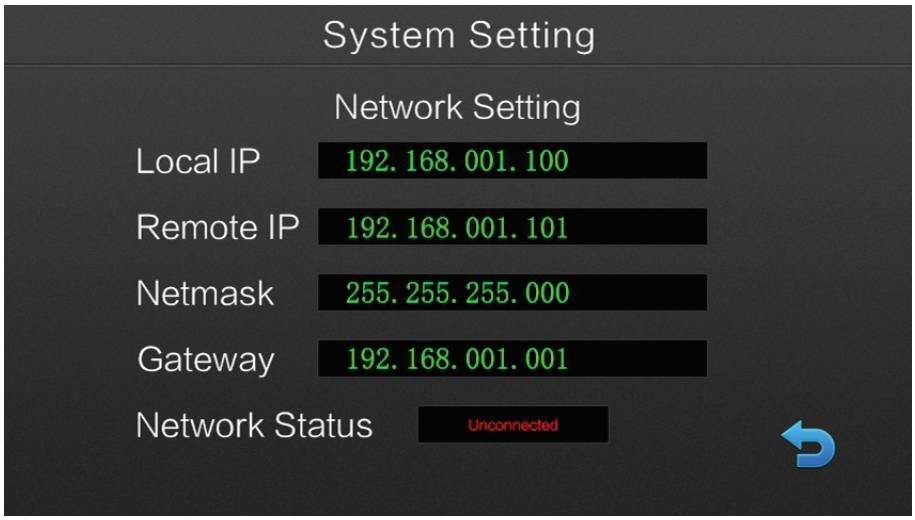


Figure 2.6.5

"Local IP" : It is a unified address format provided by the IP protocol. It assigns a logical address to each network and each host on the Internet to shield the difference in physical addresses. System PC software or WEB The IP address of the login interface must be consistent with the host setting before you can log in and use it.

"Remote IP" : Refers to the IP of the communication control equipment in the same local area network, such as the IP of a computer.

"Netmask" : Indicate which bits of an IP address identify the subnet where the controller is located and which bits identify the bit mask of the host. The subnet mask cannot exist alone, it must be used in conjunction with the IP address. The subnet mask has only one function, which is to divide an IP address into two parts, the network address and the host address.

"Gateway" : A distributed database on the Internet that maps domain names and IP addresses to each other, enabling users to access the Internet more conveniently. Through the host name, the process of finally obtaining the IP address correspon ding to the host name is called domain name resolution.

"Network Status": Display the current connection status between the device and the network

3.Time setting

Set the date and time of the current system. After setting, it will automatically synchronize the date and time of the speaking unit, as shown in Figure 2.6.6

Figure 2.6.6

4.Language

Set the language of the current system. After setting, it will automatically synchronize the language of the speaking unit, as shown in Figure 2.6.7

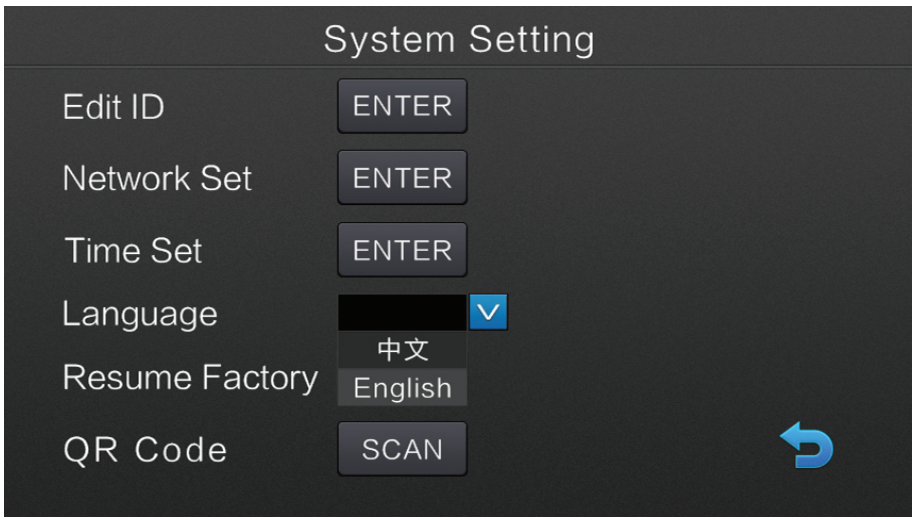


Figure 2.6.7

5.Resume Factory Setting

If the system cannot be used normally due to the disorder of the setting data, the data can be cleared by restoring the factory settings, as shown in Figure 2.6.8

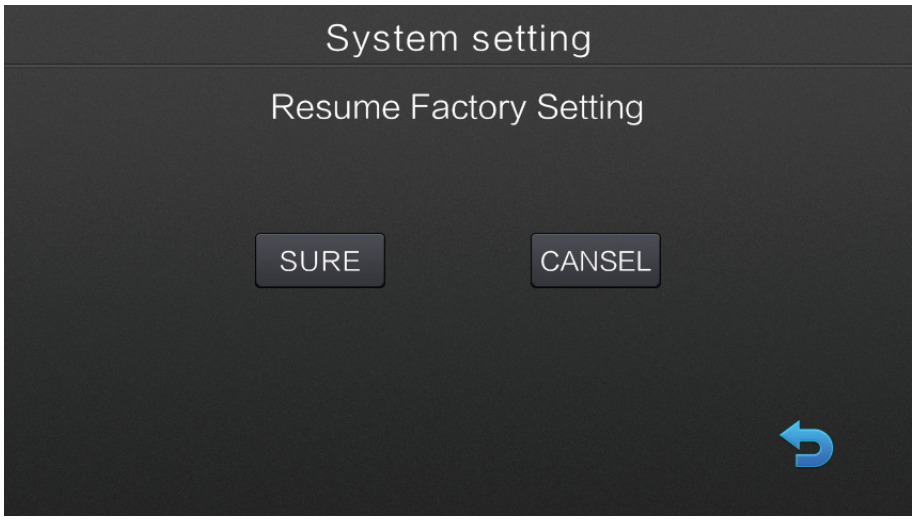


Figure 2.6.8

6.QR Code

After passing the above network settings, use the mobile device to scan the QR code, downl oad and install the APP to control the system, as shown in Figure 2.6.9

Figure 2.6.9

2.1.4.2 Meeting mode

Press the "Mode" icon to enter the conference mode setting menu, as shown in Figure 2.7.0

Figure 2.7.0

1.Speak Mode

Set the mode of microphone unit speaking on and off

"FIFO" : If the maximal number (1-8) of active delegate microphones has been reached and if another delegate unit is activated, the delegate unit switched on first will be switched off first automatically

"LIMIT": If the maximal number of active microphones, previously fixed, has been reached , delegates requesting to speak join a request-to-speak list. The first unit joining the list will become active when the active unit gets off.

"FREE" : Allows up to 20 delegate speech units to be turned on at the same time, and is not limited by the "Speak Number"

"APPLY" : When the delegate presses the microphone ON/OFF button to request to speak, the chairman unit can approve or reject his/her request.

"VOICE" : The delegate's microphone is activated when spoken into.

2.Speak Number

select the maximal number of delegate units that can be turned on at the same time: 1-8; Chairman unit is not limited by the "Speak Number".

Figure 2.7.1

3.Speak Time

Set the speaking time of the microphone unit, divided into timing mode and automatic mode, and also be choosed to disable.

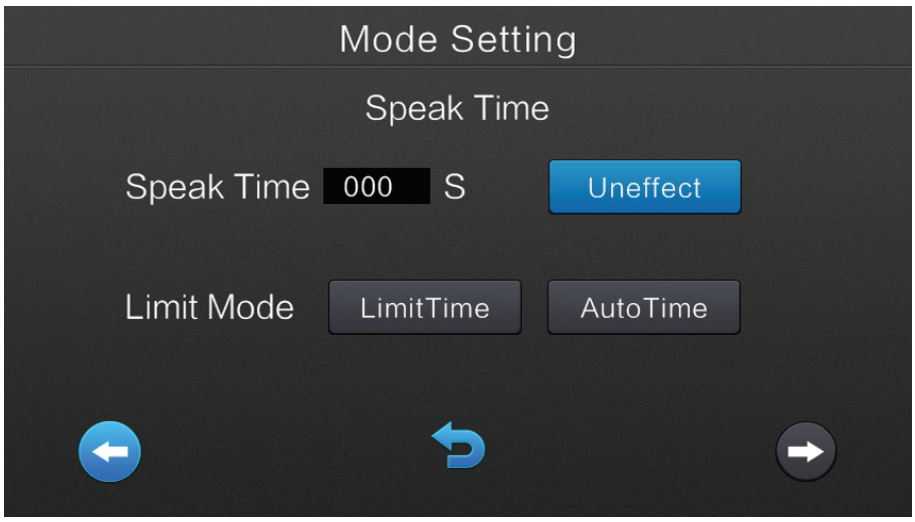


Figure 2.7.2

"Limit Time" : "0-999" seconds can be set, and the microphone will automatically turn off after the set time is reached.

"Auto Time" : "0-999" seconds can be set. After the set time, if the microphone does not speak within the set time, the microphone will automatically turn off.

2.1.4.3 Unit Setting

Press the "Unit " icon to enter the unit setting menu, as shown in Figure 2.7.3 and 2.7.4

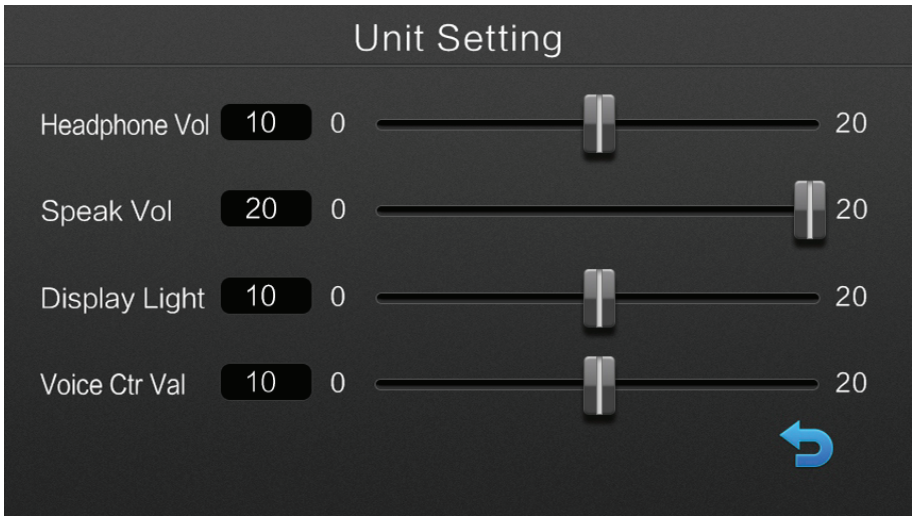


Figure 2.7.3

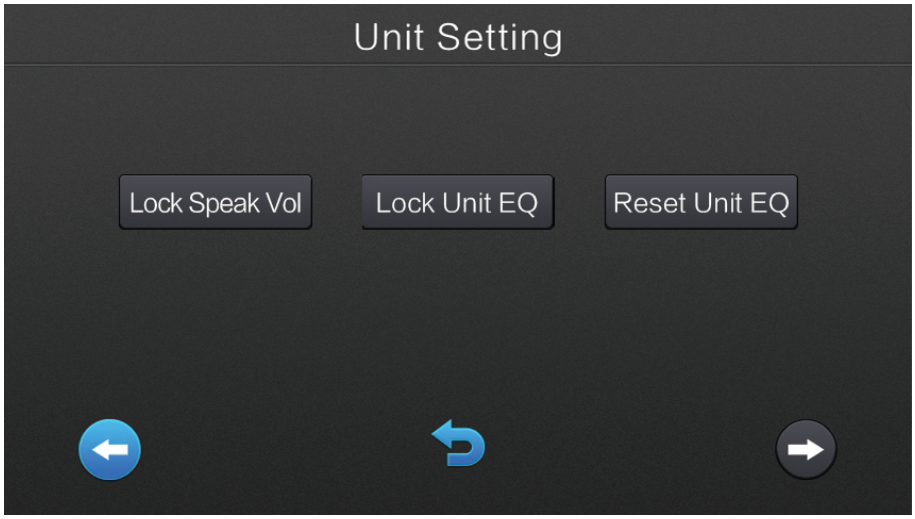


Figure 2.7.4

"Headphone Vol" : Adjust the volume of the headphone or speaker of the speaking unit, the setting range is 0-20.

"Speak Vol" : Adjust the volume of the microphone of the speaking unit, the setting range is 0-20.

"Display Light" : Adjust the brightness of the display screen of the speaking unit, the setting range is 0-20.

"Voice Ctrl Val" : In the voice control mode, adjust the sensitivity of the microphone that activates the speaking unit, and the setting range is 0-20.

"Lock Speak Vol" : Press this key to lock the speaking volume of the speaking unit microphone.

"Lock Unit EQ" : Press this key to lock the balance setting of the speaking unit microphone.

"Reset Unit EQ" : Press this key to restore the balance of the speaking unit microphone to the default setting.

2.1.4.4 Camera Setting

Press the "Camera" icon to enter the camera tracking menu, as shown in Figure 2.7.5

Figure 2.7.5

1.Parameter setting

Set the video tracking parameters of the controller, such as protocol and baud rate, etc.

"Camera Mode" : Set the communication mode between the controller and the camera.

a."Call Position" : In this mode, turn on the unit microphone, the ID of the unit will be displayed in the current unit ID edit box of the host (the unit with ID 1 corresponds to the camera's No. 1 preset position, one-to-one corresp ondence) and the camera address called by the unit.

b."Set Position" : In this mode, can control the up and down functions of the camera to set the preset position.
(Note: must be in this mode to set camera tracking and save presets)

"Camera Protocol" : Set the communication protocol between the host and the camera. There are three protocols: VISCA, PELCO-D, and PELCO-D.
(Note: The protocol must be the same as the camera itself)

"Camera Baud " : Set the communication baud rate between the host and the camera, there are three baud rates 9600, 4800, 2400
(Note: the baud rate must be the same as the camera itself)

"Switch Baud " : Set the communication baud rate of the host and the HD matrix. There are four baud rates of 38400, 19200, 9600, and 4800.

"Camera addr" : Set the ID of the camera currently to be controlled. When using multiple cameras, the camera itself needs to be set with different addresses. ID "1" means to control the first camera, and so on.

"Max Position" : Set the maximum preset number of camera, the default value is 128, as long as the preset position of the whole project does not exceed 128, this value does not need to be modified.

"Camera Speed": Set the rotation speed of the camera, the default is 100.

2. Tracking settings

Set and save the preset position of the camera, as shown in Figure 2.7.6

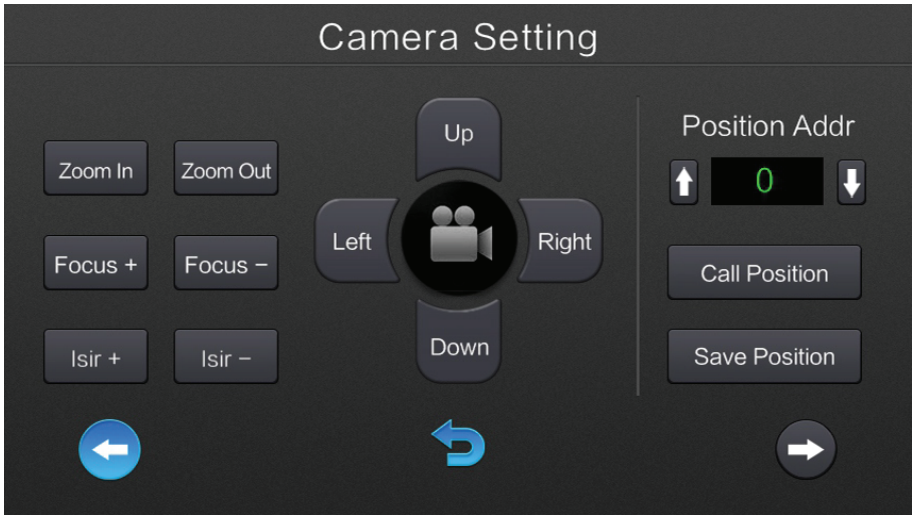


Figure 2.7.6

The operation method is as follows:

To control the camera, set the unit ID corresponding to the preset position of the camera

a. First, set the correct camera protocol, camera serial port baud rate, camera address, camera maximum preset position, and camera rotation speed in the parameters.

b. Modify the preset address, "0" is the camera panoramic bit address code, "1" is the address code of the speaking unit with ID "001", and so on.

c. If the value of "1" is selected for the preset address, the microphone light of the speaking unit of the ID will flash automatically. The engineer debugging personnel will control the up, down, left and right and focal length of the camera according to the position of the speaking unit, and adjust the camera pan/tilt. Click "Save Position" to save the preset position corresponding to the speaking unit of the current ID. After saving, the value of the preset address will automatically increase by 1 and become "2 ". At this time, the speaking unit with ID "002" The microphone lamp of will flash, and then set the camera according to the above description.

2.1.4.5 Service

Press the "Service" icon to enter the service menu, as shown in Figure 2.7.7

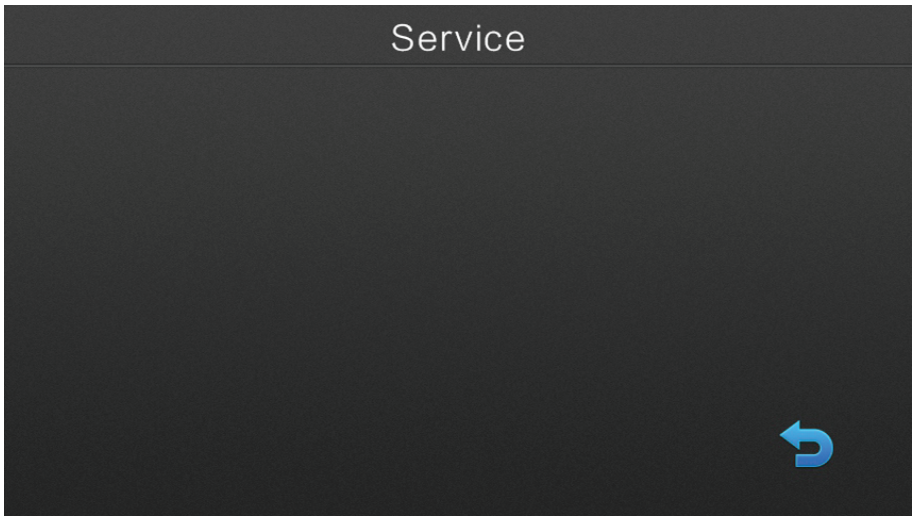


Figure 2.7.7

If there is a speaking unit applying for service, this interface will pop up and prompt the service requirements of the applying unit, as shown in Figure 2.7.8

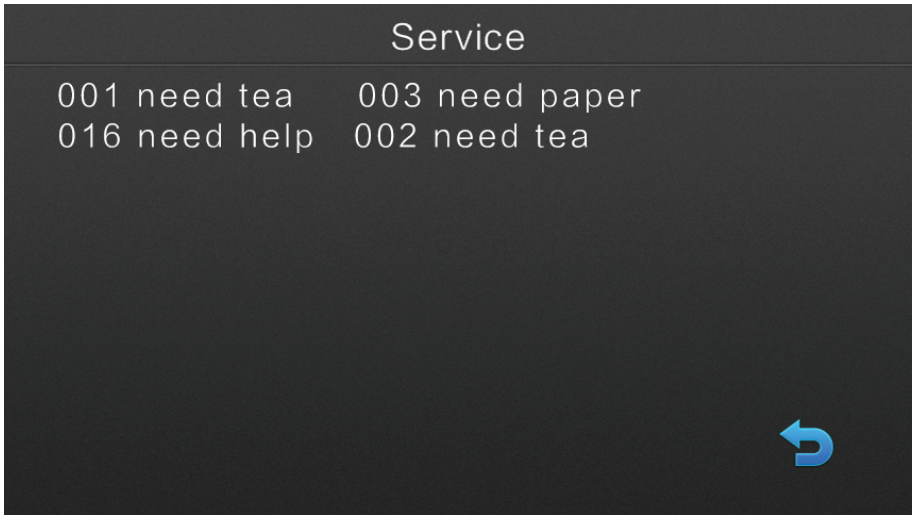


Figure 2.7.8

If the requested unit cancels the service, the above request will automatically disappear

2.1.4.6 EQ

Press the "EQ" icon to enter the setting menu, as shown in Figure 2.7.9

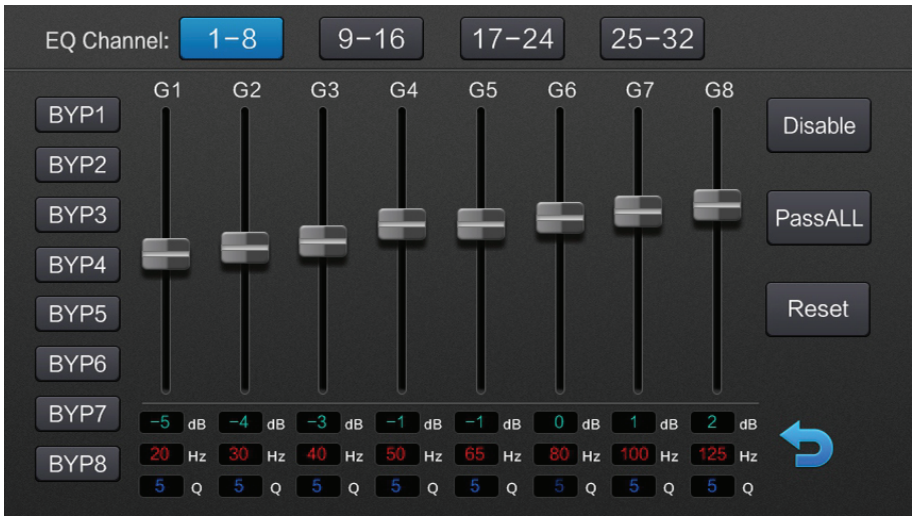


Figure 2.7.9

1. Introduction to parameters

"Eq Channel" : Each page displays 8 channels 1-8, 9-16, 17-24, 25-32

"BYP1-8" : Each page displays 8 BYP1-8, 9-16, 17-24, 25-32, such as BYP1 is pressed, corresponding to the bypass Eq1 channel (equalization does not work, the channel is in the through state), BYP1 is not pressed, the equalization of channel 1 will work.

"Disable" : After pressing, the audio will not be processed
Without pressing, the audio is processed.

"Pass All" : After pressing, the audio goes through the equalization processing circuit, but the EQ does not work.
Without pressing, the audio goes through the equalization processing circuit, and the EQ takes effect.

"Reset" : Restore the EQ to factory settings.

2.Operation

a. Slide the bar to set the gain of the corresponding EQ segment, slide the fader to modify this parameter, or click the edit box to modify, the parameter unit is dB
b. Click the center frequency edit box to modify the center frequency, the unit is HZ.
c. Click the Q value edit box to modify the Q value parameter, the unit is Q.
d. Click the corresponding bypass button on the right to bypass the parameter setting of the corresponding segment.

2.1.4.7 Volume Setting

Press the "Volume Setting" icon to enter the volume setting menu, as shown in Figure 2.8.0

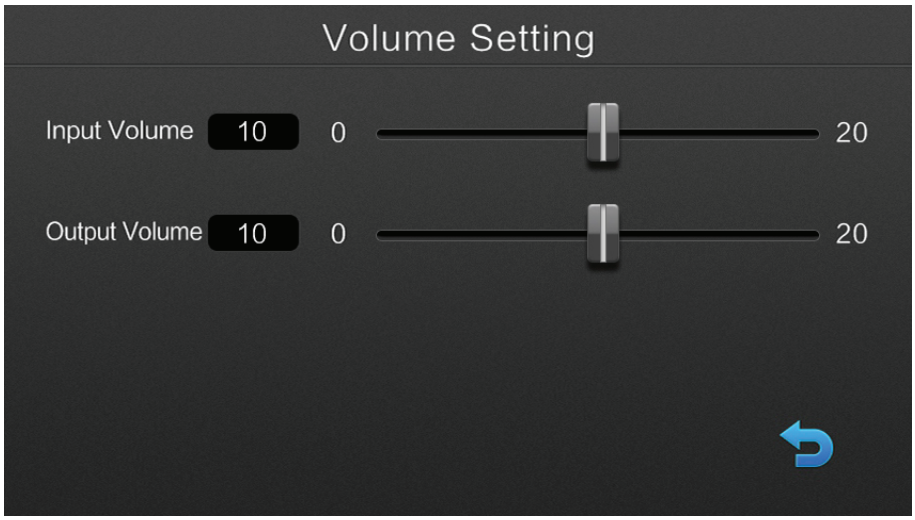


Figure 2.8.0

"Input Volume" : Set the input volume of the audio input interface of the controller, the adjustment range is 0-20.

"Output volume" : Set the output volume of the controller's audio output interface, the adjustment range is 0-20.

2.1.4.8 USB recording

Press the "USB" icon to enter the USB recording menu, as shown in Figure 2.8.1

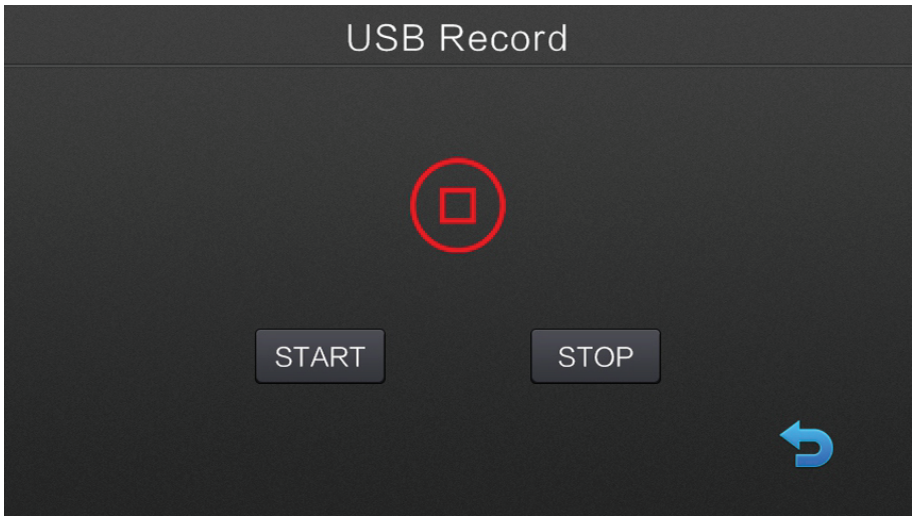


Figure 2.8.1

1.Operation

a. Insert the USB flash disk on the front panel of the controller

b. Click the "START" button in the USB recording menu, and the original red stop button will turn into a recording state icon at this time

c. After the meeting is over, press the " STOP " button to stop recording. At this time, the system will automatically save the recording file on the U disk, and the audio file format is WMA

Chapter 3 Conference Unit

3.1 Summary

Conference unit is the common name to describe the units used by the attendees to contribute to a conference. The term includes discussion unit (chairman/delegate), voting unit etc. Various features are available for the attendee, depending on the type of speaking unit operated: listen, speak, request to speak, information display, key-press sign-in, voting etc.

3.1.1 Conference unit

Conference unit provides speaking function.
Microphone and loudspeaker are the basic components.
Conference unit includes chairman unit, delegate unit.
Conference unit are available as foldaway, tabletop, flush-mounted, depending on the method of installation and the appearance wanted by the user. This choice greatly enriches the diversification requirements by all kinds of users.

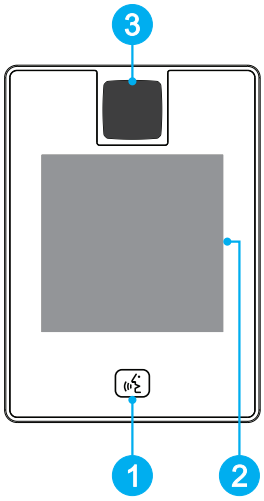
Product model:
QCC W8630D Series:

Countertop
QCM W8630C
Full-function conference system chairman unit
(4-inch capacitive touch screen, voting multi-function button, sign-in)

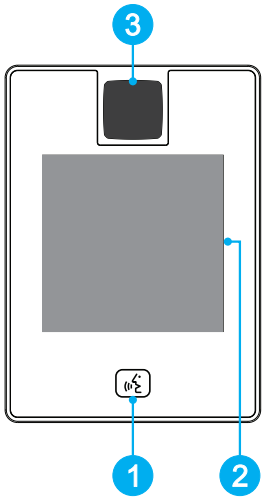
QCM W8630D
Full-function conference system delegate unit
(4-inch capacitive touch screen, voting multi-function button, sign-in)

3.2 Countertop units

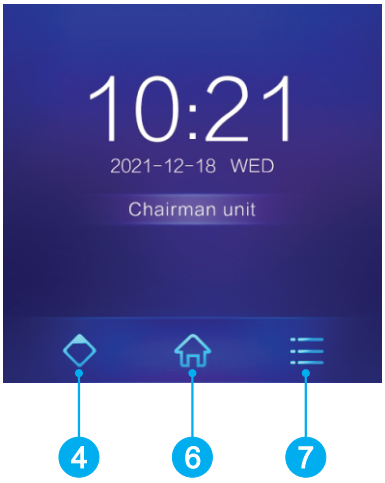
3.2.1 Function and indication



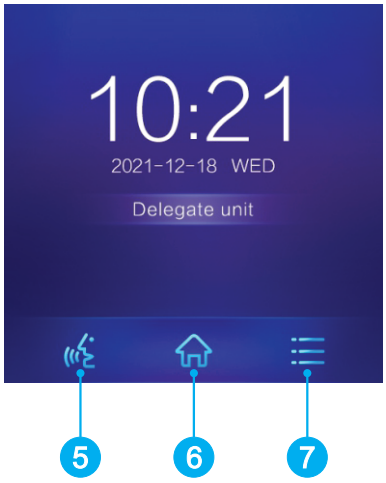
QCM W8630C Chairman Unit



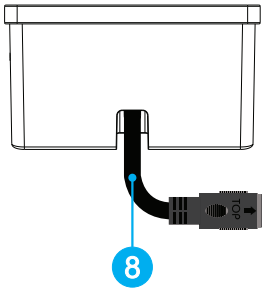
QCM W8630D Delegate Unit



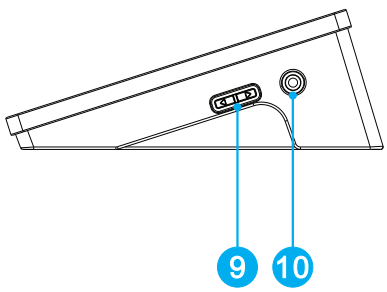
Homepage-Chairman



Homepage-Delegate



Back



Side

Figure 2.9 Countertop unit

3.2 Countertop units

3.2.1.1 Front

1. **Microphone On/Off key with indicating light (for the chairman unit)**
   Microphone On/Off/request key with indicating light (for the delegate unit)
   - Chairman unit: press this key to activate/deactivate the microphone;
   - Delegate unit: press this key to activate/deactivate the microphone or request/cancel request to speak.

2. **4-inch touch screen**
   - Multilingual (Simplified Chinese, English) menus can be displayed online.

3. **When using a square tube, it is a fixed square microphone tube interface (not removable)**
   When using a gooseneck microphone tube, it is a detachable microphone tube spiral movable interface

3.2.1.2 Homepage

4. **Priority key (chairman unit)**
   - All active delegate microphones will be turned off when this key is pressed;
   - All active delegate microphones will be muted temporarily when this key is Long pressed

5. **Microphone On/Off/request key with indicating light (for the delegate unit)**
   - Delegate unit: press this key to activate/deactivate the microphone or request/cancel request to speak.

6. **Home**

7. **Menu**
   - Can set parameters such as brightness, screensaver, language, volume, balance, etc
   - Can check the system information and apply for conference services
   - The chairman unit can initiate voting and sign in

3.2.1.3 Back

8. **Fixed connection with a 1m 8P-DIN female conference cable or network cable**

3.2.1.4 Side

9. **Earphone volume control/Speaking volume control/Conference Services**

10. **Earphone jack(Ø3.5 mmX1)**

3.2.2 Connection

3.2.2.1 Connection with the controller

The conference system controller has 3 groups of 6 RJ45 microphone unit interfaces and 4 8P-DIN conference unit interfaces. The system comes with a male standard cable (RJ or 8P -DIN interface) and the corresponding connection line delivered with the base. When the controller is connected to the conference unit, just connect the RJ interface network cable or 8P-DIN male connector of the first conference unit to the output interface of the host.

When the main unit is far away from the controller , it is recommended to use an 8P-DIN extension cable. Both ends of the cable are 8P-DIN male and 8P-DIN female. Connect the 8P-DIN female end of the extension cable with the 8P-DIN male standard cable or T-shaped connecting line of the conference unit. Then connect the 8P-DIN male end of the extension cable to the output interface of the controller.

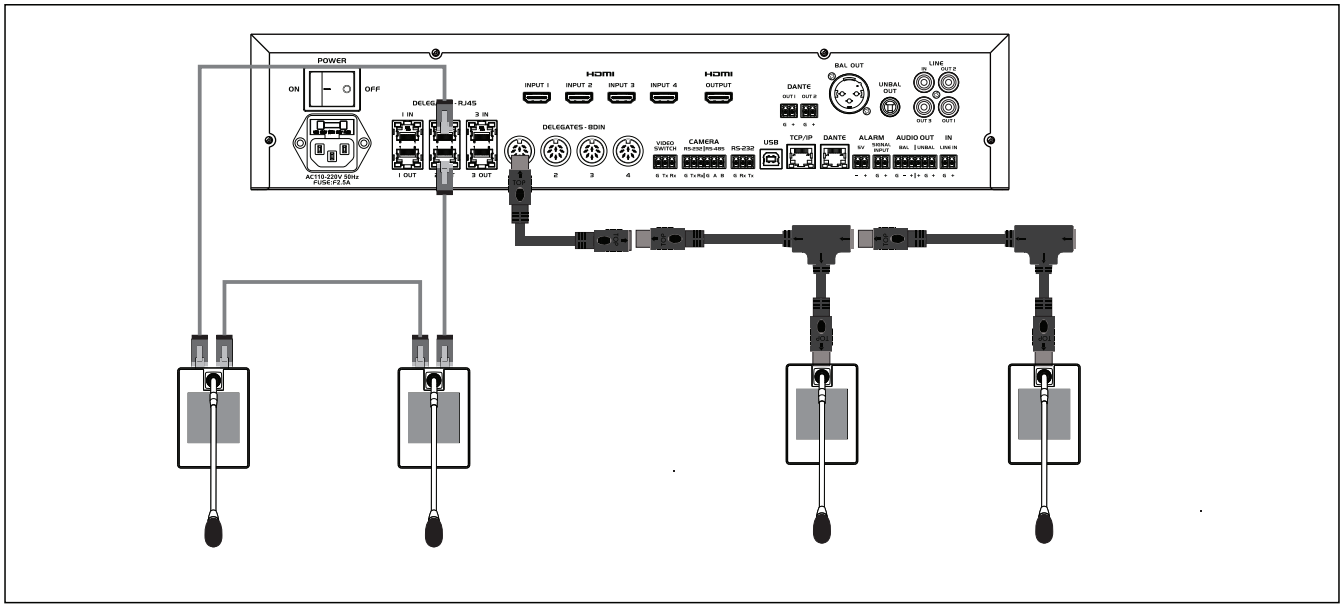


Figure 3.0 The connection between the conference controller and the unit

3.2.2.2 Connection between conference units

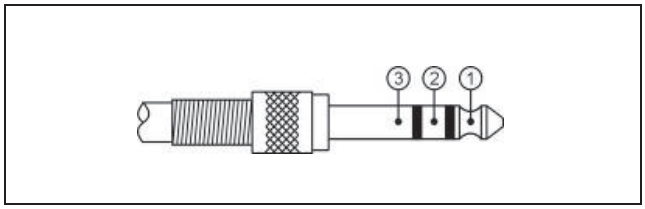
This series of conference units adopts a hand-in-hand connection method, which makes the installation of all systems simple and quick.

8-pin unit: Connect the horizontal male end of the 8-pin T-shaped cable equipped with an 8 -pin T-shaped female connector to each other.

Rj45 unit: Connect two network cables and connect them in a hand-in-hand manner.

3.2.2.3 External earphone

An external earphone can be connected to the external earphone jack of the conference unit. Its volume can be adjusted by the earphone volume control button. The external earph one shall have a Ø 3.5 mm plug, as in the following figure:



Functions and indications:

1 ..... Left stereo channel signal

2 ..... Right stereo channel signal

3 ..... Power ground/Shield

Chapter 4 System Connection

4.1 Summary

This conference system has a simple and reasonable structure with high extendibility in hardware. The system installation is simple and quick and does not need special training. Hand-in-hand connection is adopted between conference units as well as to controller via dedicated 8PIN cable or Rj45 cable.

TCP/IP protocol is adopted for Ethernet connection between the controller and the PC. As a result remote control, remote diagnosis and remote update can be achieved. Application software for client and server can run on one computer or on different computers in the same LAN. The operator is able to control the progress of the meeting flexibly.

In this chapter, the connections are introduced by diagrams and examples.

4.1.1 Connection principles

The system power is provided by controller for all the conference units. Thus, the total number of system units in any installation is limited by the maximum power handling capacity and control capacity of the controller. the controller has 3 groups of 6-channel Rj45 microphone unit interfaces, adopts closed-loop Ethernet link mode, supports bilateral power supply of microphone units, and supports hot-swappable microphone units. Each channel supports 20 network port units, which can be connected in total. 60 network port units. In addition, the host computer has 4 channels of 8-core microphone unit interfaces, each channel supports 30 units, and 120 units can be connected.

A single controller can connect up to 256 conference units through the extended power supply. If you need to connect more conference units, you can also extend the host through cascading conferences. A conference system can connect up to 1200 conference units.

The system can connect up to 16 chairman units, and the chairman unit is not limited by the speaking mode and the number of speakers.

4.1.2 Connecting cable of conference unit

This series of conference units adopts a hand-in-hand connection method, which makes the installation of all systems simple and quick.

When the 8-PIN interface speaking unit is connected to another conference unit, it is only necessary to connect the horizontal male end of the 8-PIN T-shaped cable equipped with an -PIN T-shaped female connector to each other.

When connecting the speech list of the network cable interface to another conference unit, you only need to connect two network cables and connect them in a hand-in-hand manner.

4.1.3 Extension cable of conference unit

If the distance between the conference unit and the main controller or between the conference units exceeds the length of the standard cable, an extension cable needs to be added between the unit and the main controller or between the units. Since the extension cable consumes power, adding an extension cable will reduce the number of conference units that the controller can connect to. The relationship between the number of conference units that can be connected to the output port of each conference unit and the length of the extension cable is shown in Table 3.1.

The extension cable is added between the conference system controller and the first conference unit. The extension cable consumes the largest current and has the greatest impact on the host's load capacity; and between the last two conference units, it hardly affects the connection of the host The number of conference units. For example, you can add an 80-meter extension cable between the 28th and 29th conference units, and it will not affect the number of conference units that the host can connect to.

The extension cable length between the controller and the first conference Unit connected to the socket	The number of speaking units that can be connected to the output port of each unit of the controller	
	8-PIN interface-numbers of conference speaking units	RJ45 interface-number of conference speaking units
20m	26	20
40m	21	15
60m	16	10
80m	12	5
100m	8	/

Table 3.1 Quick lookup table of controller load capability (each outlet)

4.2 Connection between the controller and the conference unit

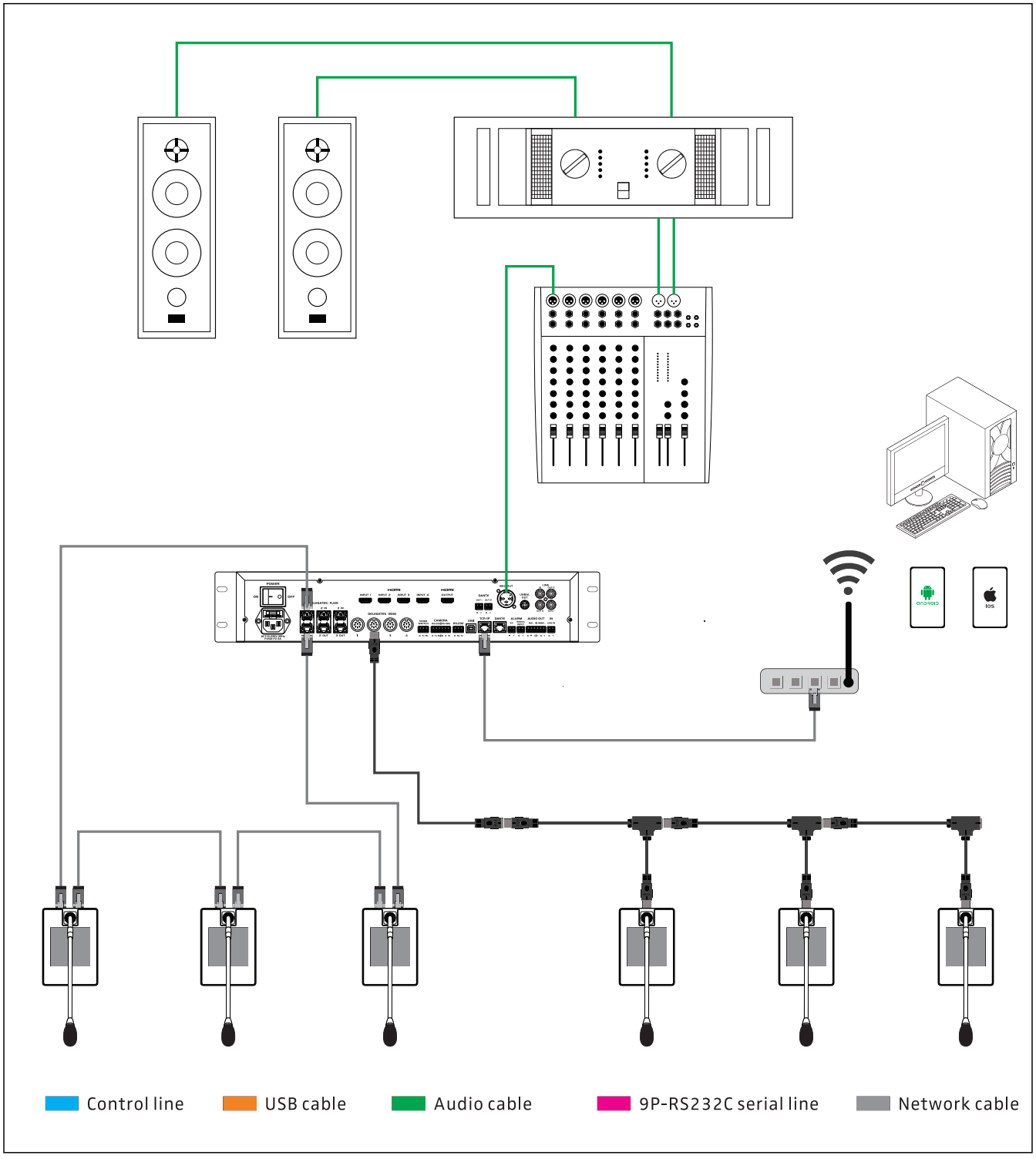


Figure 3.2 Connection between the controller and the conference unit

4.3 Connection with camera

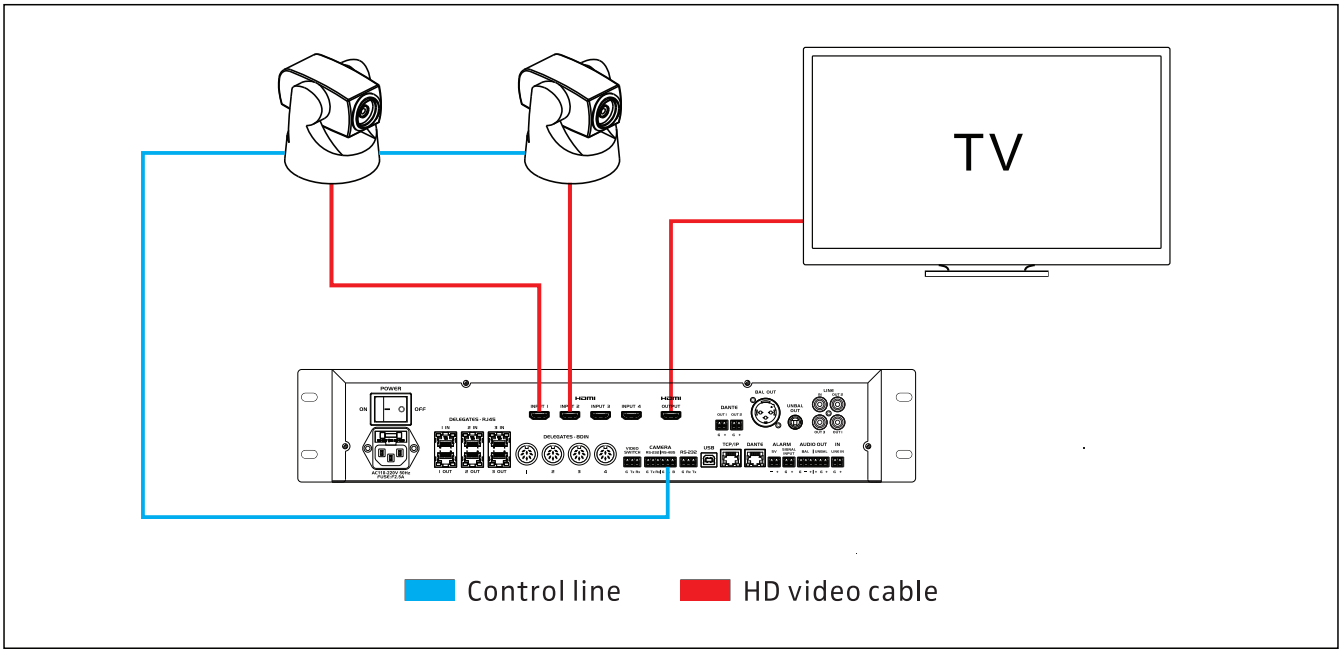


Figure 3.3 Connection with camera

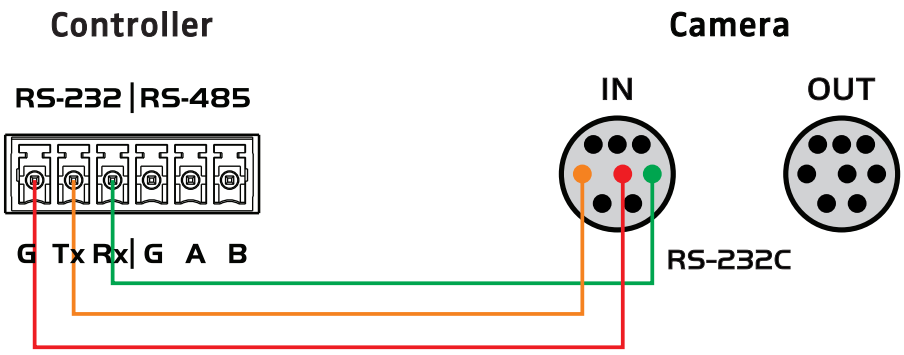
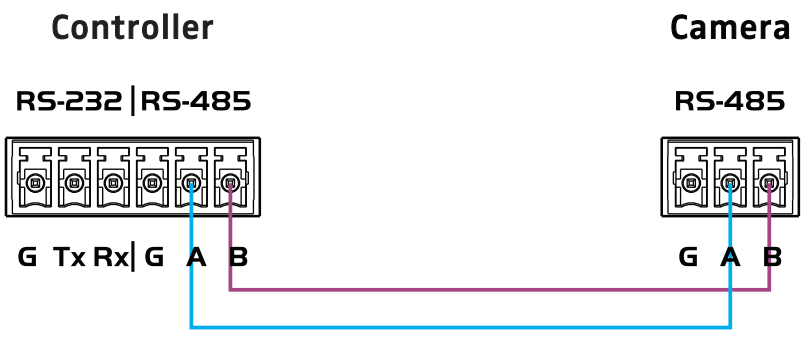
Connection method	Drawing
232	
485	

Figure 3.4 Communication connection between the controller and the camera

Chapter 5 Working environment and maintenance

Suitable working environment and proper maintenance methods can extend service life of the equipment effectively. For maintenance please read the contents of this section carefully.

5.1 Public areas

In public areas ensure that the cables attached to the system units, including extension cables, are run and laid out in a neat and tidy manner where they do not interfere and hinder public walk ways.

It is recommended that the chairman unit and the interpreter units are connected at the beginning of a trunk line and not at the end. In public areas where connectors and cables could be trampled on, it is strongly suggested to use protective covers according to the existing protection specifications.

Due to the directivity of the microphone used in the discussion units, every speaker should face the microphone at a convenient distance when speaking, to achieve both best audibility and intelligibility.

5.2 Technical rooms

1.Ensure that the area is a dust-free environment.
2.Ensure adequate ventilation.
3.Ensure adequate lighting. But be sure that the lighting does not impede the operator in the control room and the normal system operation.
4.Do not place objects on the top of units. They could fall into vents or could cover them and thus prevent proper cooling of electronic components inside the units. By falling into a unit, objects could cause trouble such as fire and electric shock.
5.To avoid the risk of shock or permanent damage to the system units, do not expose units to rain or moisture.
6.Do not attempt to remove the top cover of the system main units as you will be exposed to a shock hazard. The covers should only be removed by qualified service personnel. If any repair or maintenance is required, contact the service center in your region.
7.Equipment is only for indoor use. Do not expose it to sunlight.

WARNING: Damage to the power cable may cause fire or a shock hazard!

5.3 System operator room

In a PC based system, the operator needs a dedicated room to operate the PC and to manage the congress procedure. Generally, the demands on the operator room are the same as on the interpreter booth. By means of a microphone system, the operator should also be connected to a public - address system to remind the participants of operations, such as voting, signing-in, etc.

Chapter 6 Technical specifications

6.1 System specifications

System performance

Conforms to IEC 60914, the international standard for congress systems

System environmental conditions

Working conditions: fixed/stationary/transportable

Temperature range:

-Transport: -40 °C to +70 °C

-Operating: 0 °C to +45 °C

Max. relative humidity: < 95% (not condensing)

Safety: Compliant to EN 60065

EMC emission: Compliant with EN 55022

EMC immunity: Compliant with EN 55024

EMC approvals: CE, FCC

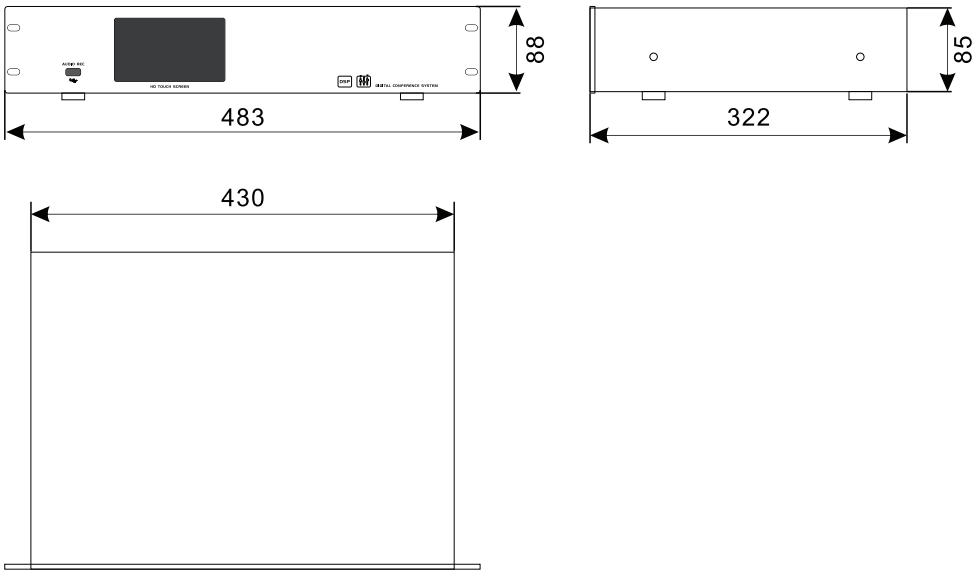
Power harmonic: Compliant with EN 61000-3-2

Voltage fluctuations and flicker: Compliant with EN 61000-3-3

6.2 Conference system controller

6.2.1 System Controller

6.2.1.1 Physical characteristics

Controller	
Installation	Tabletop / standard 19-inch rackmount
Dimensions (mm)	
Color	Black
Weight	5.8kg

6.2.1 System Controller

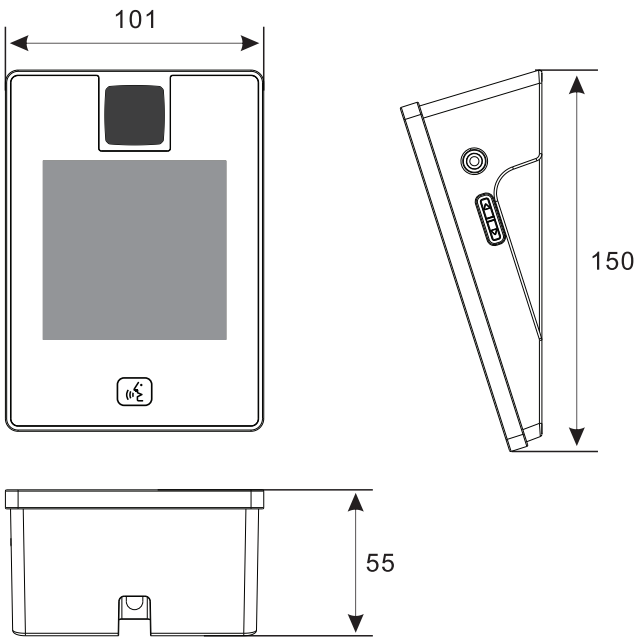
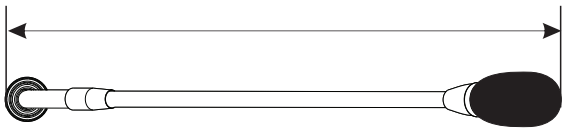
6.2.1.2 Electrical characteristics

Controller	
Power supply	AC110V-220V/50Hz
Frequency	20Hz-20kHz
S/N ratio	>96dBA
T.H.D	<0.05%
Recording	USB
Input connector	DIN-8 x4 , RJ45 x3 (group)
Central controller interface	RS-232(3P connector) x1
Camera switch interface	RS-232(3P connector) x1
Video interface (optional)	HDMI 4x1 (optional)
Camera control interface	6P connector
Computer interface	USB x1 RJ45 x1
Audio input	2P connector(unbal)x1, RCA(unbal)x1 2P connector(unbal)x1 (alarm device)
Audio output	3P connector(bal)x1, 2P connector(unbal)1 XLR(bal)x1, 6.35mm(unbal)x1, RCA(unbal)x3
Digital audio interface	Dante x1(optional)

6.3 Conference System Unit

6.3.1 Countertop conference unit

6.3.1.1 Physical characteristics

Conference unit	
Installation	Countertop
Dimensions (mm)	
Gooseneck (mm)	
Color	Base: Black, Microphone: Black
Weight	Base: 0.55 kg Gooseneck microphone : 0.07kg

6.3.1 Countertop conference unit

6.3.1.2 Electrical characteristics

Conference unit	
Working Voltage	DC24V
Cable	DIN-8P or CAT6
Capsule	Cardioid
Sensitivity	-46 dBV/Pa
Frequency	20Hz~20KHz
Input impedance	2 kΩ
Directional 0°/180°	> 20 dB (1 kHz)
Equivalent noise	20 dBA (SPL)
SPL	125 dB (THD<3%)
S/N ratio	>80dB
T.H.D	<0.05%
Display	4-inch touch screen
Earphone load	>10Ω
Earphone volume	10 mW
Earphone interface	3.5mm ×1