



INSTALLATION AND OPERATING MANUAL

ICS Interpreter

Infrared And Interpretation System



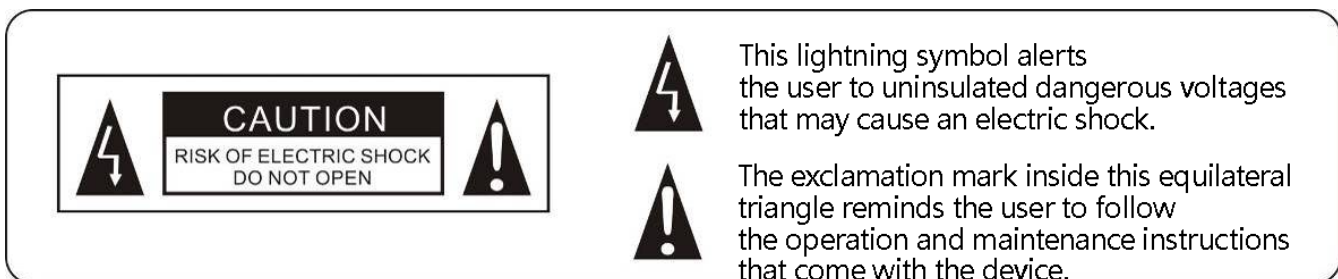
Chapter 1. Safety Operation Guide

1.1 Safety Operation Guide

First of all, thank you for using Intrend Conference System. To ensure the reliable use of equipment and the safety of personnel, please carefully read the system connection and safety instructions during installation, use and maintenance, and operate in strict accordance with the requirements. At the same time, please keep this manual properly for reference. Precautions are as follows:

1. Please read this safety operation procedure carefully before installing and using the equipment. Please keep your safety operation guide for future reference.
2. During equipment installation, the line layout shall strictly comply with various national electrical safety standards, national fire regulations and all applicable local codes and decrees.
3. Please place the power cord, extension cord and other wires where they are not trampled, and do not stack any objects on the power cord. Protect the cable, especially the connection part.
4. Protective grounding plug must be used when installing equipment: three flat plug grounding plug. Ensure that the ground wire in the power cord is well grounded. Do not use a two core plug.
5. Ensure that the machine supply voltage is normal.
 - Europe, Asian continent: AC 220V-240V 50Hz
 - Americas, Japan: AC 110V-120V 60Hz
6. This product is designed to withstand the industrial level earthquake resistance standard of 1.5m free fall vibration, but in the process of transportation, installation and storage, incorrect operation methods such as heavy pressure and severe vibration should also be prevented, otherwise the product will be damaged.
7. Do not place the system equipment in an excessively cold or overheated place; This equipment is only applicable to temperate climate conditions.
8. The equipment power supply will generate heat during operation, so it is necessary to keep the working environment well ventilated, and a minimum clearance of more than 20cm should be left around the equipment; The ventilation hole shall not be covered with articles such as newspapers, tablecloths and curtains to prevent ventilation, so as to avoid damaging the machine due to excessive temperature.
9. Turn off the main power supply of the equipment in rainy and humid weather or when it is not used for a long time.
10. Do not touch the power plug with wet hands, which may cause potential electric shock.
11. When pulling out from the power socket, hold the power cord plug. Do not drag the power cord. Damaged power cord may cause potential fire or electric shock.
12. Do not scratch, bend, twist, drag or heat the power cord; Do not hang or rotate heavy objects (including this machine) on the power line. Damaged power lines may cause fire or electric shock.
13. If the power supply is damaged (such as cutting or exposing bare wires), please entrust a dealer to replace it; If the damaged power cord is used for this machine, it may cause fire or electric shock.

14. In case the machine falls or the case is damaged, turn off the power switch, unplug the power plug from the AC power socket, and contact the dealer. If you continue to use this machine without paying attention to the instructions, it may cause fire or electric shock.
15. Be sure to unplug the power plug of the equipment from the power socket before the following operations:
- Remove or reassemble any part of the equipment.
 - Reconnect any electrical plug or other connection of the equipment.
16. There are AC 220V high-voltage components in the machine. Please do not open the casing without authorization. There are no maintenance accessories in the machine to avoid electric shock. Non professionals should not attempt to disassemble the equipment chassis without permission, and should not repair without permission, so as to avoid accidents or increase the damage of the equipment. If the product is marked as shown in the figure below, warn the user: to avoid electric shock, please do not open the cover, nor put the useless part in the chassis. Please contact qualified service personnel. The warning signs are shown as follows:



Note: This product is suitable for safe use in areas with an elevation of 2000 meters and below!

17. Do not spill any chemicals or liquids on or near the equipment; The equipment shall not be subject to water drops or splashes; No liquid filled objects such as vases shall be placed on the equipment.
18. Be sure to keep the machine away from the following places:
- Exposed to oil or steam splashing, such as near kitchen stove, humidifier and other places.
 - Unstable surfaces, such as shaking table tops, bevels.
 - Places subject to excessive heat, such as in vehicles with closed windows, or places subject to direct sunlight.
 - Places subject to excessive moisture or dust.
19. When the equipment is not used for a long time, please turn off the power and unplug the power plug.
20. If the power plug and appliance coupler are used as the disconnecting device, the disconnecting device shall be easy to operate.
21. Please thoroughly check the connection of the system, and turn on the power of the host only when there is no error. Before use, check whether the settings of the host are correct and meet the requirements of the venue.
22. This equipment is a Class I equipment, which shall be connected to the power supply outlet with protective grounding connection device.

Chapter 2. System Introduction

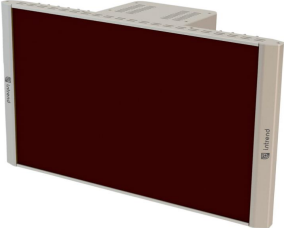
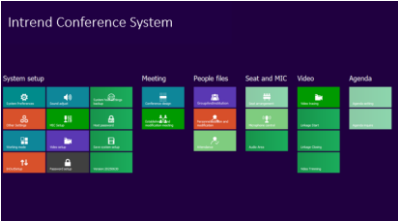
2.1 System overview and composition

The digital interpretation system uses the ADCS (ALL Digital Conference System) digital audio transmission technology with independent intellectual property rights created by Intrend to comprehensively introduce the Digital technology into the interpretation System.

The interpreter unit in the system are connected by 6-core cables, and the channel selectors are connected by 8-core cables, which are easy to install and maintain. The digital interpretation system consists of a interpretation host, a interpretation expansion host (dual channel), an expansion module, an interpreter unit, an embedded channel selector, an audio decoder, a mobile audio distributor for journalists, a power supply unit, professional connecting cables, and application software. The application software consists of several software modules.

The following is a list of models and names of all digital simultaneous interpretation systems

Model and name of digital interpretation system		
Full digital conference controller		
Interpretation Host (Interpretation Backup Host)	ICS-PRO-CU ICS-PRO-CUEXT	
Interpreter Unit	ICS-PRO-INT8	
Audio Decoder	ICS-IR-AD	

Infrared Transmitter Host	ICS-IR-CU8	
Infrared Radiator	ICS-IR-TX	
Infrared Receiver	ICS-IR-RX8	
Interpreting Management Software	ICS-PRO-SW	

Chapter 3. Interpretation Host

3.1 Resume

The digital interpretation host is the core component of Intrend interpreting system. It is an important bridge to realize the intercommunication with the Interpreter Host and PC management software function module. Through the navigation key on the front panel, together with the 5-inch capacitive touch screen, all interpreting functions can be centrally controlled. The digital interpretation host and the interpretation backup host form a dual backup function.



Figure 3.1 Digital Interpretation Host ICS-PRO-CU

3.2 Functional features

- Intrend digital conference technology is adopted, which conforms to IEC60914 international standard.
- High speed ARM digital processing hardware architecture is adopted to improve the speed of system operation and ensure the stability of the system.
- Digital audio transmission technology is adopted to ensure that the sound quality of long-distance transmission will not be attenuated, and the transmission distance between equipment can reach 150 meters.
- Built in digital volume adjustment of input and output, which can realize humanized adjustment of system input and output signals.
- Two working modes: limit and first in first out mode.
- The system has dual backup function.
- Built in output noise gate.
- Microphone with High Pass Filter function.
- Line 1 input interface is balanced input, which can be configured as microphone input or linear input. The microphone input supports phantom power supply mode.
- Line 1 output interface is balanced output
- Line 1 input/output has independent volume adjustment function.

- Line 2 input interface is unbalanced input.
- Line 2 output interface is unbalanced output.
- Line 2 input and output have independent volume adjustment function.
- The system has 6 translation unit output interface, and a single host can connect 72 translators at the same time.
- ID addressing is adopted, and the number can be customized. When the machine is turned on, the host can be automatically detected, and the system operation can be monitored in real time at a glance.
- Built in Adaptive Feedback Control (AFC), Ambient Noise Cancellation (AEC), Digital Equalizer (EQ), Automatic Gain Control (AGC), and Automatic Level Control (ALC).
- Connect PC control as network interface.
- It has RS-232 interface and programmable central control system for control.
- The system has the "hot plug" function of live line, which effectively guarantees the safety and stability of the system
- 99 language names are built-in, and the names of the channels listened to can be displayed on the display of all units.
- With the password protection function of host computer and interpreter station to prevent unauthorized personnel from operating the equipment.
- It has the function of restoring factory value to prevent parameter adjustment.
- Built in international general power supply and voltage stabilization system to ensure safe use under unstable voltage.
- Cooperate with the conference management software to realize the one button backup and recovery function.

3.3 Technical parameters of interpreting host

Model	ICS-PRO-CU Interpretation Host
Power Supply	AC100~240V, 50/60Hz
Power Dissipation	Depending on the number of connection units: 25W for single machine, 420W for maximum
Display	5-inch Capacitive Touch Screen
Single channel capacity	12 Interpreter Unit
System Capacity	72 Interpreter Unit, which can be expanded to 255
Transmission Distance	Up to 150M
Maximum Audio Input	RCA×1 11dBV XLR×1 11dBV
Maximum Audio Output	RCA×1 10dBV XLR×1 6dBV
Output Impedance	RCA : 650Ω ; XLR : 460Ω
frequency Response	20-20kHz
Signal-to-noise Ratio	>90dB
Dynamic Range	>90dB
Total harmonic distortion	< 0.05%
Network port control	RJ45
Serial port control	RS232
Operating mode	2
Unit connector	6 芯 DIN 6-core DIN
Colour	Black
Net weight	5.96kg
Size	482x347x90mm
Install	Applicable to 19 inch standard rack

3.4 Description of interpreting host panel functions and interfaces

3.4.1 Front panel diagram of interpreting host

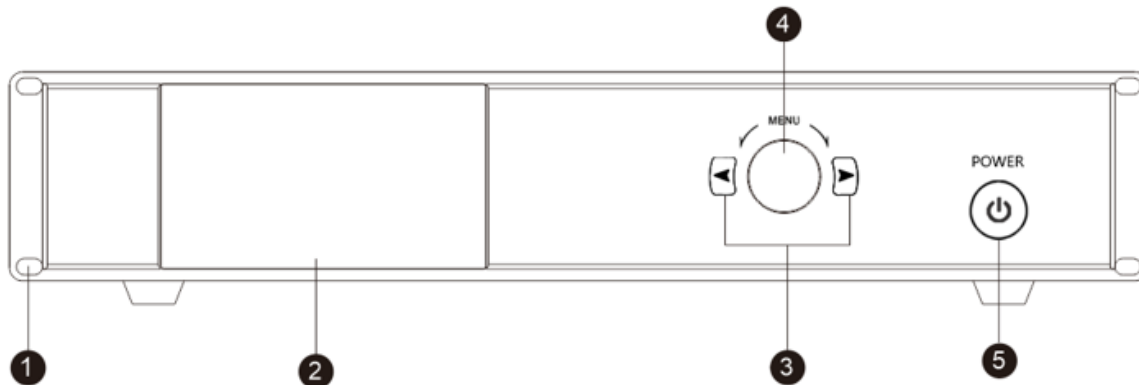


Figure 3.2 Front Panel of ICS-PRO-CU

1. 19 inch rack mounting hole
2. 5 inch touch screen
3. Left key, Return key; Right key, Enter key
4. The left knob is turned upward, the right knob is turned downward, and the knob button is for confirmation
5. Power switch, with power on indicator

3.4.2 Schematic diagram of rear panel of interpreting host

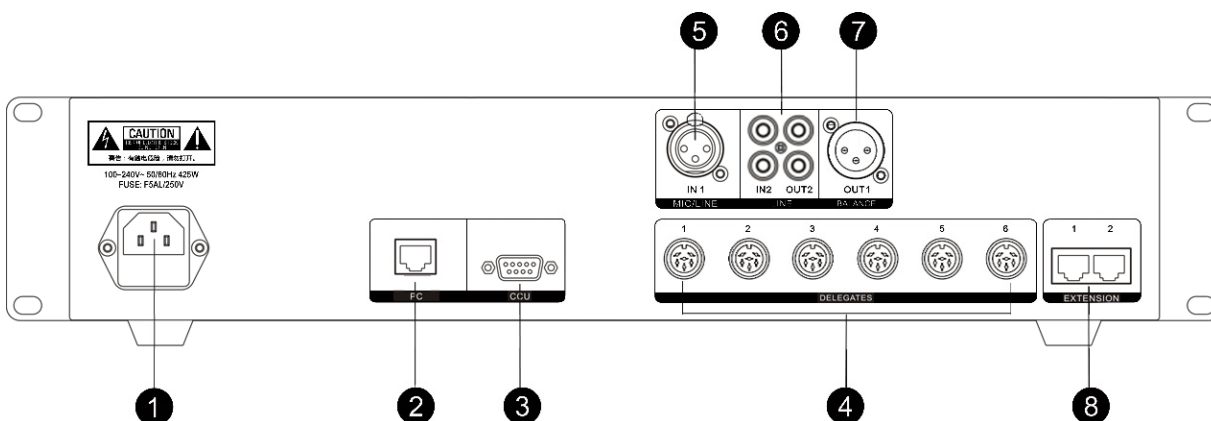
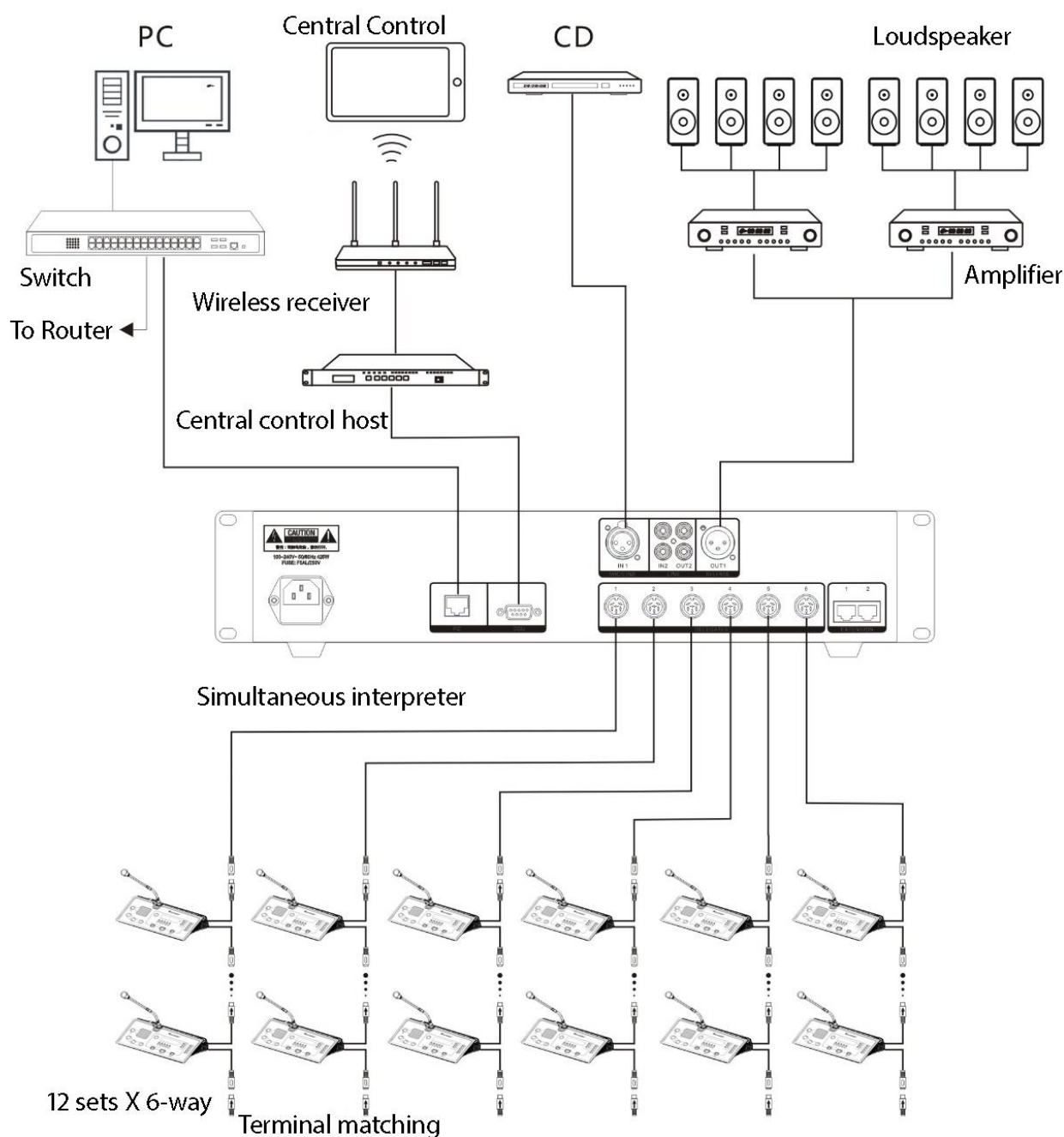


Figure 3.3 Rear panel of interpreting host

1. Power line interface: input 100-240V ~ 50/60Hz 425W
2. RJ45 interface for connecting computer
3. RS232 central control interface, for connecting central control equipment
4. Six channel interpreter unit interface

5. Balanced XLR connector, which can be set as external microphone input or balanced linear input
6. LINE IN2 : RCA audio input interface; LINE OUT2: RCA audio output interface
7. BALANCE OUT1: Balanced XLR audio output interface
8. RJ45 expansion interface for connecting other conference hosts

3.4.3 Connection diagram of interpreting system



Chapter 4. Interpreter Unit

4.1 Overview

In the application of interpretation, the translator uses the interpreter unit to translate the speaker's speech into different national languages in real time and output it on the corresponding channel. Participants can listen to the translated languages of different countries through the channel selector.



Figure 4.1 Interpreter Unit ICS-PRO-INT8

4.2 Main Functions and Features of the Interpreter Unit

- Digital conference technology is adopted, which conforms to IEC60914 international standard.
- High speed ARM digital processing hardware architecture is adopted to improve the speed of system operation and ensure the stability of the system.
- The appearance is simple, fashionable, exquisite and noble, which is the ideal equipment for high-end meeting occasions.
- Digital audio transmission technology, the sound quality of long-distance transmission will not be attenuated, and the distance between devices can reach 150 meters
- The digital audio coding and decoding technology and digital audio decompression technology are adopted, and the output audio effect is close to the CD level audio quality, so that the listener can really feel the comfortable and natural high-quality effect.
- Support 48K audio sampling frequency, and the 16 channel frequency response can reach 20Hz-20KHz.
- Built in high pass filter, which can cut out unwanted low-frequency components.
- Interlocking function of the same channel, with channel occupation prompt function, to ensure the uniqueness of channel use.

- Indirect translation function: when the translator can't understand the original channel language, he can monitor the voice of other translators for secondary translation.
- Cough elimination function: when the interpreter coughs, the microphone can be turned off for a short time to prevent the cough from reaching the meeting place.
- It has the function of speed reminder. The interpreter can ask the speaker to slow down by pressing the button.
- It has the function of requesting help. The interpreter can call the operator for help by pressing the button.
- The name of channel language can be preset through interpretation host or conference management software.
- 5 channels of input language channels can be preset, and corresponding shortcut setting keys (a/b/c/d/e) are available.
- The channel selection knob is provided to facilitate the selection of all input language channels.
- 3 channels of translation sound source output channel can be preset, with corresponding shortcut selection key (A/B/C) and output channel occupation indicator display.
- The gain of the opened translation unit can be adjusted through the interpretation host or the conference management software.
- The conference management software can switch the A/B/C output channel and close the translation unit.
- Built in loudspeaker function and volume adjustment knob are provided to play the original sound when all units in the translation room are closed.
- Select the translation unit in the same interpreter room to turn on the microphone and automatically turn off the microphone of the last translation unit.
- The system has memory, echo and other functions.
- With key prompt tone switch key
- The system has the ability to arbitrarily assign ID address codes to facilitate installation and avoid duplication of ID address codes.
- It is equipped with a headphone output interface, which can be connected to headphones. The volume and bass of the headphones can be adjusted.
- With microphone input interface, external microphone can be connected.
- Gooseneck microphone pole with high directivity electret microphone and red halo for speech indication.
- The detachable microphone pole makes transportation and carrying extremely convenient.
- Support the "ring hand in hand" connection mode.
- The system has the "hot plug" function of live line.
- There are two microphone operating modes
 - limit mode
 - FIFO mode
- It has super anti mobile interference ability.
- The unit has speech indication function.

4.3 Technical Parameters of interpreter unit

Model	ICS-PRO-INT8
Number of channels	8 CH
System Capacity	Depending on the host, ≤ 255 sets, single host ≤ 90 sets
Frequency Response	20–20kHz
Display	6.8 inch capacitive touch screen
Microphone type	Capacitive type
Microphone sensitivity	-41dBV/Pa
Signal-to-noise ratio	≥ 80 dB
Dynamic range	≥ 80 dB
Sound pressure level	138dB
Total harmonic distortion	$< 0.1\%$
Power supply	DC24V
Maximum power consumption	3W
Headphone output	16 Ω , 250mW
Connection mode	Hand in hand connection mode
Connector	Six core aviation plug
Colour	Black
Overall dimensions	long $\times$ wide $\times$ Height: 312 $\times$ 161 $\times$ 61mm (excluding microphone rod)
Weight	2.0KG
Install	Desktop

4.4 Interpreter unit function and interface description

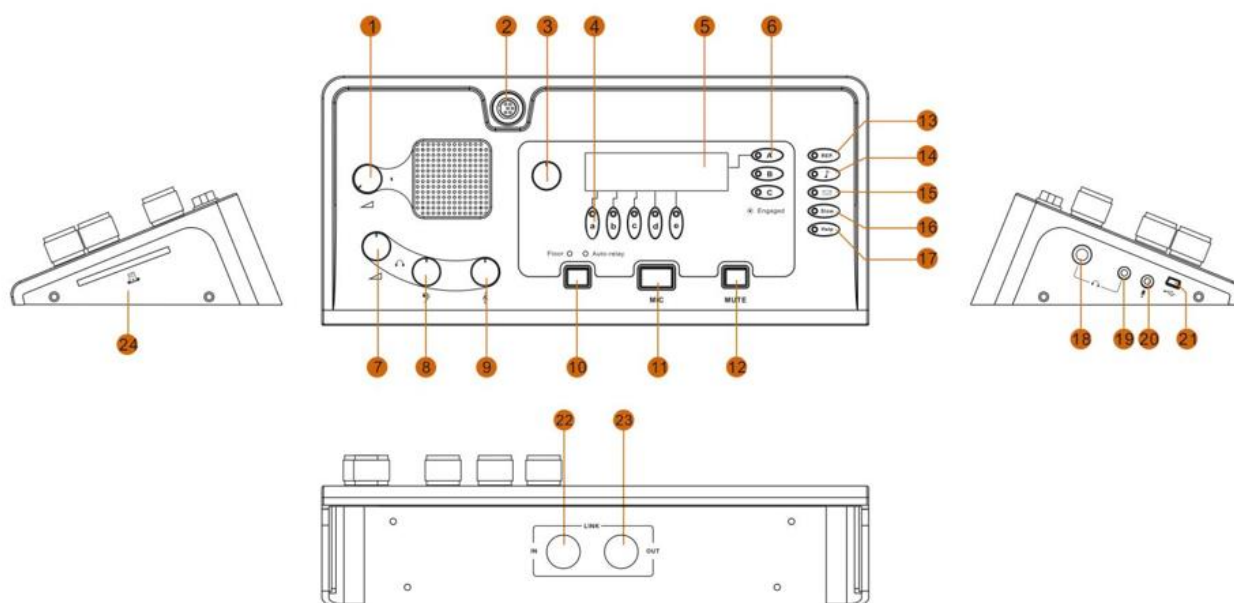


Figure 4.2 Interpreter Unit Function and Interface Description

- | | |
|---|----------------------------------|
| 1、Speaker volume adjustment knob | 13、Playback button |
| 2、Microphone socket | 14、Key tone |
| 3、Channel switch knob (press and hold the corresponding selection button, and then rotate the knob to change the preset channel and its corresponding language) | 15、SMS viewing button |
| 4、Fast selection keys for five preset input languages | 16、Slow play button |
| 5、Display | 17、Help button |
| 6、Quick selection keys for three preset output languages | 18、Φ6.35mm Headphone jack |
| 7、Headphone input volume adjustment knob | 19、Φ3.5mm Headphone jack |
| 8、Headphone input volume bass adjustment knob | 20、Headset microphone jack |
| 9、Earphone input volume high adjustable knob | 21、USB upgrade port |
| 10、Automatically listen to source sounds and automatically listen to preset translated languages | 22、8-core aviation input socket |
| 11、Turn the microphone on or off | 23、8-core aviation output socket |
| 12、Mute button (available when microphone is on) | 24、IC card jack |

Chapter 5. Audio Decoder

5.1 Overview

The audio decoder has 8 balanced and 8 non-balanced outputs. Through the SWITCH dip switch on the rear panel, you can choose to output channels 0-7 or 8-15, 16-23 or 24-31.



Figure 5.1 Audio decoder ICS-IR-AD

5.2 Functional features

- Adopt full digital conferencing technology.
- High speed digital processing hardware architecture is adopted to improve the speed of the system and ensure the stability of the system.
- It has 8 channels of balanced cannon output and 8 channels of unbalanced output.
- With SWITCH dip switch, you can choose to output 0-7 or 8-15 or 16-23 or 24-31 channels.
- LED light indicates current output channel.
- Aluminum alloy body, the use of non-hazardous materials, through the ROHS environmental protection certification.
- It adopts the 1U international standard design and can be installed in a 19-inch cabinet.
- Built-in international general power supply and voltage regulator system to ensure safe use under unstable voltage conditions.

5.3 Audio decoder technical parameters

Machine type	Audio decoder ICS-IR-AD
Working power supply	Dual power supply AC100~240V, 50/60Hz
Power consumption	Max 120W
Balanced output	Route 8
Unbalanced output	Route 8
Net weight	4.6kg
Dimension	482x347x45mm
Install	Suitable for 19 inch standard frame

5.4 Audio decoder panel function and interface description



Figure 5.2 Audio decoder front panel

1. 19-inch rack mounting holes.
2. Output channel indicator corresponding to the SWITCH DIP switch on the rear.
3. Power switch with power indicator light.

5.4.2 Audio decoder rear panel schematic

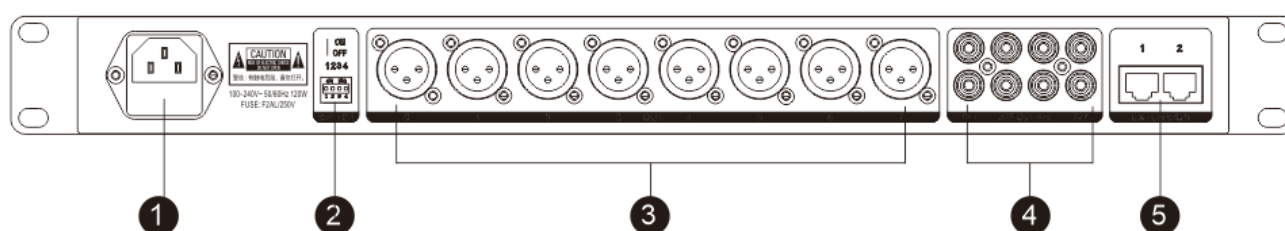


Figure 5.2 Audio decoder rear panel

- 1、Power cable interface: Input 100-240V to 50/60Hz 120W.
- 2、SWITCH the dip switch, which corresponds to the indicator on the front panel, and the corresponding Settings are as follows:

Serial number	Dip 1	Dip 2	Dip 3	Dip 4	Front panel indicator	Set channel
1	OFF	OFF	ON	ON		0-7
2	OFF	ON	ON	ON		8-15
3	ON	OFF	ON	ON		16-23
4	ON	ON	ON	ON		24-31

- 3、Eight way balanced cannon output.
- 4、Eight-way unbalanced output.
- 5、EXTENSION: RJ45 Expansion port used to connect other meeting hosts.

Chapter 6. Infrared emission engine

6.1 Overview

Infrared transmitting host is the core equipment of infrared language distribution system. It has a multi-channel analog audio input interface, can input up to 16 non-balanced audio signals, can also be directly or through simultaneous interpretation host or indirectly connected to the conference system control host, or other similar discussion, simultaneous transmission system, can also be used independently as an external audio signal distribution system. The infrared transmitter is suitable for mounting directly into a 19 - inch rack or on a desktop.



Figure 6.1 Infrared emission engine ICS-IR-CU8

6.2 Functional features

- The all-digital conferencing technology is adopted in accordance with IEC 61603-7 and IEC 60914 standards.
 - Equipped with 5 - inch capacitive touch screen and navigation buttons.
 - 2-- 8MHz frequency band is adopted, and the infrared receiving unit is not interfered by the high frequency driving light source.
 - It is compatible with the infrared simultaneous transmission system conforming to IEC 61603-7 standard and can be used cross-over.
 - The number of allocated channels is 4CH, 8CH, 12CH, and 16CH audio channels.
 - Each audio input sensitivity can be adjusted, so that the input level can be adjusted accurately.
 - With six high frequency signal output interface (BNC), used to connect the infrared radiation plate.
 - New digital locking security function, completely eliminate foreign malicious interference and eavesdropping, to ensure the independence of receiving equipment.
 - Infrared emission host has infrared monitoring function.
 - A variety of scenarios are available and can be used in a variety of different situations
1. Conference mode: The infrared receiving unit can receive independent signals of each channel
 2. Emergency mode: All channel signals received by the infrared receiving unit are emergency signals of the external alarm system, and can be set to trigger automatically, when there is an emergency signal automatically into the emergency mode
 3. Leisure mode: All channel signals received by the infrared receiving unit are external access music signals (such as some relaxed and happy music or skits, etc.)

- It is designed in 2U international standard and can be installed in a 19-inch cabinet.
- Aluminum alloy body, the use of non-hazardous materials, through the ROHS environmental protection certification.

6.3 Technical parameters of infrared transmitting host

Machine type	ICS-IR-CU8
Working power supply	AC100~240V, 50/60Hz
Power supply	35W
Number of channels	8 CH
Modulation mode	Digital Wireless Base Station
Carrier frequency	2-8MHz
Audio processing	IR-DSP
Frequency response	30-15000Hz
Distortion degree	<0.2%
Signal-to-noise ratio	>80 dB
Input level	2V p-p
Output impedance	75 Ohm
Conference audio input	RCA Socket X8
Emergency audio input	RCA Socket X2
Casual audio input	RCA Socket X2
Digital signal output	BNC Socket X6
Display screen	5 inch capacitive touch screen
Listening function	Bring your own
Color	Black
Dimension	482x350x91mm
Weight	5.42kg
install	Suitable for 19 inch standard frame

6.4 Infrared emission host function and interface description

6.4.1 Schematic diagram of front panel of infrared transmitting main engine

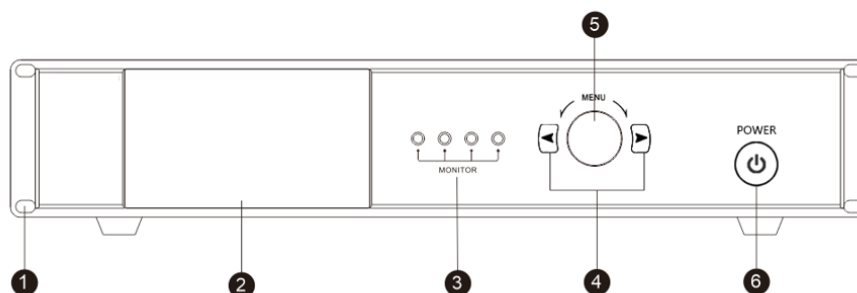


Figure 6.2 Front panel of infrared transmitting main engine

1. 19-inch rack mounting holes.

2. 5 inch capacitive touch screen.
3. Infrared tube: emit infrared signal, used for host monitoring.
4. Left button, back button; Press the right button to enter the button.
5. Control knob, left turn up, right knob down, knob press to confirm.
6. Main power switch with power indicator light.

6.4.2 Schematic diagram of rear panel of infrared transmitting main engine

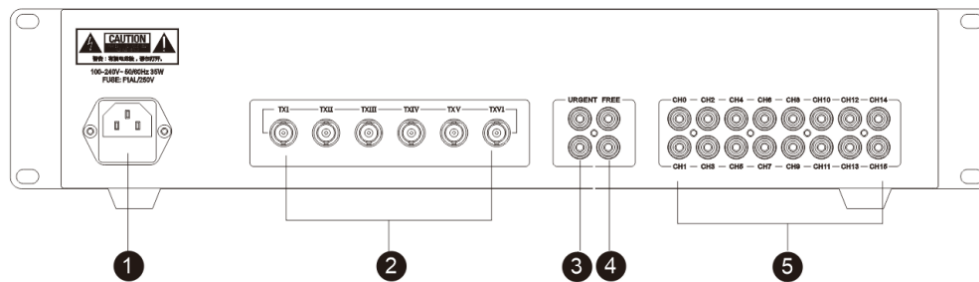


Diagram 6.3 Rear panel of infrared transmitting host

1. Power cable port: Input 100-240V to 50/60Hz 35W.
2. TXI-TXVI: six-channel infrared radiant panel connection interface (using coaxial cable BNC connector).
3. URGENT: Audio input in emergency mode.
4. FREE: Audio input in casual mode.
5. MEETINGT mode: Select the audio input for the meeting channel, corresponding to channels 0 to 15.

Chapter 7. Infrared radiation plate

7.1 Overview

The infrared radiation panel can receive the carrier signal generated by the transmitting host and transmit the infrared radiation through up to 32 audio distribution channels. They are connected to one or more high-frequency signal output interfaces of the transmitting host. Each output port can be connected to five infrared radiation panels in hand-in-hand mode.

When no carrier signal is received, the infrared radiation panel switches to standby mode.

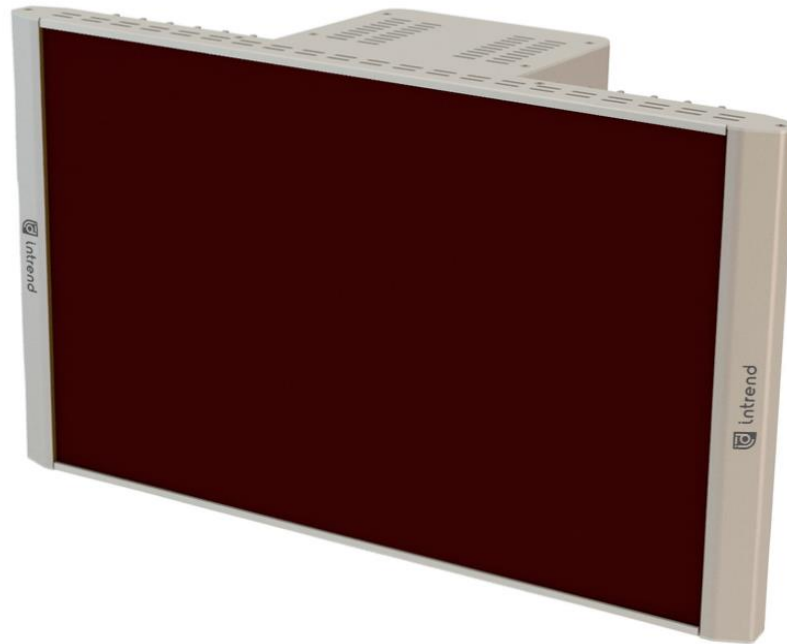


Figure 7.1 Infrared radiation plate ICS-IR-TX. Functional features

- The all-digital conferencing technology is adopted in accordance with IEC 61603-7 and IEC 60914 standards.
- It is compatible with the infrared simultaneous transmission system conforming to IEC 61603-7 standard and can be used cross-over.
- A variety of installation methods, can be triangle bracket ground, universal support wall or other installation methods.
- Manual full power and half power switch, convenient for large, medium and small venues.
- Universal power supply, suitable for global use, LED real-time display signal status and working status.
- It has the cable transmission delay compensation function, and the delay compensation adjustment range is "00" to "99".
- The transmitting distance can reach 60 meters straight line, and the radiation Angle is $\pm 40^\circ$ horizontal and $\pm 22^\circ$ vertical.
- HF input and output sockets (2×BNC) are used to connect the infrared emission host and the next infrared radiation plate in series, respectively.

- Aluminum alloy body, the use of non-hazardous materials, through the ROHS environmental protection certification.

7.2 Infrared radiation plate technical parameters

Machine type	Infrared radiant panel ICS-IR-TX
Working power supply	AC100~240V, 50/60Hz
Power supply	100W
Number of channels	16 CH
Modulation mode	Digital Wireless Base Station
Carrier frequency	2-8MHz
Audio processing	IR-DSP
Half-angle radiation Angle	Horizontal $\pm 40^\circ$, vertical $\pm 22^\circ$
Maximum power consumption current	1700 mA
Minimum power consumption current	80 mA
Input impedance	75 Ohm
Carrier wavelength	850nm
Cooling	Convection cooling
LED display	Power supply/signal
Color	Black
Dimension	500x168x320mm
Weight	7.5kg
install	Triangular support landing, universal support wall hanging or other methods of installation

7.4 Infrared radiation panel function and interface description

7.4.1 Schematic diagram of infrared radiation panel

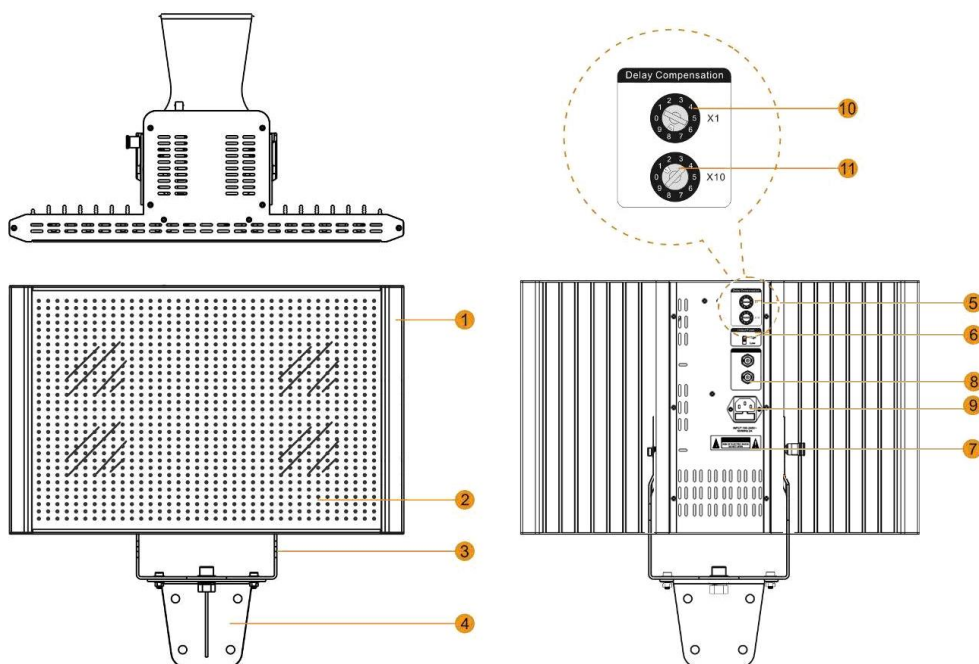


Figure 7.2 Infrared radiation panel (side and front)

Figure 7.3 Infrared radiation panel (back)

1. Aluminum alloy shell.
2. Signal radiation lamp board.
3. Support frame.
4. Tray.
5. Delay compensation X1 and delay compensation X10.
6. Output power selection switch, half power/full power.
7. Radiation Angle adjustment handle.
8. HF IN coaxial signal input/HF OUT coaxial signal output.
9. Power cable interface: Input 100-240V to 50/60Hz 100W.
10. Delay compensation X1.
11. Delay compensation X10.

7.5 Digital infrared radiation plate installation number and position rules

When planning the installation of infrared radiant panels, be sure to understand the factors that affect the infrared distribution system and take these factors into consideration when planning the system.

7.5.1 Rectangular covering area

It is only through field tests that the final determination of how many radiators will be needed to fully cover the venue can be made. Rough estimates can be made using "conservative rectangular coverage". As shown in FIG. 7.4 and 7.5, the covered area of rectangle is smaller than the actual covered area. In addition, in FIG. 7.5, the actual installation position of the radiator has exceeded the starting point of the "rectangular coverage area" in the horizontal direction, so the "offset" X is negative.

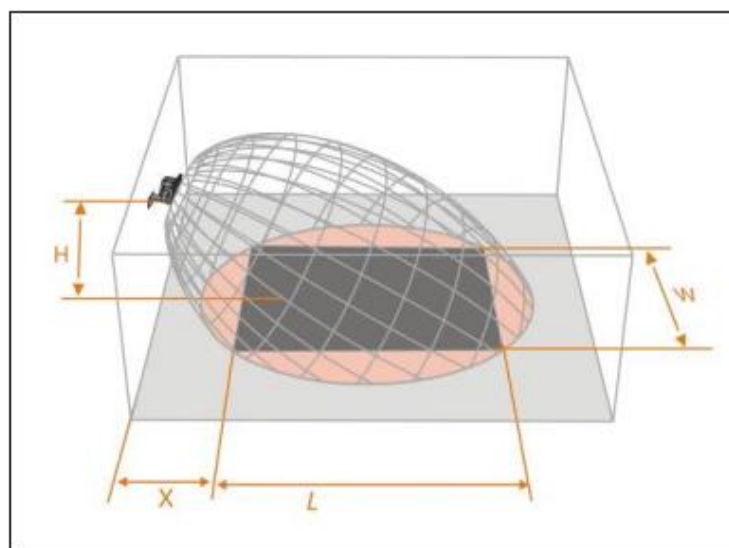
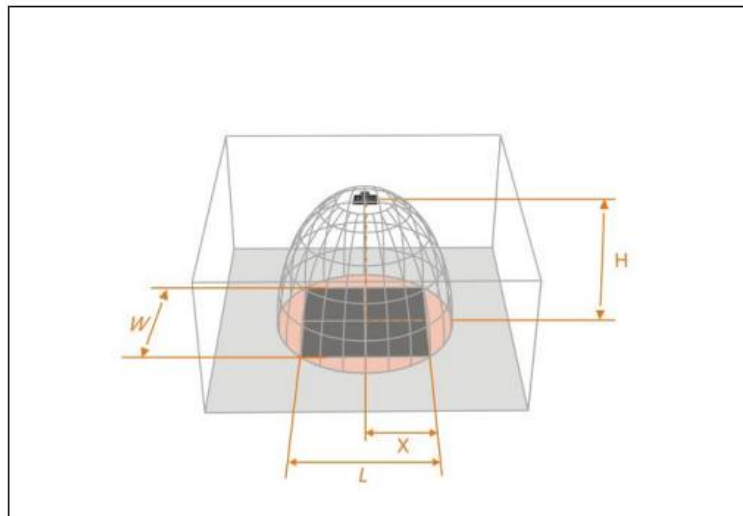


Figure 7.4 Typical rectangular coverage area for 45° installation

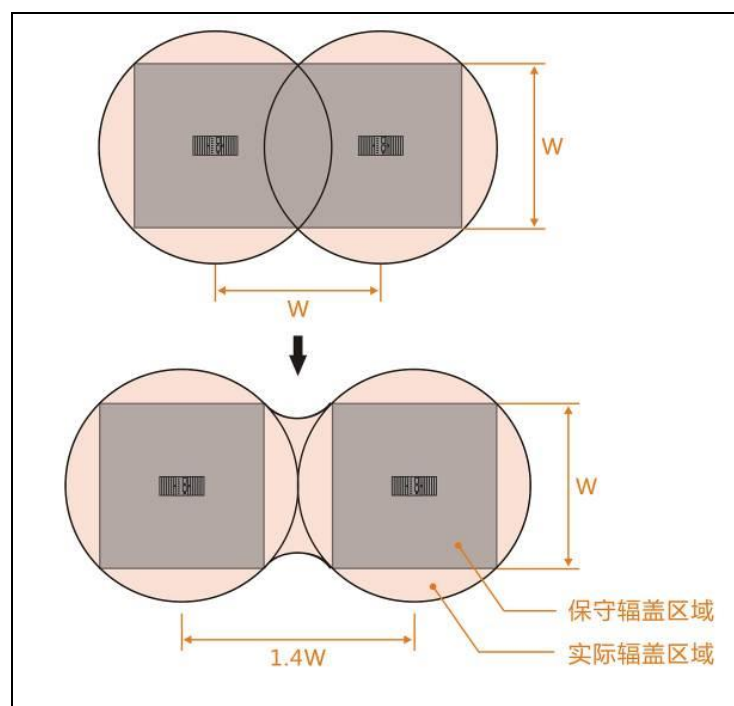


The installation height referred to here refers to the distance from the radiator to the receiving plane, not to the ground, and the receiving plane is generally about 1 meter away from the ground.

The value derived from the "safe rectangular coverage area" is that of a radiator and therefore does not take into account the beneficial effects of area overlap and reflection.

In addition, for the system containing less than 4 carriers, the commonly used calculation method is as follows:

If a receiving unit can receive signals from adjacent radiators, the distance between the two radiators can be increased by about 1.4 times (see Figure 7.6).



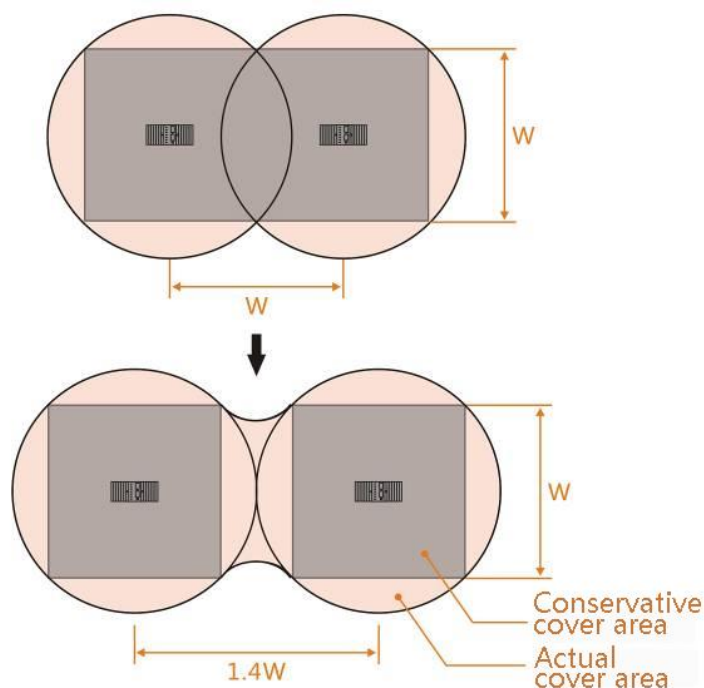


Figure 7.6 Overlapping effect of coverage area

7.5.2 Planning infrared radiant panels

You can plan the radiator by following these steps:

1. A good digital infrared language distribution system must ensure that all representatives receive signals without interference in the venue. In addition to using enough radiators, they must be placed in a reasonable position, so that any location in the venue can receive uniform and sufficient intensity of infrared radiation signals.
2. The available rectangular coverage area can be obtained by looking up the table;
3. In the layout diagram of the room, draw the rectangular coverage area;
4. If the receiving unit can receive signals from two adjacent radiators in some areas, it indicates that there is an overlapping effect. In the room layout diagram, draw the expanded rectangular coverage area;
5. Check whether the radiator has sufficient signal coverage for the designated location;
6. If not, add a radiator to the room.

7.5.3 Wiring of infrared radiant panel

The different distance between the transmitting host and each radiator will cause the signal delay. In order to avoid "blind spots" caused by "multipath effect", the transmitter host and each radiator should be connected with equal length cables as far as possible during wiring (see Figure 7.7).

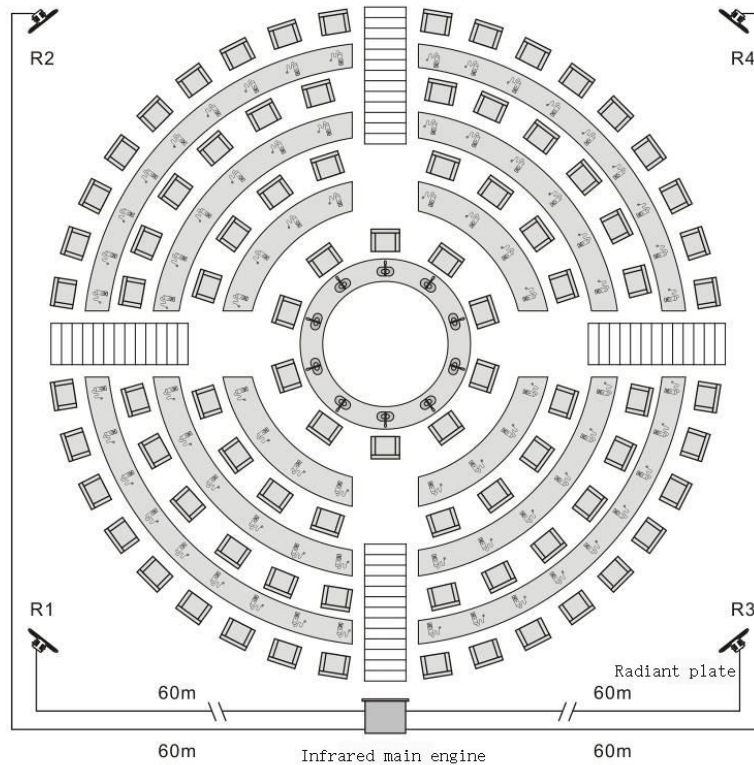


Figure 7.7 Equilength cable connecting radiator

When connecting the transmitting host and each radiator in a "hand in hand" mode, the lines should be as symmetrical as possible (see Figure 7.8). The cable signal delay can be compensated by the delay compensation switch of the radiator.

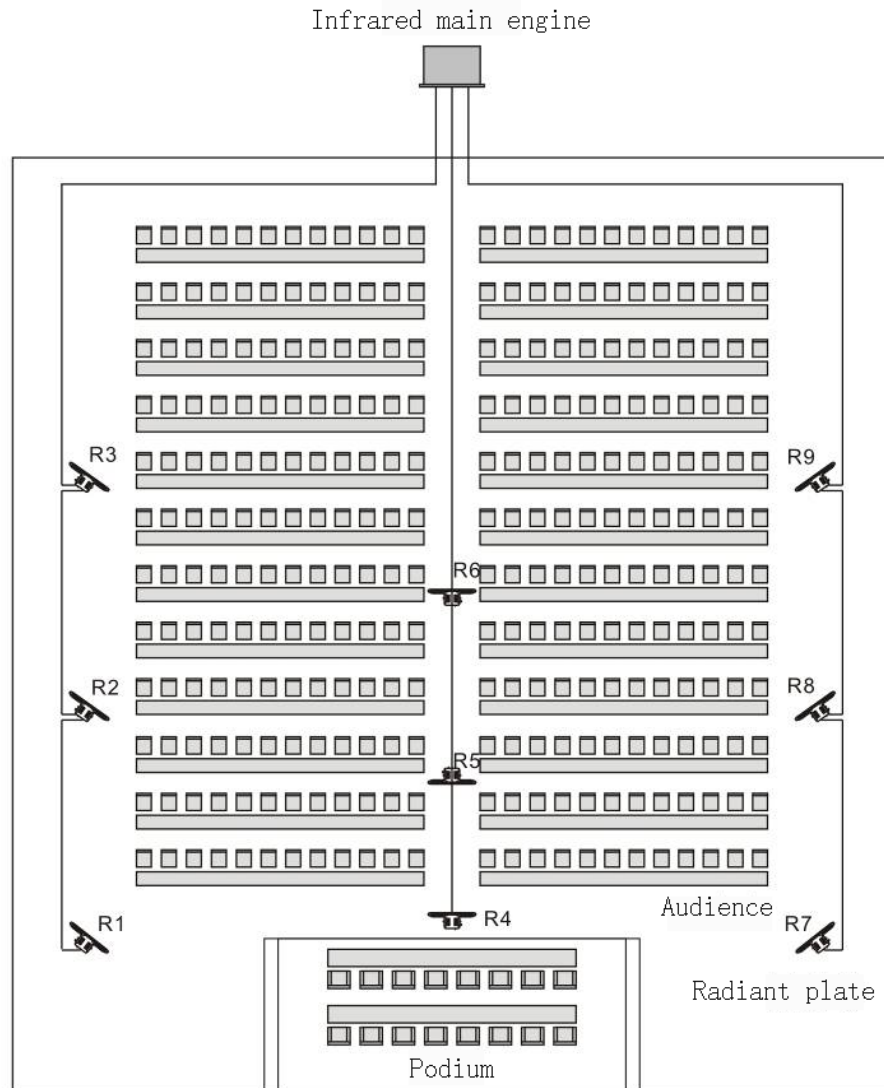


Figure 7.8 Symmetrical arrangement of radiator circuit

7.6 Installation of digital infrared radiant panel

The radiator can be firmly installed on the wall, ceiling or hall by using the mounting bracket. Use the radiation Angle handle (to adjust the mounting Angle for optimal coverage).

For wall installation, there is also a separate fixed bracket as an option, available; Floor support can be used for non-permanent installation.

Note: During operation, radiator heating is normal, not radiation unit failure.

Warning: When deciding where to install the radiator, ensure that there is enough space around the radiator for proper airflow to avoid excessive radiator temperature.

7.6.1 Bracket mounting mode

The top of the floor support and the radiator mounting support frame are fixed with screws. The mounting bracket comes with a metal sheet with threaded holes and is compatible with most standard floor brackets. See Figure 7.9.

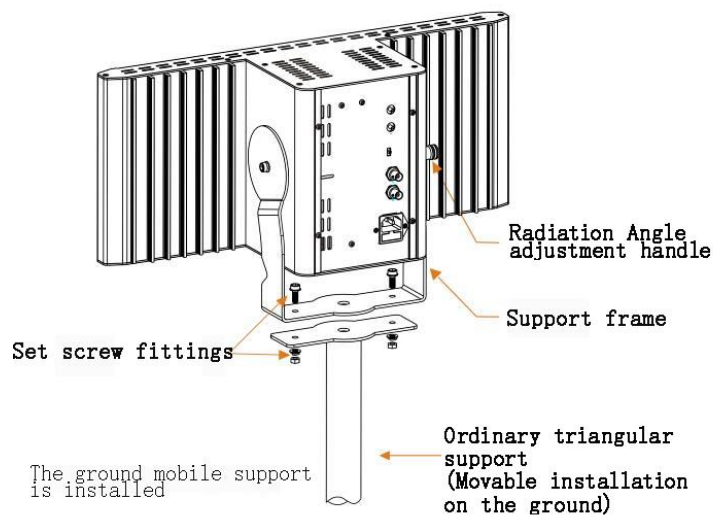


Figure 7.9 Radiator ground mobile support installation mode

7.6.2 Wall mounting mode

For wall mounting, a separate mounting bracket is available as an option, as shown in Figure 7.10. The bracket is attached to the wall or ceiling by four riveting bolts.

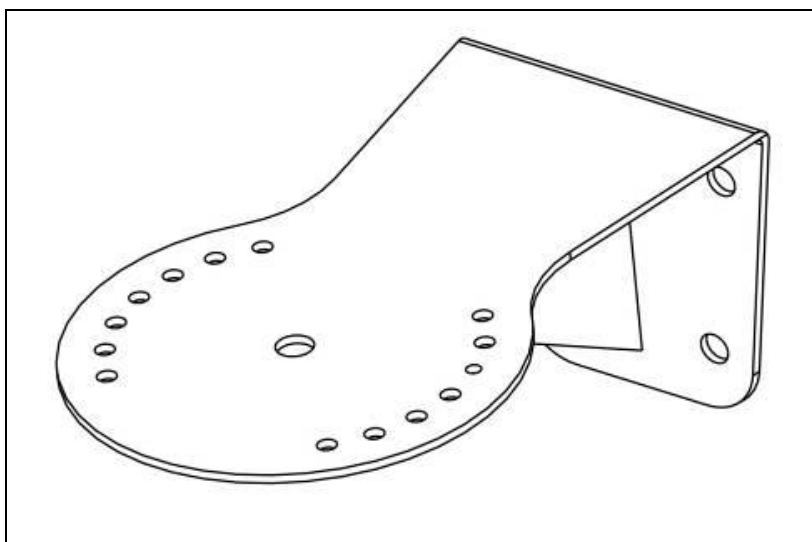
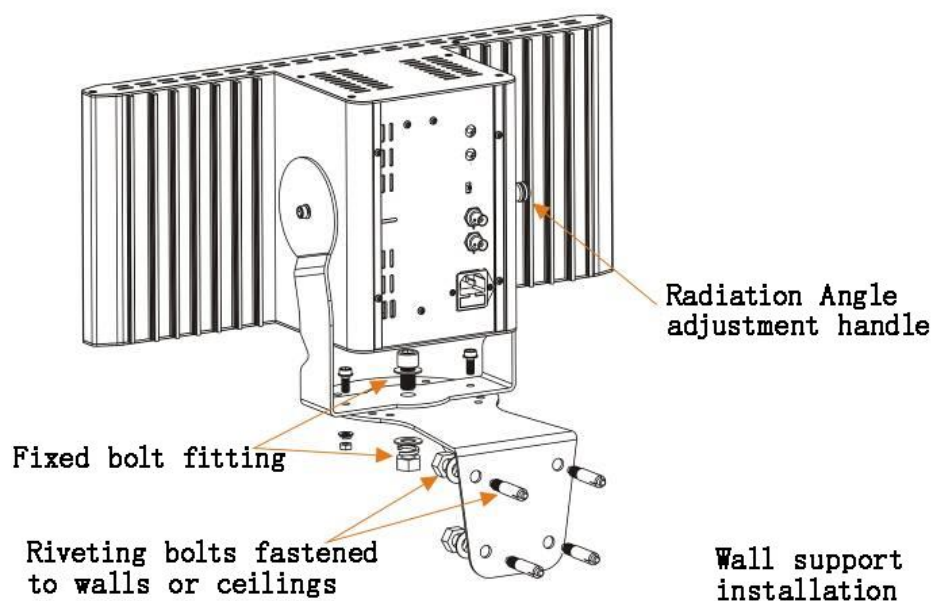


Figure 7.10 Radiator fixing bracket



Note: The radiator fixing bracket has two rows of symmetrical fixing holes to adjust the horizontal Angle of the radiator.

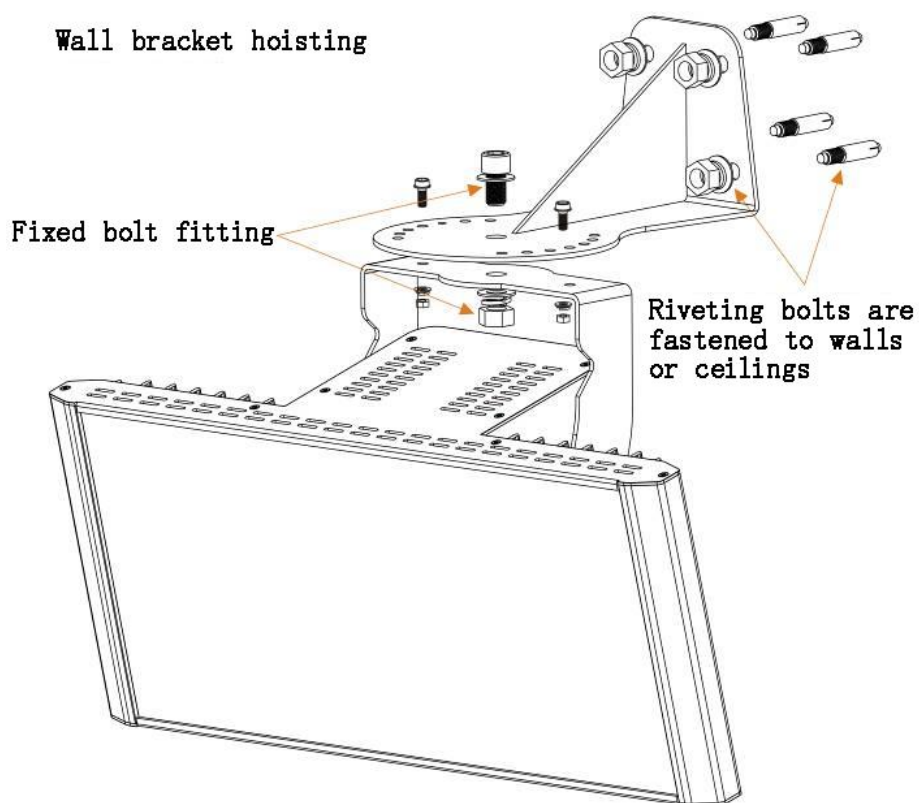


Figure 7.12 Hoisting mode of radiator wall support

7.6.3 Ceiling installation mode

The radiator can be fixed to the ceiling through the built-in mounting bracket. This installation must ensure sufficient space around the radiator for proper air circulation.

In most application cases, ventilation devices need to be installed to force ventilation to avoid high temperature.

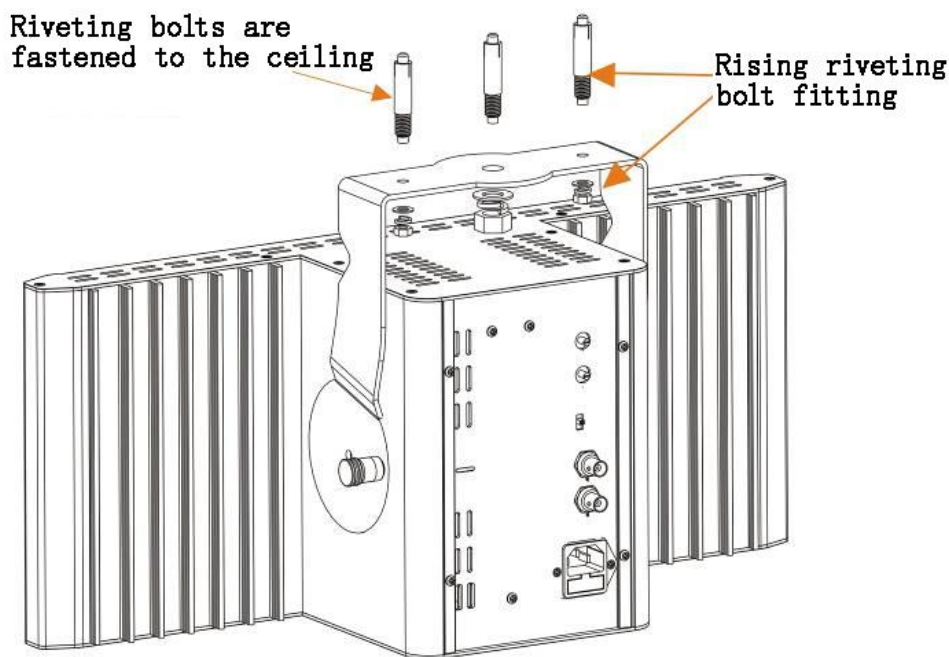


Figure 7.13 Radiator ceiling installation

7.6.4 Horizontal installation mode

When the radiator has to be installed on a horizontal plane (such as the top of the translation room), the distance from the radiator to the horizontal plane shall not be less than 4cm in order to ensure the proper circulation of surrounding air. If not, switch the radiator to half power output. If the radiator is operating at full power at the top of the interpreter, the ambient temperature shall not exceed 35°C.

7.6.5 Infrared radiation plate installation effect

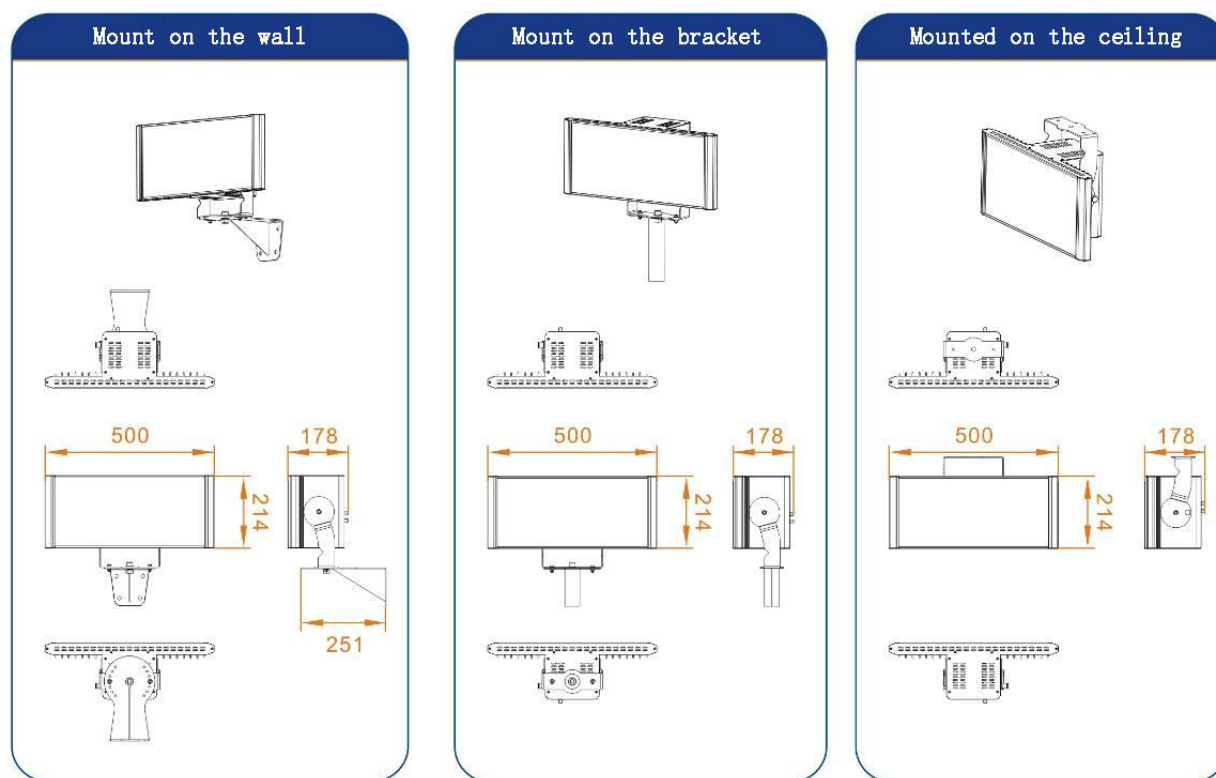


Figure 7.14 Renderings of several installation methods of infrared radiation panel

7.6.6 Installation of safety rope for infrared radiation panel

In case the infrared radiation panel installed on the wall or ceiling falls off accidentally due to some uncertain factors, the infrared radiation panel must be installed with a safety rope. An anti-fall safety rope and some swelling riveting bolts and nuts are provided, as shown in Figure 7.15.



Figure 7.15 Safety rope

One end of the safety rope hook hooks the long round hole on the back of the infrared radiation plate, and the other end of the sucker is fixed to the wall with swelling riveting bolts and nuts. See Figure 7.16.

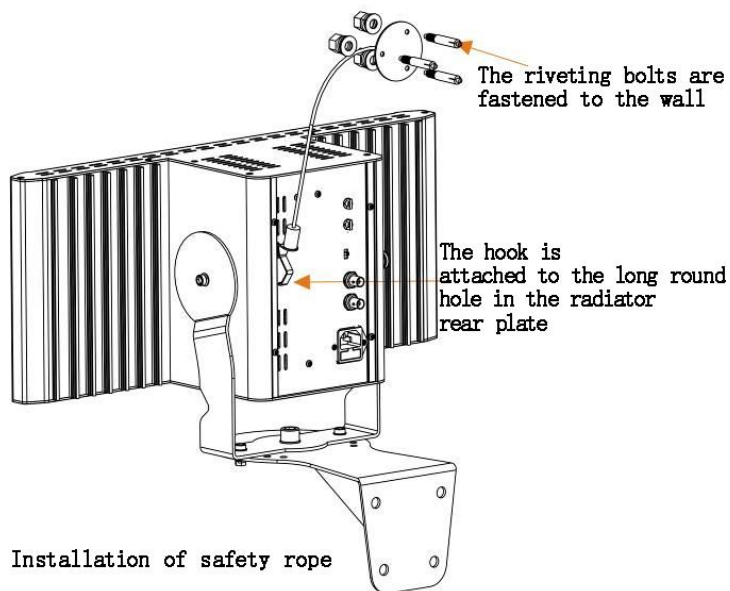


Figure 7.16 Installation of safety rope

7.7 Connection of digital infrared radiant plate

Transmitter host has six high-frequency signal output interface, its function is the same. Each channel can be connected "hand in hand" with up to 30 radiators connected by RG-59 cable, with a maximum length of 900 m per output to the last radiator.

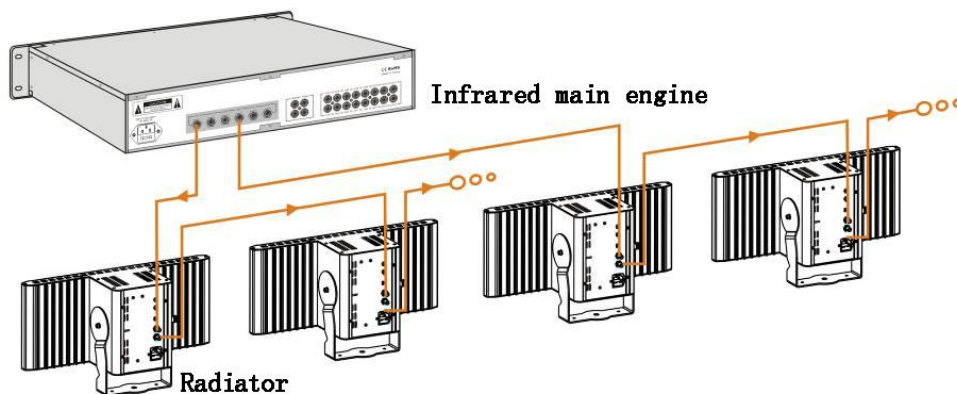


Figure 7.17 "Hand in hand" connection of radiator

7.8 The use of the output power selector switch of digital infrared radiant panel

The radiator can be selected to operate in full power or half power output mode. The half-power output mode is typically used in situations where full power is not required, such as moving the system into a small conference room. When sufficient air flow cannot be guaranteed, the radiator can also be switched to half power mode, reducing the power use can save electricity, and extend the service life.

7.9 The use of digital infrared radiation plate

Due to the multipath effect, the signal received by the receiving unit from two or more radiation units can lead to blind spots due to delay differences.

The reasons that cause the receiving unit to receive signal delay are as follows:

The signal is transmitted from the transmitting host to the radiator by cable (cable signal delay)

Signal transmission from radiator to receiver through air (air transmission signal delay)

In order to compensate the difference of signal delay, the delay of the corresponding radiator can be increased by adjusting the delay compensation switch on the back of the radiator. The delay compensation knob can be pointed to display two digits from "00" ("00" means no delay) to "99". The delay compensation parameters are shown in Figure 14.18. The displayed number is multiplied by 33.33ns, and the adjustable delay time is 33.33ns to 3333.33ns (99×33.33).

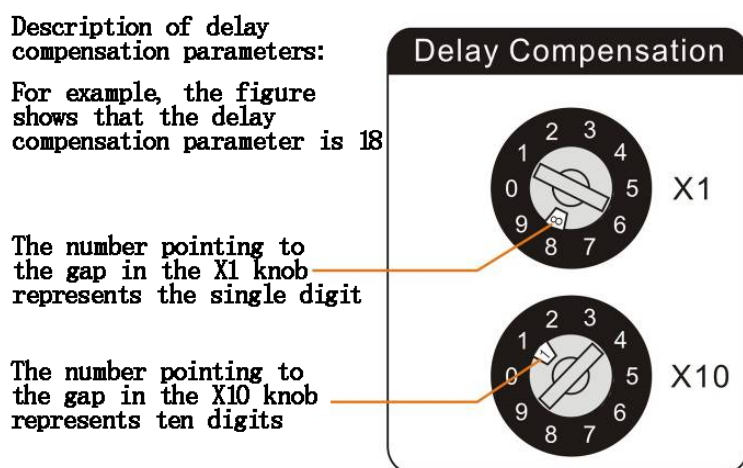


Figure 14.18 Parameter description of delay compensation

In most cases, the cable signal delay can be calculated manually or by the delay calculation software.

The following sections describe how to manually calculate the setting of the delay compensation switch in a system with one, two, or more transmitting hosts. Delay calculation software can help you quickly calculate the delay switch setting parameters.

The radiator is directly connected to the transmitting host system with equal length cable, so there is no need to consider the cable signal delay. In this case, set the delay switch on all radiators to "0" and confirm whether the radiation signal delay needs to be compensated.

If the length of cables between radiators is inconsistent in a system with only one transmitting host, the delay switch setting parameters of each radiator can be calculated by the following formula, taking the signal delay rate as 3.94ns /m as an example.

$$X = [(L - L_{min}) \times 3.94] / 33.33$$

- X: the delay compensation set parameters. According to the calculation result, different delay compensation parameters can be set by adjusting the delay compensation switch on the back of the radiator.
- Lmin: the host to the radiator of the shortest cable length
- L: to adjust the radiator to the host of cable length

Measure the cable length as follows to determine the delay switch setting:

- 1、 Measure the cable length L from the transmitting host to each radiator;
- 2、 Determine the cable length Lmin of the radiator nearest to the transmitting host;
- 3、 Calculate the difference between the length L of the radiator cable requiring delay compensation and the length Lmin of the cable from the transmitting host to the nearest radiator;
- 4、 By multiplying the calculated cable length difference by the cable signal delay rate, the cable signal delay difference to each radiator can be obtained.
- 5、 Divide the signal delay difference by 33.33. The integer (rounded off) is the setting parameter of the delay compensation switch on the radiator.
- 6、 If necessary, in case of overlapping coverage area, the delay switch setting parameters of the radiator far away from the overlapping coverage area (such as under the building) should be increased accordingly as compensation for the delay of the radiation signal.
- 7、 Set the delay switch according to the calculated parameters.

Figure 7.19 and Table 7.1 illustrate the calculation of cable signal delay.

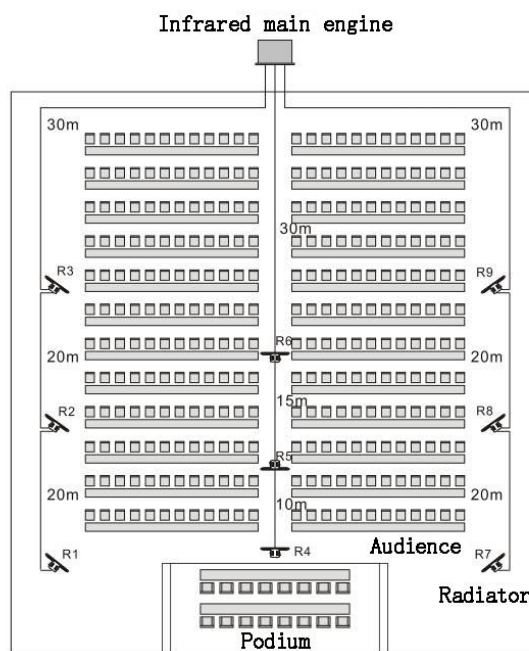


Figure 7.19 System of six radiators and measured cable lengths

Table 7.1 Calculation of cable signal delay

Radiator number	Target cable length L (m)	Cable length difference L-Lmin* (m)	Cable signal delay rate (ns/m)	Signal delay difference (ns)	Delay switch setting
R1	30+20+20=70	70-30 = 40	3.94	40*3.94 = 157.6	157.6/33.33 = 5
R2	30+20=50	50-30 = 20	3.94	20*3.94 = 78.8	78.8/33.33 = 2
R3	30	30-30 = 0	3.94	0*3.94=0	0/33.33 = 0
R4	30+15+10=55	55-30 = 25	3.94	25*3.94 =98.5	98.5/33.33 =3
R5	30+15=45	45-30 = 15	3.94	15*3.94 = 59.1	59.1/33.33 = 2
R6	30	30-30 = 0	3.94	0*3.94=0	0/33.33 = 0
R7	30+20+20=70	70-30 = 40	3.94	40*3.94 = 157.6	157.6/33.33 = 5
R8	30+20=50	50-30 = 20	3.94	20*3.94 = 78.8	78.8/33.33 = 2
R9	30	30-30 = 0	3.94	0*3.94= 0	0/33.33 = 0

* Lmin-=30 m

Note: The signal delay rates used in the table above are examples only. In actual applications, use the cable signal delay rate marked by the manufacturer.

When there are more than four carriers and a radiator is placed under the hall:

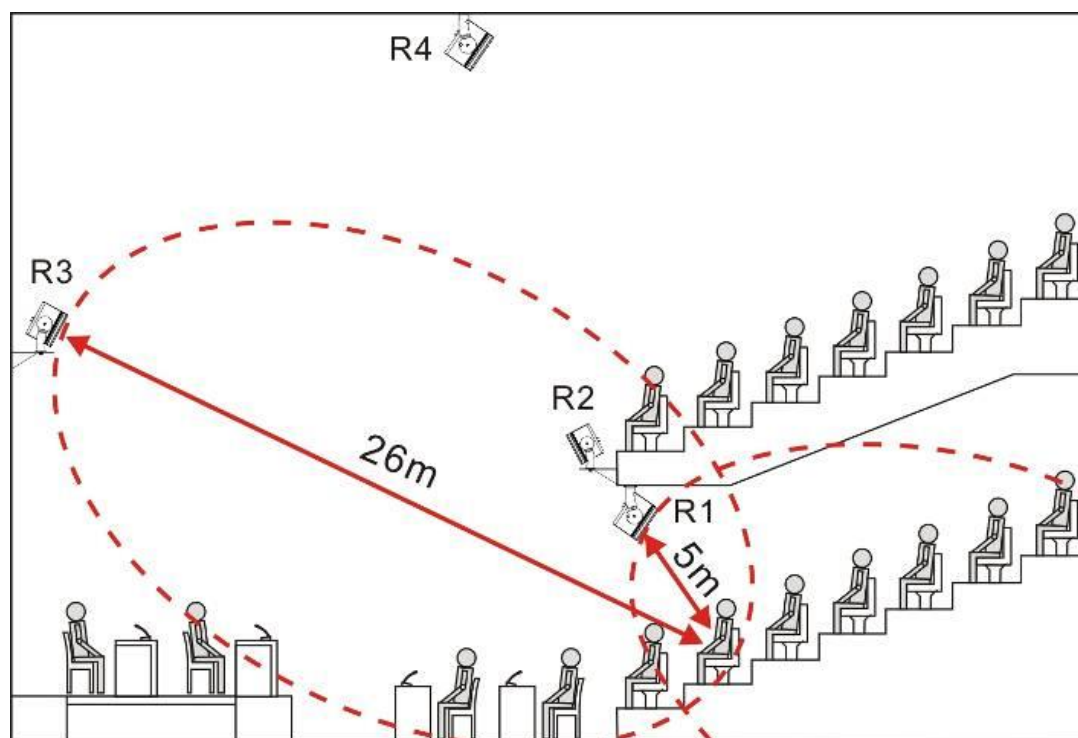


Figure 7.20 Difference of radiation path length between two radiators

Figure 7.20 illustrates an example of a radiation signal delay (air transmission signal delay) that occurs and can be compensated. For a system with more than four carriers, the radiator delay switch setting parameter farthest from the overlapping coverage area will be added by 1 for each radiation path length difference exceeding 8.5 m. In FIG. 7.20, the difference in radiation path length between R3 and R1 to the overlapping coverage area is 21 m. Then the delay switch setting of radiator R3 will add 2 to the previously calculated setting parameter.

Chapter 8. Infrared Receiver

8.1 Overview

Infrared receiver can receive 16 languages; Built-in rechargeable lithium battery pack power supply; Features channel selection, volume adjustment and power control switches, as well as a Ø3.5mm stereo headphone output jack. The LCD display on the receiving unit displays the channel number, battery level, signal status and volume.



Figure 8.1 Infrared receiver ICS-IR-RX8

8.2 Functional features

- Streamline, exquisite design, small and exquisite, ergonomic.
- The all-digital conferencing technology is adopted in accordance with IEC 61603-7 and IEC 60914 standards.
- It is compatible with other infrared simultaneous transmission systems in accordance with IEC 61603-7 standards and can be used cross-over.
- Digital locking security function, completely eliminate foreign malicious interference and eavesdropping, to ensure the independence of receiving equipment.
- It breaks the fixed-frequency transceiver mode of the traditional analog system and adopts 2-8mhz frequency band, which is not interfered by the high-frequency driving light source.
- Number of allocatable channels 16CH audio channels.
- When the headset is off and you press the power switch, the LCD screen can still display the channel number set for the last time and the current battery power.
- With LCD display screen, can display the number of channels, battery power, volume, signal status.
- The use of backlit LCD screen, ensure that in the dark environment, still can clearly display the receiver information.

- Can independently adjust the volume of the receiving unit, with 270° ultra-wide receiving Angle.
- With a large capacity rechargeable lithium battery, shutting off or disconnecting the headset will not consume power.
- In the effective region of infrared radiation signal, the number of receiving units is not limited, can be increased or decreased at any time.
- Channel separation degree, signal-to-noise ratio can reach more than 80dB, can perfectly solve the channel crosstalk, noise and other common problems, with automatic mute function (when the received signal is too low), so that the listener really feel comfortable and natural high-quality effect.
- Two suspension modes (sling type and collar type), can be placed in the jacket pocket or chest, or even on the table top.
- Low power consumption, using the factory original machine lithium battery, can work for 30 hours continuously.
- A box can hold 56 infrared receiving units for easy transportation and carrying.
- 3.5mm stereo headphone output.

8.3 Infrared receiver technical parameters

Machine type	ICS-IR-RX8
Number of channels	8 CH
Modulation mode	Digital Wireless Base Station
Carrier frequency	2-8MHz
Audio processing	IR-DSP
Distortion degree	<0.2%
Signal-to-noise ratio	>80 dB
Operating voltage	3.7V
Headphone load	16 Ohm 250mW
Headphone output	3.5mm socket x1
Turn on	Plug in the headset and press the "Off" button
Shut down	"Pull out the headset" or "Automatic shutdown without signal" or "long press the on key for 2 seconds to shut down"
Shutdown delay	Disconnect earphone for 0 seconds/no signal for 2 minutes
Battery	Lithium battery, alkaline battery is optional
Working time	30 hours
LCD display	Channel number, signal, weak current hint
Dimension	154x46x24mm
Weight	0.13kg

8.4 Infrared receiver function and interface description

8.4.1 Infrared receiver diagram

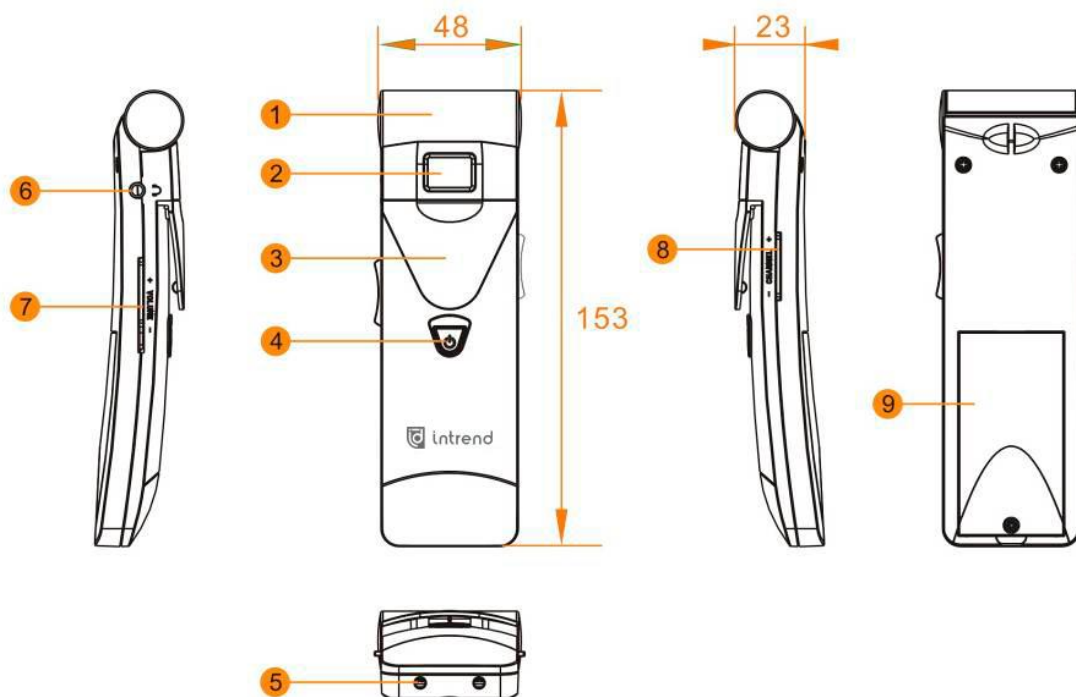


Figure 8.2 Infrared receiver

Function key diagram of infrared receiving unit:

1. Infrared digital signal receiving port: used to receive infrared radiation signals.
2. LCD LCD: Display channel number, battery power, signal status and volume.
3. Pocket clip: Used to fix the receiving unit to the pocket mouth.
4. Switch on/off button: When the earphone is inserted, the receiving unit will automatically switch to standby state. Press the power switch to turn on the device, and press the power switch to return to standby state for about 2 seconds.
5. Charging port: Used in combination with the charging box to charge the infrared receiver.
6. Headphone jack: 3.5mm diameter stereo headphone output jack.
7. Select buttons:
 - "VOLUME +" for the increasing VOLUME
 - "VOLUME -" for the VOLUME decline

8. Select buttons:

- "CHANNEL +" for the CHANNEL
- "CHANNEL" for the CHANNEL

9. Battery case: 3.7V rechargeable battery

Note: When the receiver is not in use, please disconnect the headset to ensure that the receiver is completely powered off and no longer consumes battery power.

Chapter 9. Installation and connection of the system

9.1 Large venue system connection diagram

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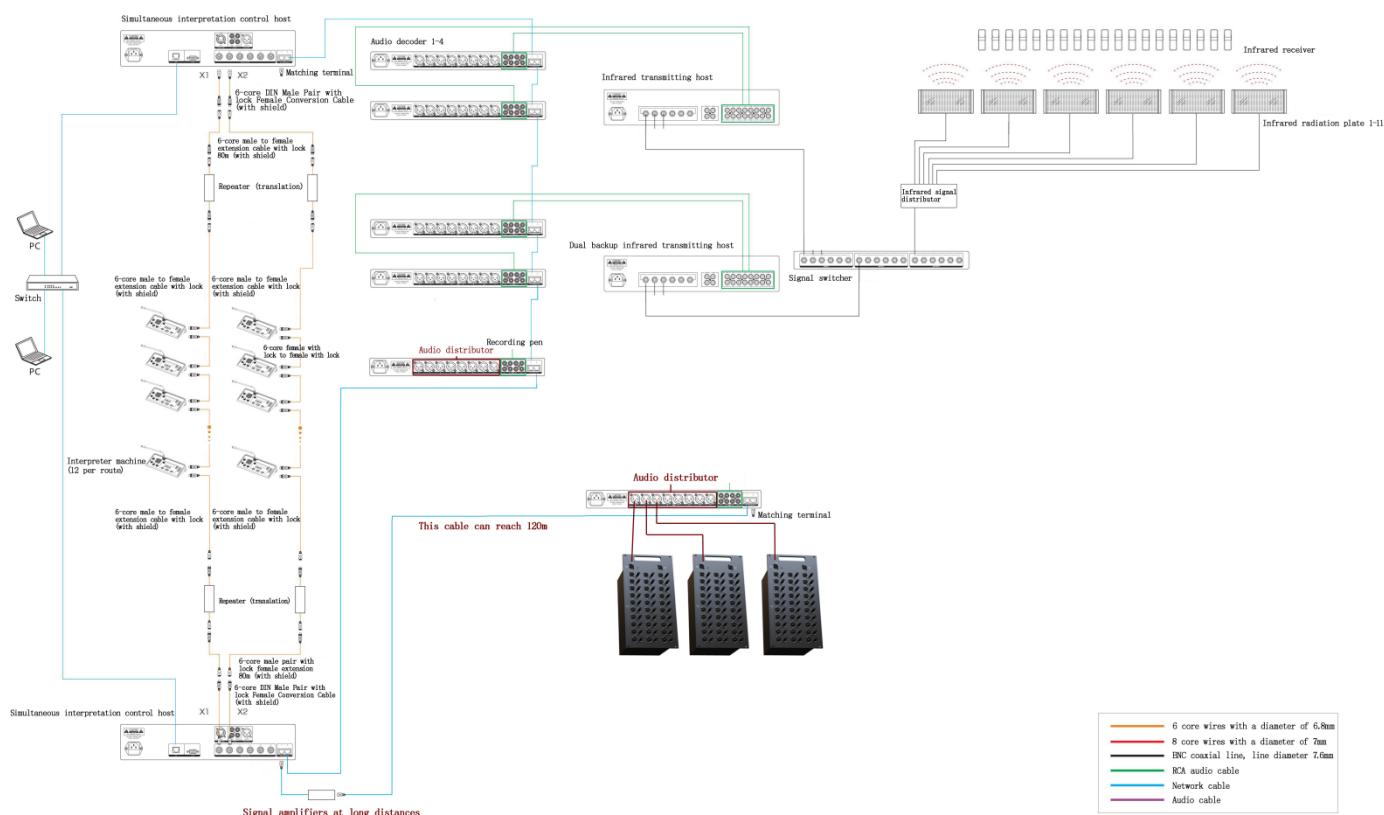
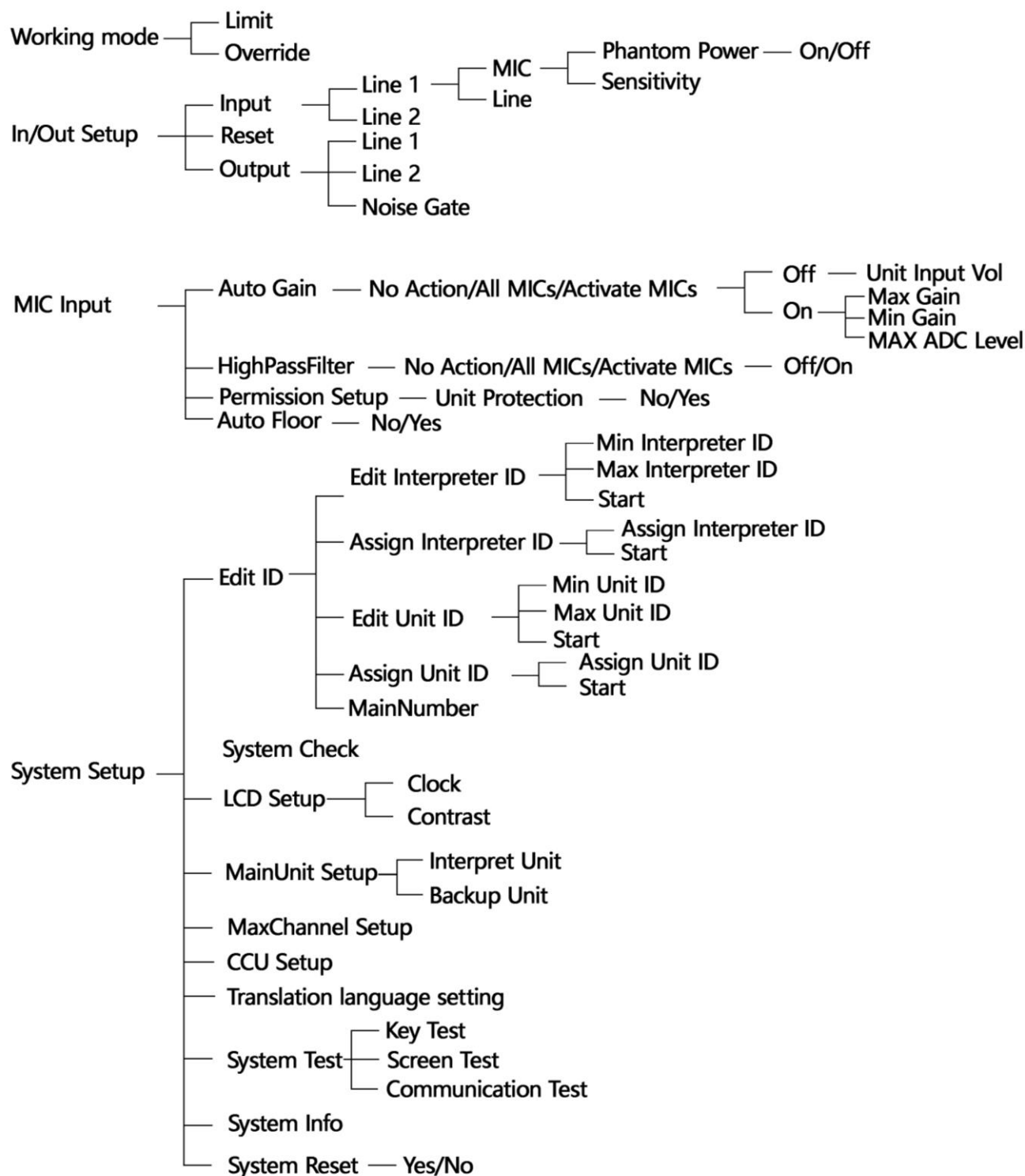


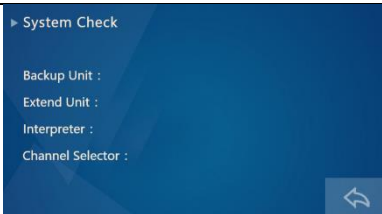
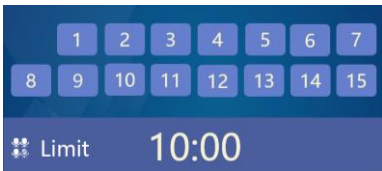
Figure 9.1 System connection diagram of large conference hall

Chapter 10. Setup and operation of simultaneous interpretation host

10.1 Simultaneous interpretation host menu structure



10.2 Simultaneous interpretation host new machine debugging

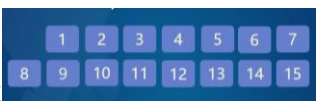
Serial number	Operation procedure	Description	Remarks
1	Connect the devices with cables		Reference system connection diagram
2	Turn on the power switch of the host		
3	The host detects the entire simultaneous system automatically		The number of backup hosts, extension hosts, interpreter stations, and channel selectors in the system is detected.
4	The host standby screen is displayed		On the standby screen,  Limit the icon indicates the working mode of the host. Press  Limit to enter the screen for setting the working mode
5	Defining host properties	: Set the host to 1. Translation host; 2. Back up the host.	You do not need to perform the following steps when you go to System Settings - Host Settings
6	Set the number of translators	Set minimum interpreter number and maximum interpreter number	
7	Interpreter number	Starting number	Each interpreter presses the button in turn to obtain the ID number
		End number	
8	Set number of cells	Set the minimum unit number and maximum unit number	
9	Unit number	Starting number	For each unit, press the button successively to obtain the ID number
		End number	
10	Setting the number of hosts	Setting the number of hosts	
11	Set working mode	Set the same transmission mode. Two modes are optional	Press  Limit to enter the working mode setting screen
12	Adjust input/output volume	Set input/output volume and output noise gate	
13	Microphone setting	Set up auto gain, bass cut, auto original sound, etc	

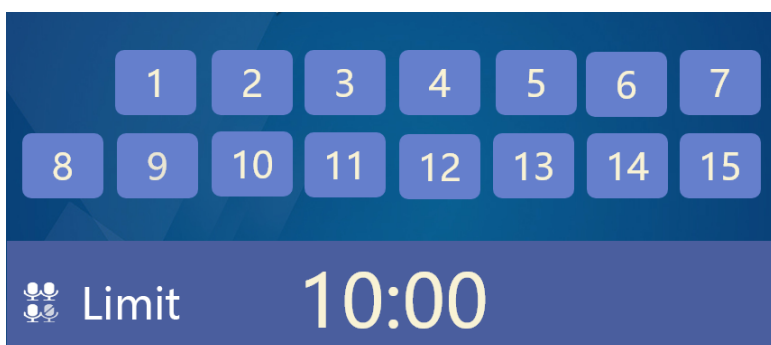
10.3 Operating instruction

10.3.1 Standby screen

After the simultaneous interpretation host power switch is turned on, the display screen will display the main boot interface. The icon in the lower left corner indicates the current working

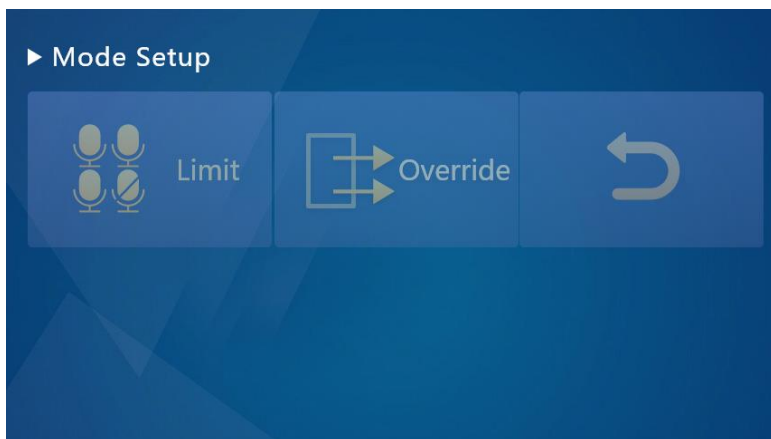
mode. Click  Limit to enter the setting interface of working mode,  indicating the

current time. Click  the screen position to enter the input/Output setting interface.



10.3.2 Working mode

On the standby screen, tap the icon in the lower left corner of the screen to enter the screen for setting working mode.



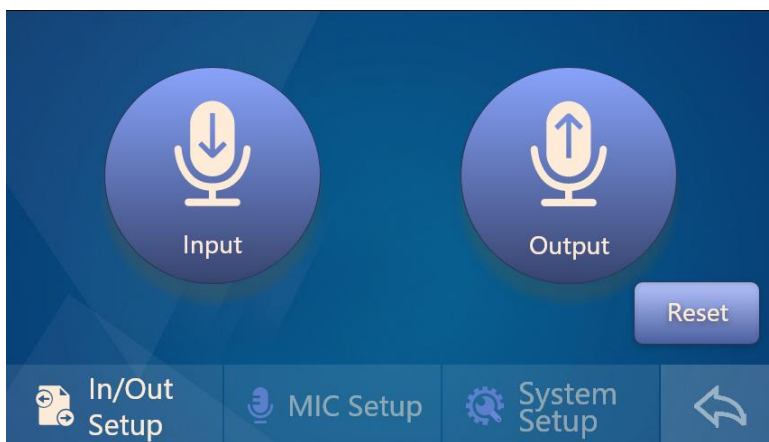
Working mode: Set the same transmission working mode, a total of two modes, respectively quantity limit, first in first out.

Quantity limit: Set the quantity limit mode. The number of interpreters allowed to open in the same output channel is 1. When the output channel is occupied, other interpreters cannot open the microphone in this output channel.

First in, first out: Set the first in, first out mode. The number of interpreters allowed to open for the same room number and output channel is 1. When the interpreter unit turns on the microphone, the interpreter in the same room with the same output channel turns on the microphone to cover the previously opened interpreter unit.

10.3.3 Input/output

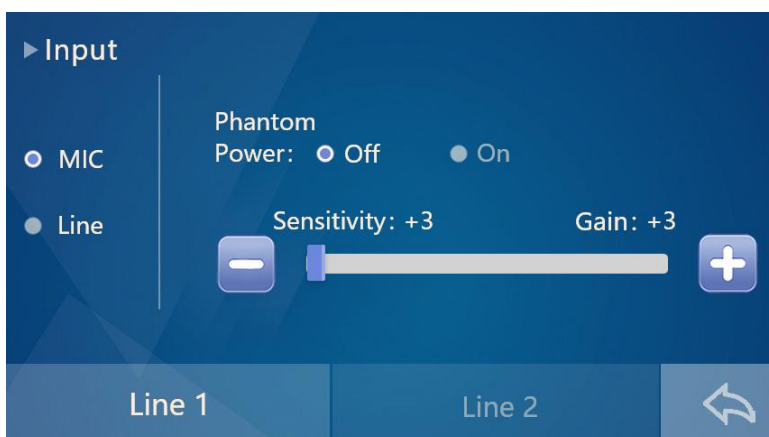
On the standby screen, tap  to enter the I/O setting screen.



In the Input/Output setting interface, click  the input icon to enter the input setting interface.

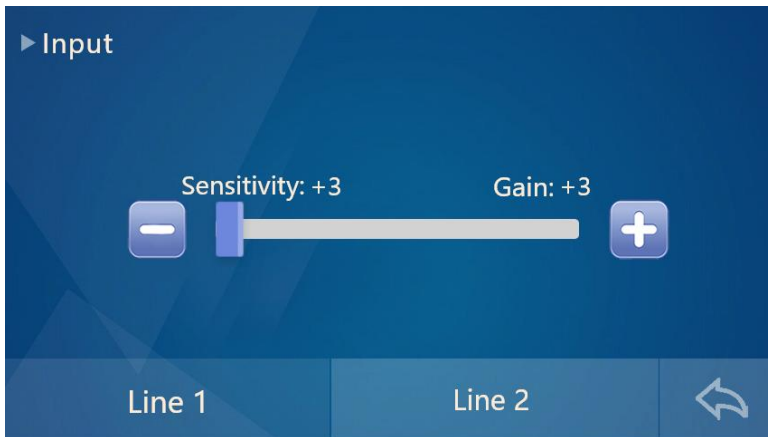
1. Line 1 interface

Set simultaneous interpretation host line 1 input mode, optional microphone or line, microphone can set phantom power supply on/off, gain parameters range +3 ~ +27dB.



2. Line 2 interface

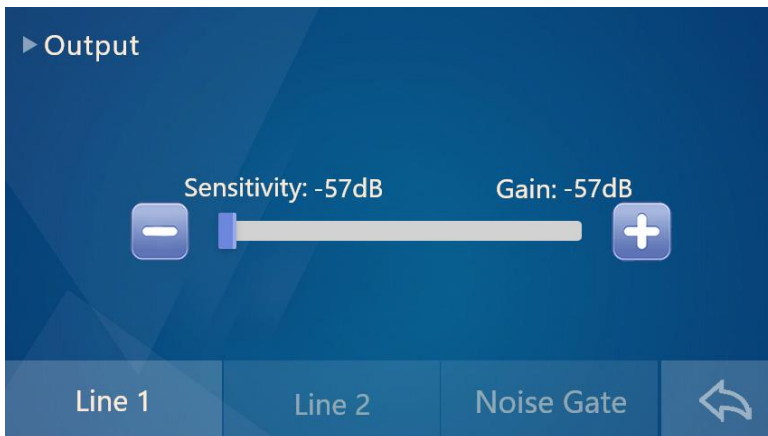
Separately adjust the microphone input gain, gain parameters range -6 ~ +6dB



2. In the Input/Output setting interface, click  the output icon to enter the output setting interface.

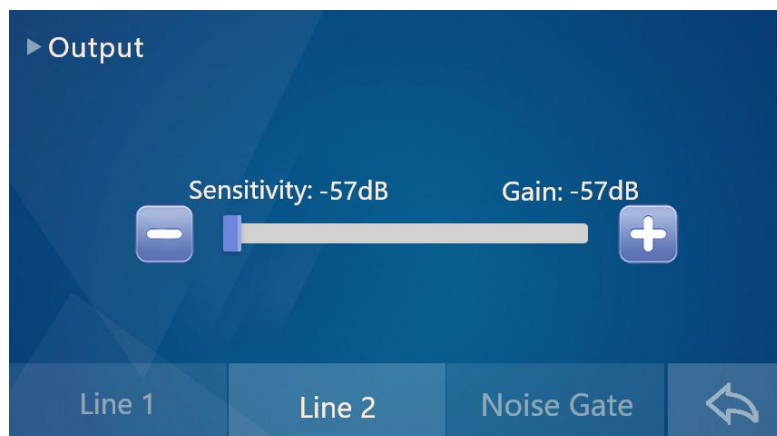
1. Output interface of line 1

Set the sensitivity and gain of the output of line 1. The sensitivity parameter ranges from -57 to 0dB, and the gain parameter ranges from -57 to 0dB.



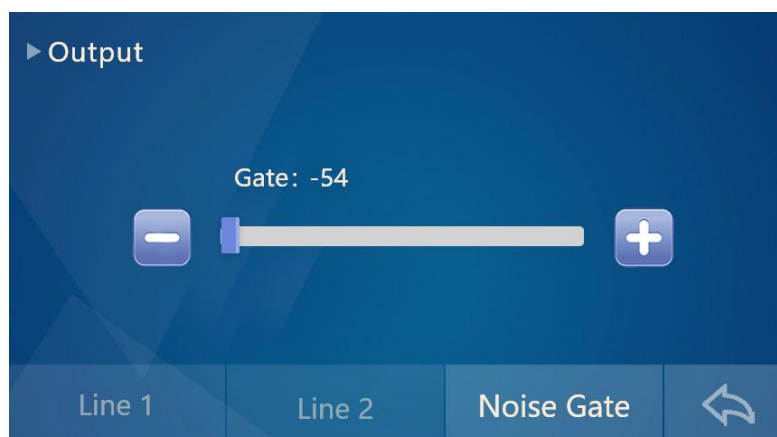
2. Output interface of line 2

Set the sensitivity and gain of the output of line 2. The sensitivity parameter ranges from -57 to 0dB, and the gain parameter ranges from -57 to 0dB.



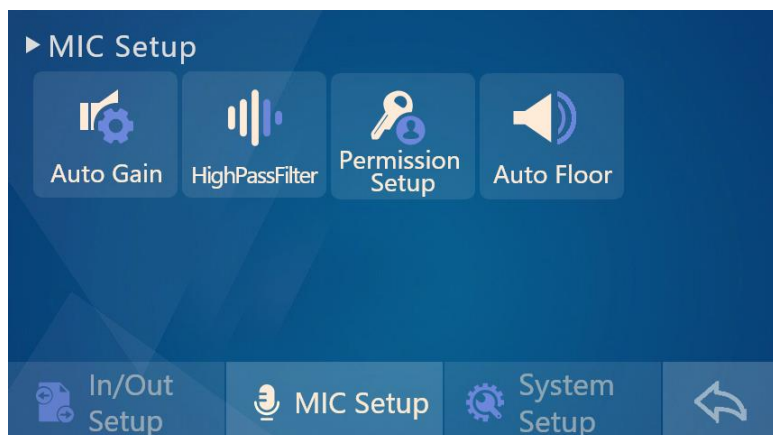
3. Output noise gate interface

Output noise gate: Set the output noise gate threshold. The parameter range is -54dB to -84dB, OFF. If the parameter is -54, -60, -66, -72, -78, or -84, the system will automatically mute when the output signal amplitude is less than the set value. If the parameter is OFF, the Output noise gate function is disabled.



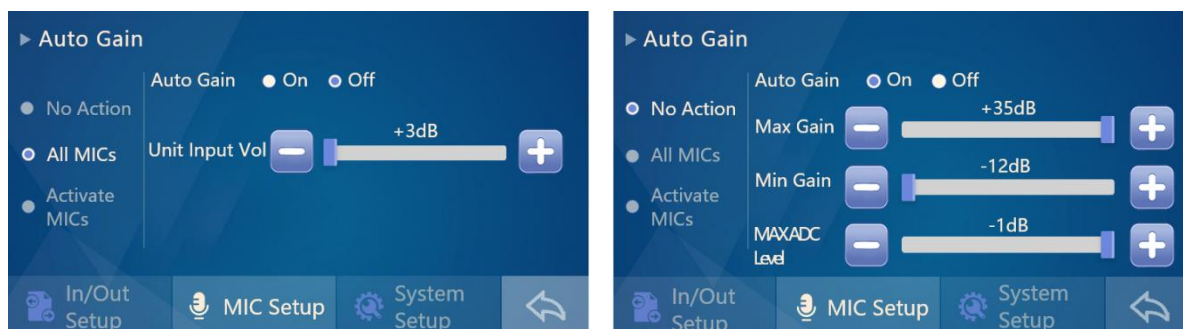
10.3.4 Microphone setting

In the system standby interface, click  the LOGO position on the screen to enter the input/output setting interface, and then click the icon to enter the microphone setting interface, which includes automatic gain, bass cutting, permission setting and automatic original tone.



1. Automatic gain interface

In the microphone setting menu interface, click  the automatic gain icon to enter the automatic gain interface.



Automatic gain: Automatic gain control, or AGC.

No action: The setting command is not sent.

All microphones: All interpreter units in the system.

Microphone on: All interpreter units in the system that have microphone on.

Unit input volume: Sets the interpreter input volume.

Off: Automatic gain off, set the corresponding interpreter input volume gain, parameter range +3 ~ +27dB.

On: Automatic gain On, you can set maximum gain, minimum gain, and maximum ADC level.

Maximum gain: Set the maximum gain for All Microphones or Enabled Microphones. The value ranges from -6 dB to +35dB.

Minimum gain: Set the minimum gain for All Mics or Enabled mics. The value ranges from -12 dB to 30dB.

Maximum ADC level: Set the maximum ADC level for All Microphones or Enabled Microphones. The parameter range is -22 to -1dB.

Bass excision: The bass excision function can be turned on and off. When the bass excision function is turned on, the bass excision can be performed at frequencies below 245Hz.

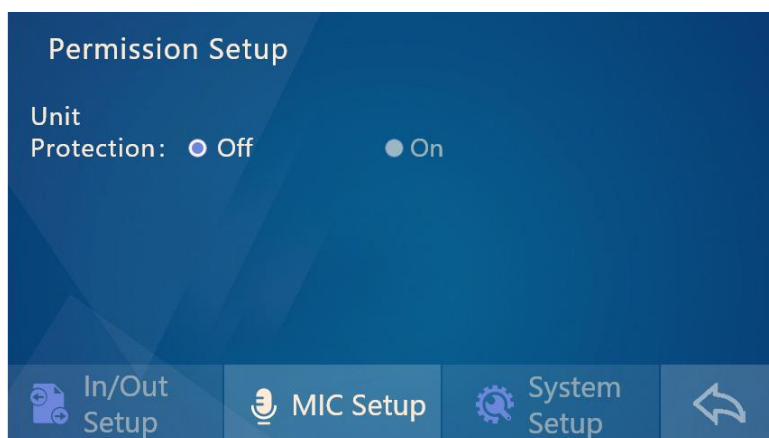
No action: The setting command is not sent.

All microphones: Enable bass cutting for all conference units in the system.

Open microphone: Enable the bass cutting function for all open conference units in the system.

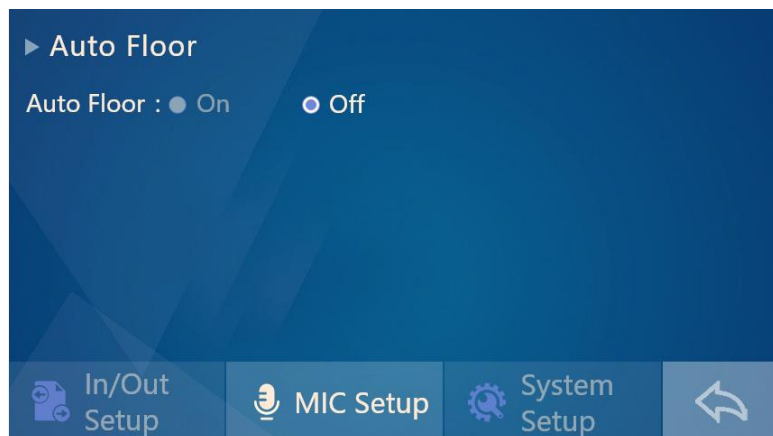
3. Permission setting interface

Unit protection: You can choose yes/no. If you choose "Yes", the interpreter station will be locked. The menu of the interpreter station will be protected, and the operator cannot enter the menu to modify parameters. If you select No, the operator can enter the menu to modify parameters.

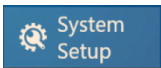


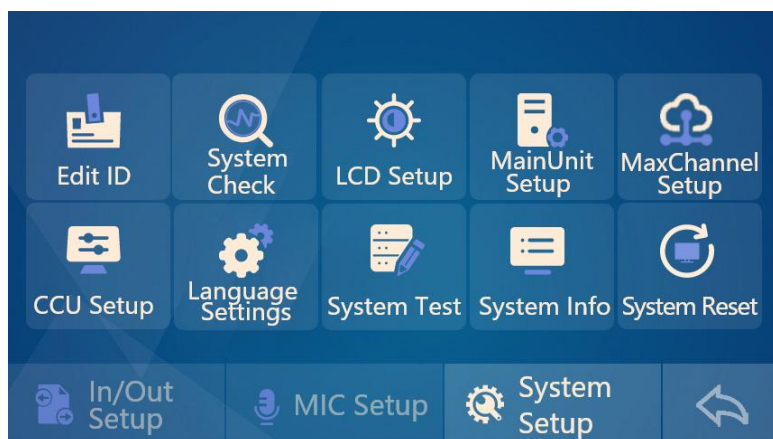
4. Automatic sound interface

Automatic sound: You can select On or off. When you select On, the channel automatically outputs the original sound when the current channel is not open. If you select Off, the channel will be mute automatically if it is not enabled to speak.



10.3.5 System setting

In the system standby screen, click  the LOGO position on the screen to enter the Input/Output setting screen, and then click the system setting icon to enter the system setting screen. System setting includes system number, system detection, display adjustment, host setting, maximum number to number, central control setting, translation language setting, system test, system information and system reset.



1. System number

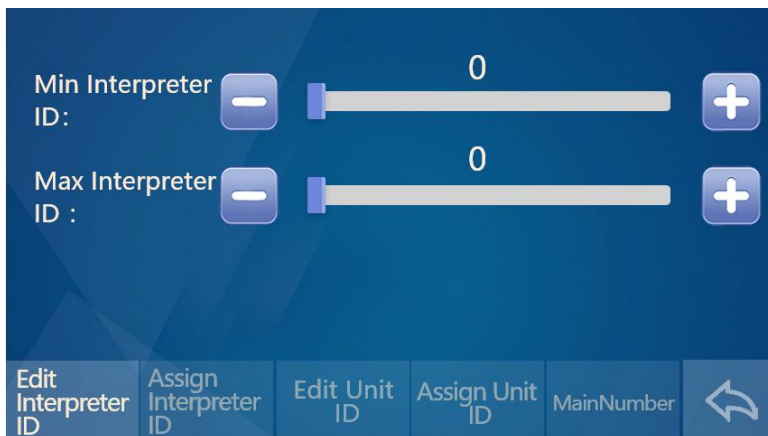
System number includes interpreter number, assigned interpreter number, unit number, assigned number, and host number.

Number of translators: Number of cointerpreters for management.

When "Minimum Interpreter number" is entered as 0, the host system will number all interpreters by default, and all interpreter ID numbers will be cleared after "start number" is pressed.

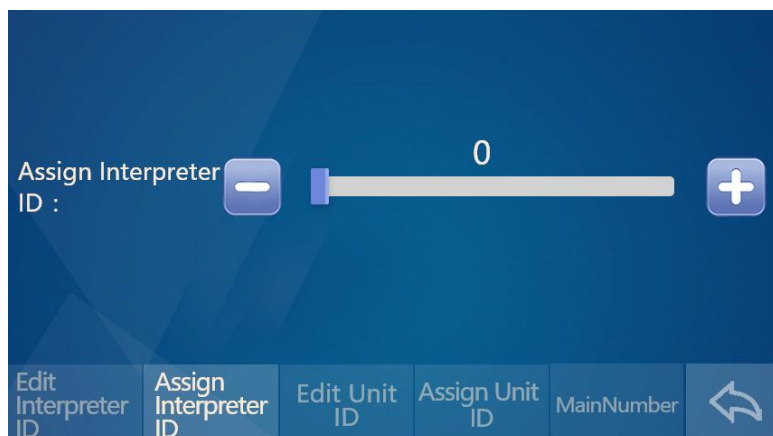
For example, fill in "minimum interpreter number" 0, "maximum interpreter number" 20, and click "Start numbering". The system will start numbering from interpreter number 1 and stop numbering from interpreter number 20. When numbering, the indicator light of the interpreter station will blink. Press any key of the interpreter station one by one to confirm the numbering. After the numbering is confirmed, the interpreter station will light a red LED light. If the number of interpreter stations is only 3, click "End number" after the number 3 interpreter.

If there are 153 interpreters, set "Minimum Interpreter number" 0 and "maximum Interpreter number" 150 for numbering. After numbering, there are three unnumbered interpreters left, so you can set "minimum Interpreter number" 150 and "maximum Interpreter number" 153 for renumber. When numbering, the number starts from 151. The three interpreters can also be numbered by specifying the interpreter number.。



Designated interpreter number: Specifies the number of the missing interpreter, that is, specifies a number to the unnumbered interpreter station.

For example, when the number of the interpreter station reaches 100, the number will be ended. If an interpreter station has not been numbered, 101 can be filled in in "Designated Interpreter number ID" and click "Start Number" to specify the interpreter number. During the numbering process, the indicator light of the interpreter station will blink. Press any key of the interpreter station to confirm the numbering. The red LED light of the interpreter station will be bright, and then click "End numbering" to complete the assignment of the interpreter number. The designated interpreter number with the same ID can only be one interpreter, and multiple interpreter stations will cause the interpreter to repeat the number, resulting in system anomalies.

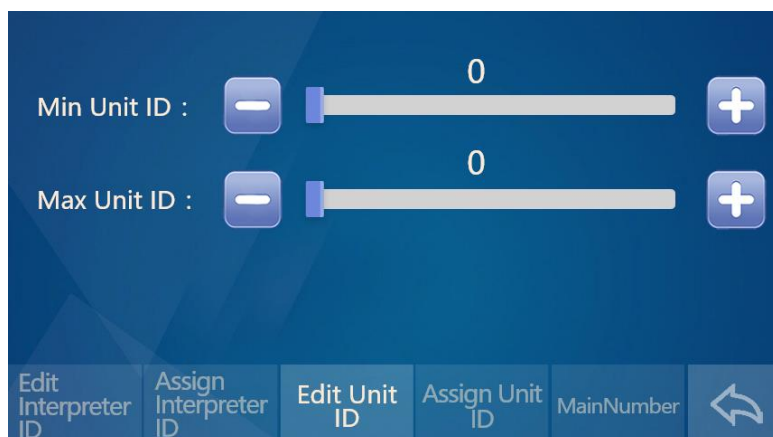


Cell number: The conference cell is numbered for management.

If Minimum Unit Number is 0, the host system numbers all units by default. After you press Start Number, all unit ids are cleared.

For example: fill in "minimum unit number" 0, "maximum unit number" 20, click "start numbering", the system will start numbering from unit 1 and stop numbering from unit 20. When numbering, the indicator light of the meeting unit will blink. Press any key of the meeting unit to confirm the numbering one by one. After confirming the numbering, the red LED light of the meeting unit will light up. If there are only 3 units, then click "End number" after numbering unit 3.

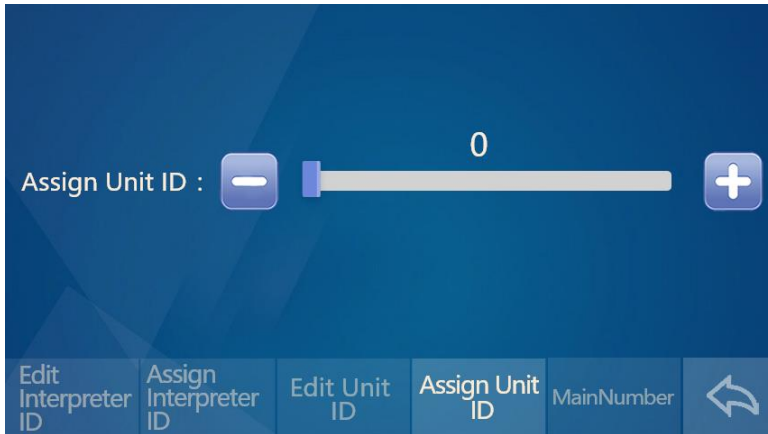
If there are 153 units, set Minimum unit number to 0 and maximum unit number to 150 for numbering. After the numbering ends, three units remain unnumbered. You can set Minimum unit number to 150 and maximum unit number to 153 for renumber. When numbering, the number starts from 151. The 3 units can also be numbered by assigning numbers.



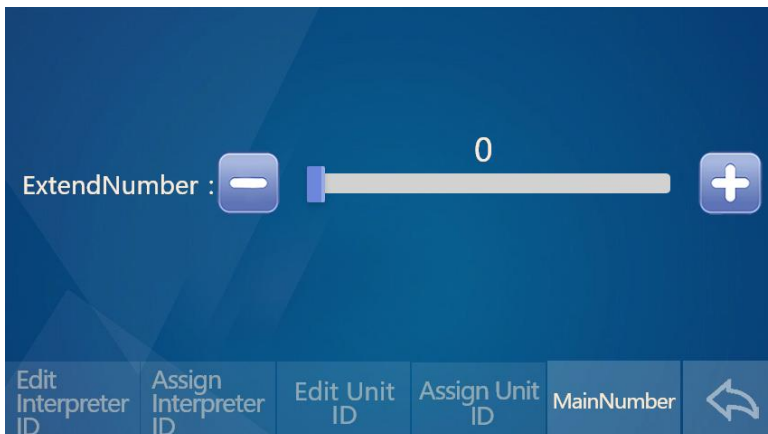
Assign number: Specifies the number of a conference unit that is not numbered, that is, assigns a number to an unnumbered conference unit.

For example, when the number of a meeting unit reaches 100, the meeting unit will be numbered. If a meeting unit does not have a number, you can enter specified number ID 101 (the specified number must be larger than the maximum number of the current numbered unit) and click Start

Number to specify the number. During the numbering process, the indicator light of the meeting unit will blink. Press any key of the meeting unit to confirm the numbering. The red LED light of the meeting unit will be on. The specified number of the same ID can only be one meeting unit. If multiple meeting units are specified, the unit number is the same, which causes a system exception.



Number of hosts: set the number of extended hosts, simultaneous interpretation host will scan according to the number of hosts, if the extension host local number is 10, the minimum number of hosts should be set to 10, otherwise it can not be detected. The number of hosts is set to be no less than the maximum local number in the system. The number of hosts ranges from 0 to 99.



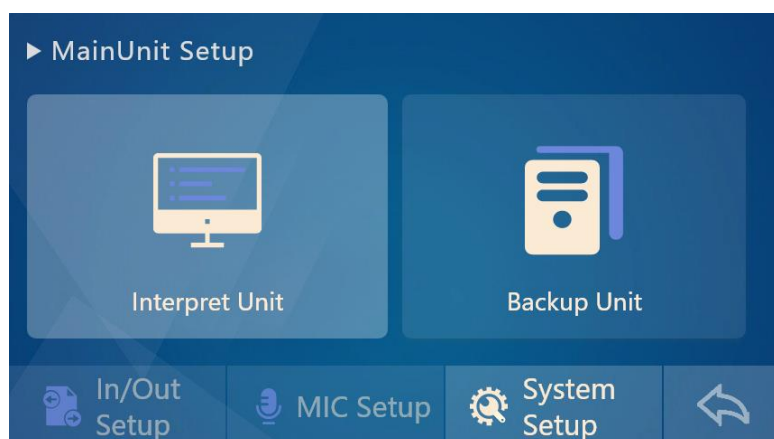
System detection: System detection is to detect the number of all backup hosts, extension hosts, interpreter stations and channel selectors in the system.

Display adjustment: Set screen brightness and system clock.

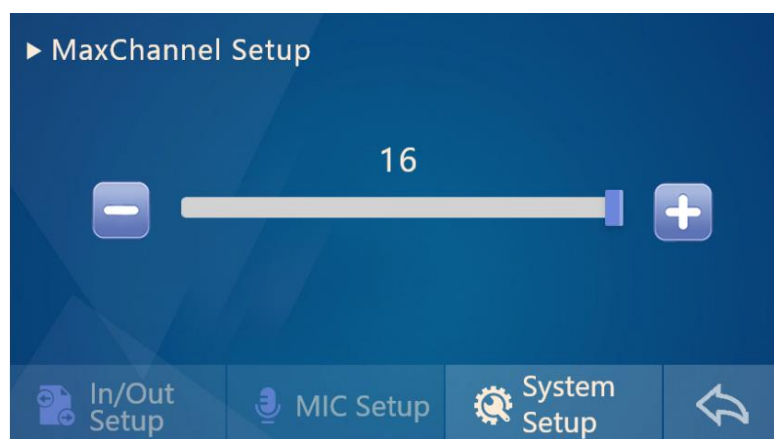
Clock: Set the system clock. The hour ranges from 0 to 23, and the minute ranges from 0 to 59.

Brightness: Sets the screen brightness. The value ranges from 5 to 99. The larger the value, the higher the screen brightness.

Host Settings: The local computer can be set as the translation host or backup host. Only one translation host and one backup host can be set in the same simultaneous transmission system. The Settings for the backup host must be the same as those for the translation host. When the simultaneous transmission system is running, the translation host is the active controller, and the backup host is the standby controller. All data in the system is synchronized to the backup host. When the translation host is faulty or power off, the backup host automatically switches to the active controller to ensure the smooth running of the system.



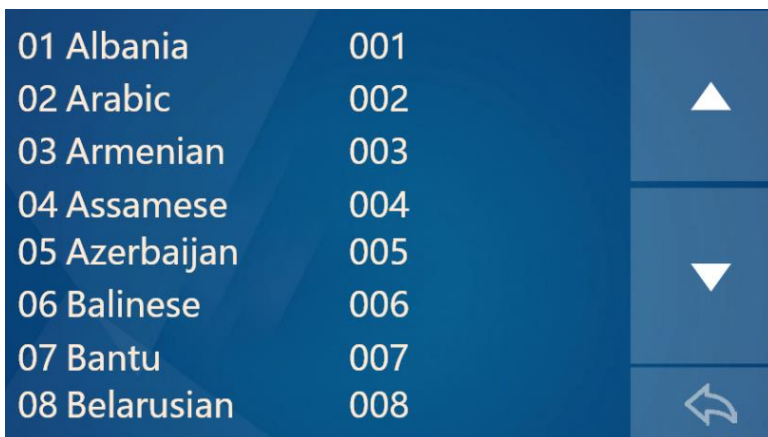
Maximum number of channels: Specifies the maximum number of available channels in the simultaneous transmission system. The value ranges from 5 to 16.



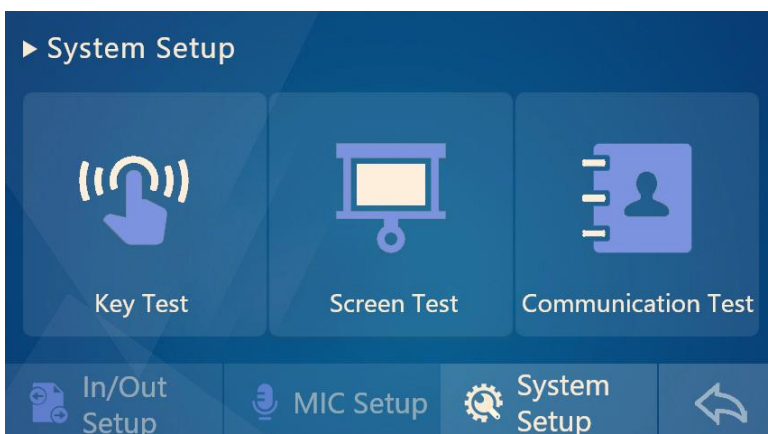
Control Settings: set the baud rate for intermediate, optional 2400/4800/9600/14400/19200/38400/57600/115200.



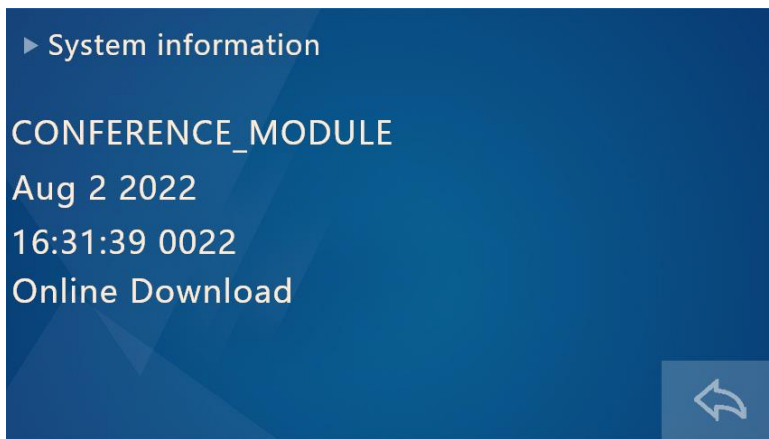
Translation language Settings: You can set the translation language of channel 0-15, press   page up and down, click the channel you want to modify, you can set the language of the channel. The system has 99 built-in languages.



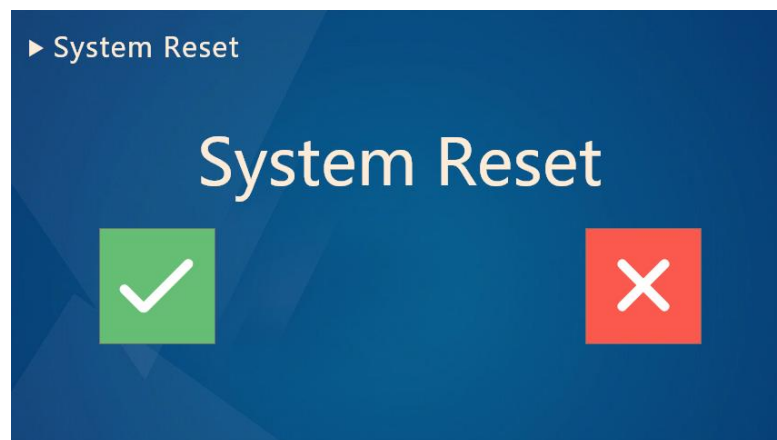
System test: Test the host and unit in the system, including: key test, screen test, communication test. "Key test" is to test whether the key of the translation host and unit is normal, indicating the key state through the screen or light. Screen test is a screen test for a device with a screen. You can detect dead point and color difference on the screen. "Communication test" refers to the lost number in the operation of the test system. If the lost number is 0/1, it is normal. Otherwise, the line needs to be checked.



System information: Displays information about the software version.



System reset: Press  to reset the host and unit in the system. Note: After the system is reset, all unit configurations will be restored to factory Settings, and units need to be renumbered before use. Press  to exit system reset.



Chapter 11. List of Homologous languages

11.1 Simultaneous language list graph

序号	简写	同传主机显示	通道选择器显示	译员台显示	序号	简写	同传主机显示	通道选择器显示	译员台显示
0	FLO	原声	Floor	FLO	50	KUR	库尔德语	Kurdî	KUR
1	ALB	阿尔巴尼亚	Albanian	ALB	51	LAO	老挝语	ລາວ, ນາ	LAO
2	ARA	阿拉伯语	دېبرعاب	ARA	52	LAT	拉脱维亚	Latvian	LAT
3	ARM	亚美尼亚语	Արմենյան	ARM	53	LIT	立陶宛语	Lithuanian	KIT
4	ASM	阿萨姆语	আচা ম	ASM	54	MAL	马来语	Malay	MAL
5	AZE	阿塞拜疆语	Azerbaijani	AZE	55	MLM	马拉雅拉姆语	മലയാളം ലം മ്	MLM
6	BAN	巴利语	Balinese	BAN	56	MRA	马拉地语	मराठी	MRA
7	BAT	班图语	Bantu	BAT	57	MLD	摩尔多瓦语	Moldovan	MLD
8	BEL	白俄罗斯语	Беларусія	BEL	58	MON	蒙古语	ᠮᠣᠩᠭᠤᠯᠠ	MON
9	BEN	孟加拉国语	Bengali	BEN	59	MYA	缅甸语	Myanmar	MYA
10	BSQ	巴斯克语	Basque	BSQ	60	MUS	音乐	Music	MUS
11	BUL	保加利亚语	Български	BUL	61	NEB	恩德贝勒语	Ndebele	NEB
12	BUR	缅甸语	မာရ်	BUR	62	NEP	尼泊尔语	नेपाळी	NEP
13	CAM	柬埔寨语	Cambodian	CAM	63	NIS	彝语	ꠠ꠵ꠂꠠ꠵ꠂ	NIS
14	CAN	粤语	粵語	CAN	64	NOR	挪威语	Norwegian	NOR
15	CAT	加泰罗尼亚语	Catalan	CAT	65	ORY	奥里亚语	Oriya	ORY
16	CHI	汉语	汉语	汉语	66	PER	波斯语	پښتو	PER
17	COS	科西嘉语	Corsican	COS	67	PJB	旁遮普语	ਪੰਜਾਬੀ	PJB
18	CRO	克罗地亚语	Croatian	CRO	68	POL	波兰语	Polish	POL
19	CZE	捷克语	Czech	CZE	69	POR	葡萄牙语	Português	POR
20	DAI	傣族语	Dai	DAI	70	RMS	罗曼什语	Romansh	RMS
21	DAN	丹麦语	Danish	DAN	71	ROU	罗马尼亚语	Română	ROU
22	DAR	达里语	Dari	DAR	72	RUS	俄语	русский язык	RUS
23	DUT	荷兰语	Dutch	DUT	73	SKT	梵文	Sanskrit	SKT
24	DZK	宗卡语	Dzongkha	DZK	74	SIH	僧加罗语	Sinhalese	SIH
25	ENG	英语	English	ENG	75	SLO	斯洛伐克语	Slovak	SLO
26	EST	爱沙尼亚语	Estonian	EST	76	SLV	斯洛文尼亚语	Slovenian	SLV
27	FLP	菲律宾语	Filipino	FLP	77	SID	信德语	Sindhi	SID
28	FIN	芬兰语	Finnish	FIN	78	SOT	梭托语	Sotho	SOT
29	FRE	法语	Français	FRE	79	SPA	西班牙语	Español	SPA
30	GAL	加利西亚语	Galician	GAL	80	SER	塞尔维亚语	Serbian	SER
31	GEO	乔治亚语	Georgian	GEO	81	SWA	斯瓦西里语	Swahili	SWA

32	GER	德语	German	GER	82	SWE	瑞典语	Swedish	SWE
33	GRE	希腊语	Ελληνικά	GRE	83	TAM	泰米尔语	Tamil	TAM
34	GRN	瓜拉尼语	Guarani	GRN	84	TEL	泰卢固语	Telugu	TEL
35	GJT	古吉特语	Gujarati	GJT	85	TGK	塔吉克语	Tajik	TGK
36	HAW	夏威夷语	Hawaiian	HAW	86	THA	泰国语	ภาษาไทย	THA
37	HEB	希伯来语	Hebrew	HEB	87	TIB	藏语	བོད་སྐད་	TIB
38	HUN	匈牙利语	Hungarian	HUN	88	TSW	茨瓦纳语	Tswana	TSW
39	ICE	冰岛语	Iceland	ICE	89	TUK	土库曼斯坦语	Turkmen	TUK
40	IND	印度尼西亚语	Indonesian	IND	90	TUR	土耳其语	Türkçe	TUR
41	IRI	爱尔兰语	Irish	IRI	91	UYG	维吾尔语	ئۇيغۇرچە	UYG
42	ITA	意大利语	Italian	ITA	92	UKR	乌克兰语	Українська	UKR
43	JPN	日语	Japanese	JPN	93	URD	乌尔都语	Urdu	URD
44	KAM	克什米尔语	कश्मीरी	KAM	94	VIE	越南语	Vietnamese	VIE
45	KAN	坎那达语	Kannada	KAN	95	WEL	威尔士语	Welsh	WEL
46	KAZ	哈萨克语	قازاق тілі	KAZ	96	ZHU	壮族语	Hauqcuengh	ZHU
47	KIR	吉尔吉斯语	Кыргыз тили	KIR	97	ZUL	祖鲁语	Zulu	ZUL
48	KOR	韩语	조선말	KOR	98	---	未知语种	Unknown	---
49	KUA	库瓦亚马语	Kuanyama	KUA					

Figure 11.1 List of simultaneous languages

Chapter 12. Setting and operation of infrared transmitting host

12.1 Infrared emission host menu structure

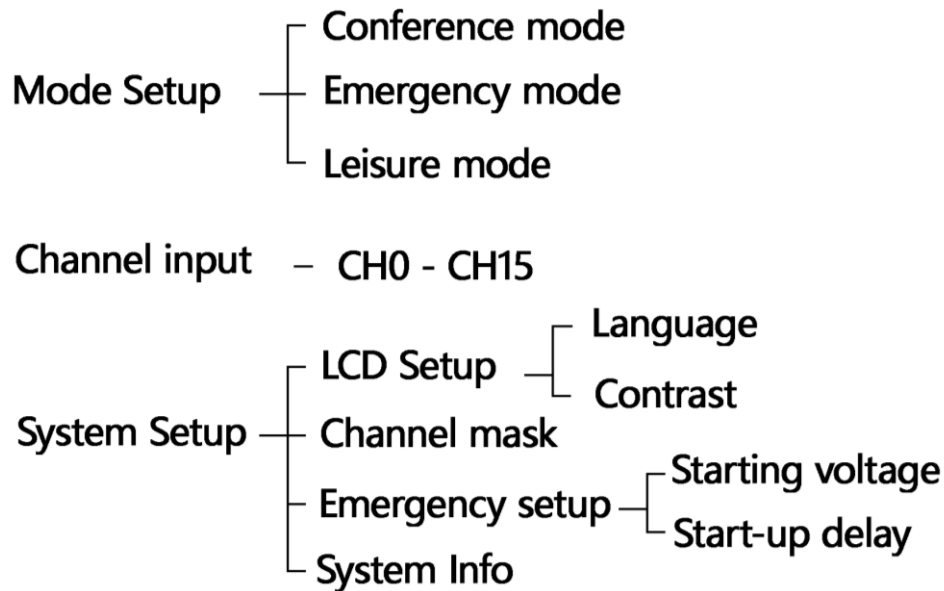
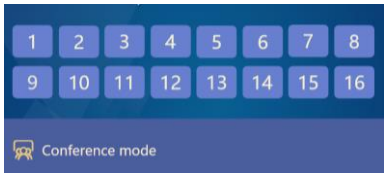
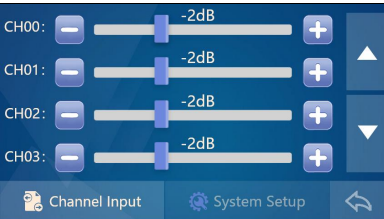
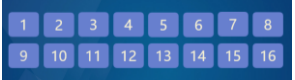
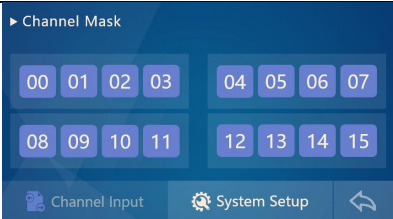
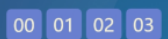
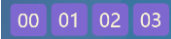
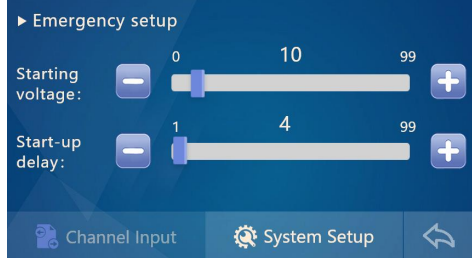


Table 12.1 Menu structure of infrared emission host

12.2 Infrared transmitter new machine debugging

No	Operation Steps	Instructions	Remarks
1	Connect the devices with cables		Reference system connection diagram
2	Turn on the power switch of the host		
3	The host standby screen is displayed		On the standby screen,  the icon indicates the working mode of the host. Press  to enter the screen for setting the working mode
4	Set the channel input volume		On the standby screen, press  to enter channel input and set the volume of each channel.

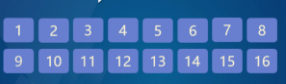
5	Setting channel masking		Enable,  close, and  enable the channel in use.
6	Set emergency Settings		The starting voltage is set to 10 and the starting delay is set to 4 seconds

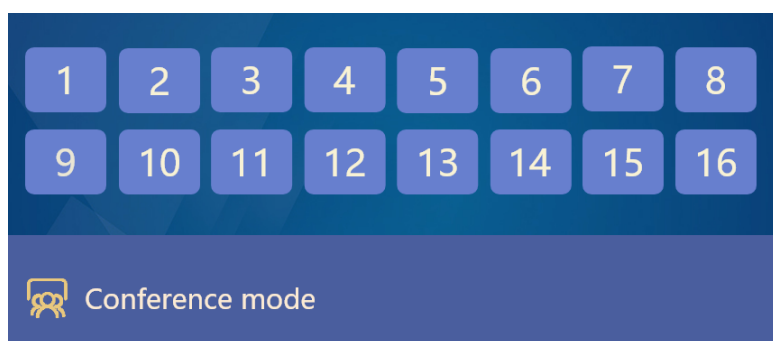
12.3 Operating instruction

12.3.1 Standby screen

After the power switch of the infrared transmitting host is turned on, the screen displays the main startup interface. The icon in the lower left corner indicates the current working mode. Tap

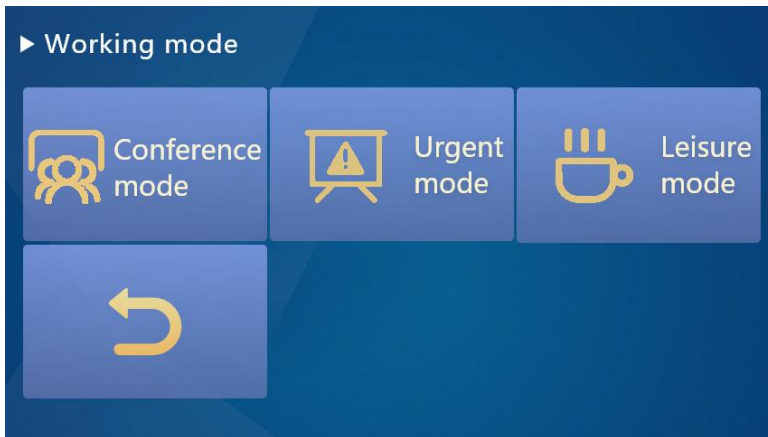
 Conference mode to enter the interface for setting the working mode. Tap the screen

 position to enter the channel input interface.



12.3.2 Working mode

On the standby screen, tap the icon in the lower left corner of the screen to enter the screen for setting working mode.



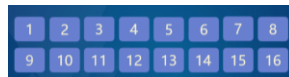
Working mode: Set the working mode of infrared emission host. There are three modes in total, namely meeting mode, emergency mode and leisure mode.

Conference mode: The infrared receiving unit can receive independent signals of each channel.

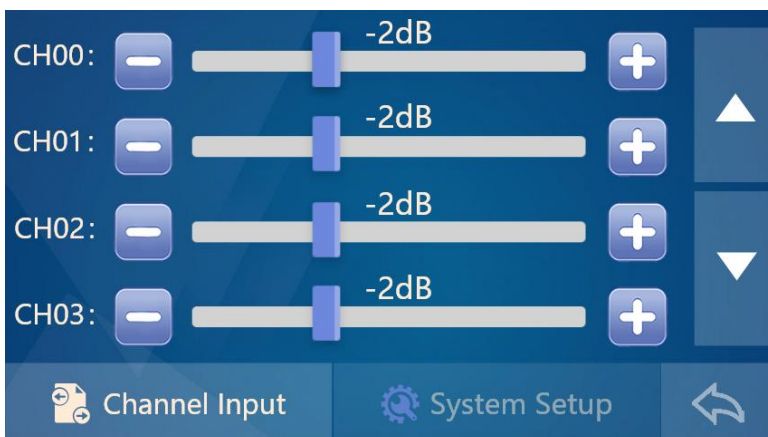
Emergency mode: All channel signals received by the infrared receiving unit are emergency signals of the external alarm system, and can be set to trigger automatically, when there is an emergency signal automatically into the emergency mode.

Leisure mode: All channel signals received by the infrared receiving unit are external access music signals (such as some relaxed and happy music or skits, etc.).

12.3.3 Channel input

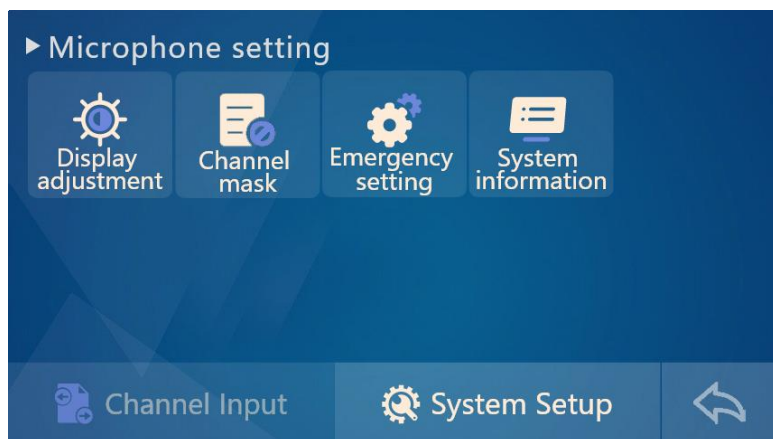


On the standby screen, tap the position of the screen to enter the channel input setting screen, and set the input volume for each channel. Generally, it can be set to 0dB.



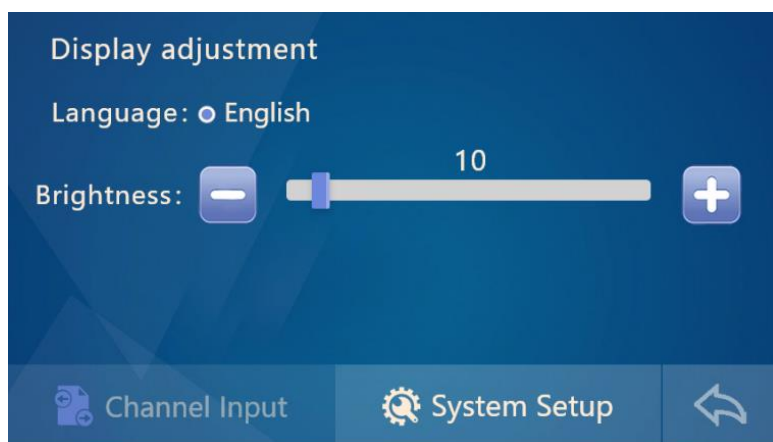
12.3.4 System setting

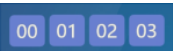
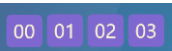
On the standby screen, tap the location of the Raymond LOGO to enter the channel Settings screen, and then tap  System Setup. The system Settings screen is displayed. System Settings include display adjustment, channel masking, emergency Settings, and system information.



Display adjustment: Sets the brightness of the screen.

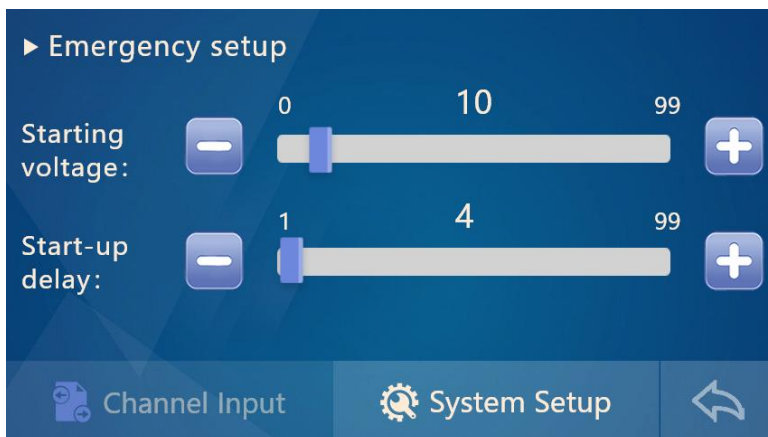
Brightness: Sets the screen brightness. The value ranges from 5 to 99. The larger the value, the higher the screen brightness.



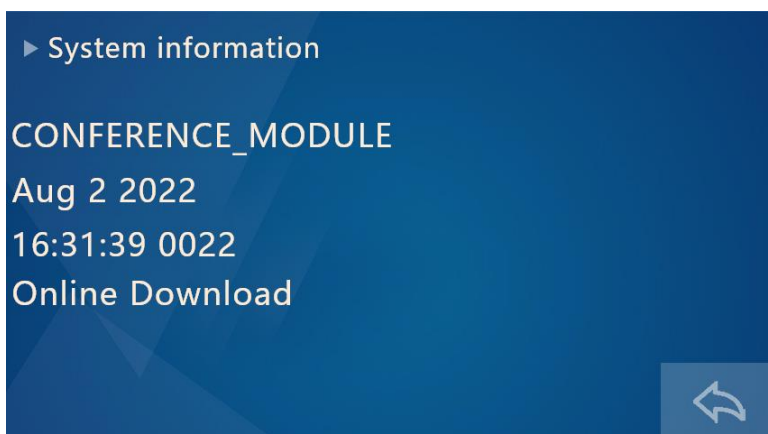
Channel masking: Enable,  disable,  or enable the channel in use.



Emergency setting: Set the starting voltage and delay time when there is emergency audio input in conference mode. The starting voltage ranges from 0 to 99. The larger the value, the larger the range of the triggering voltage, usually set to 10. If the value is set to 0, the emergency triggering function is not used. Startup delay Settings range from 1 to 99.



System information: Displays information about the software version.



Chapter 13. Common troubleshooting

In this section, simple troubleshooting guidelines are listed to remedy some of the consequences of improper use or installation. In case of more serious faults or problems, contact a professional technician.

Fault phenomenon	Possible cause	Solution
Turn on the host power switch. The display is not on	Power supply equipment failure	Exclude
	Power plug loose	Plug in
	The fuse is burnt out	Replace the F5A250V fuse
Translation host cannot be numbered	The translation host has a numbering function, but the unit number is required	The translation host has the numbering function, and it needs to specify its ID manually by pressing any key of the interpreter station
Note: The causes and solutions of some common failures listed above are for reference only. If you encounter other special failures, you can directly negotiate with the dealer and request for technical support.		