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# OWNER'S MANUAL

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## IR Language Distribution System



## IR Language Distribution System

This system is ideal for use in business and government conferences, international conventions and other multilingual applications, offering simultaneous interpretation and wireless audio distribution for up to 6 different languages plus the floor language using state-of-the-art infrared transmission technology. It complies with the IEC industry standards, operating in the higher frequency band 2 MHz to 6 MHz to avoid lighting interference.

### PART ONE. System Configuration

Transmission main unit, IR Radiator, IR Receiver and Interpreter unit

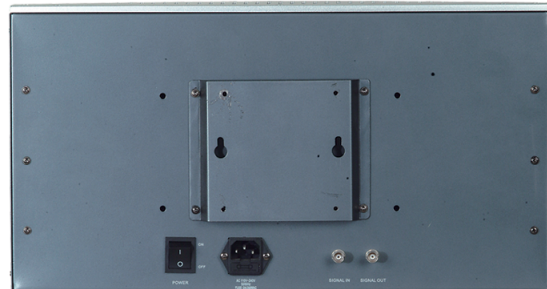
#### A. IR Transmission main unit

1. High security, prevent external interference.
2. Suitable for different conference hall
3. Automatic level control function (ALC).
4. No disturb under daylight lamp
5. Easy to operate and save in project cost
6. With the most advanced technology
7. Elegant configuration in accordance to ergonomics
8. Input channel direct function
9. Has 6CH interpreter's voice for record
10. Self-test function, 6 kinds of testing voices for system test
11. PB test and display function
12. Installed in a 19-inch frame



#### B. IR Radiator

1. Radiates & distributes up to 6 channels of audio signal
2. Auto switched on/off by carrier signals from transmitter unit
3. Auto gain control to ensure diodes with max. efficiency
4. Convection cooled for noiseless, reliable operation
5. Mounted on ceiling, wall, floor stand or optional tripod
6. Easily daisy-chained together to expand coverage
7. Half radiator angle:  $\pm 22^\circ$



### C. Interpreter Unit

1. Design by the latest technology.
2. Work with headset earphone
3. 6CH simultaneous interpretation.
4. Easy to operate, just with a single press.
5. IR Transmit main unit could connect 5 interpreter's units.
6. Voice adjustable and with prevention on feedback
7. Delegates speak too fast; give a request for slow the speed.
8. Automatic numbering on system units
9. Prevention on interpreter's cough
10. More people could take part in the conference when system is connected with IR language distribution system



### D. IR Receiver

1. Pocket size wireless handheld unit
2. Accommodates up to 6 different languages
3. Channel selector and headphone connector
4. Power on/off switch and volume level control
5. Powered by 3 X AAA alkaline or rechargeable batteries
6. Unlimited number of receivers can be used
7. Aluminum carrying cases provided for receivers



## PART TWO. Technical Data

### 1. IR Transmission main unit

- a. Modulation mode: FM
- b. Frequency synthesis: digital PLL
- c. Frequency band: 2.0 - 6.0MHz
- d. Frequency response: 100Hz-14kHz
- e. Frequency stability: 10ppm
- f. Pre-emphasis: 75  $\mu$ Sec.
- g. Peak deviation -  $\pm$ 7.5kHz
- h. Distortion at 1 kHz: <0.5%
- i. Channel separation: >70dB
- j. RF output power level: 700mV
- k. RF output impedance: 50 ohms
- l. Input impedance: 18k ohms
- m. Max. input power level: 7.5V
- n. AGC range: 30dB
- o. S/N ratio: >75dB
- p. Power consumption: 40W
- q. Operating voltage: 110V/220VAC $\pm$ 5%

**2. IR Radiator**

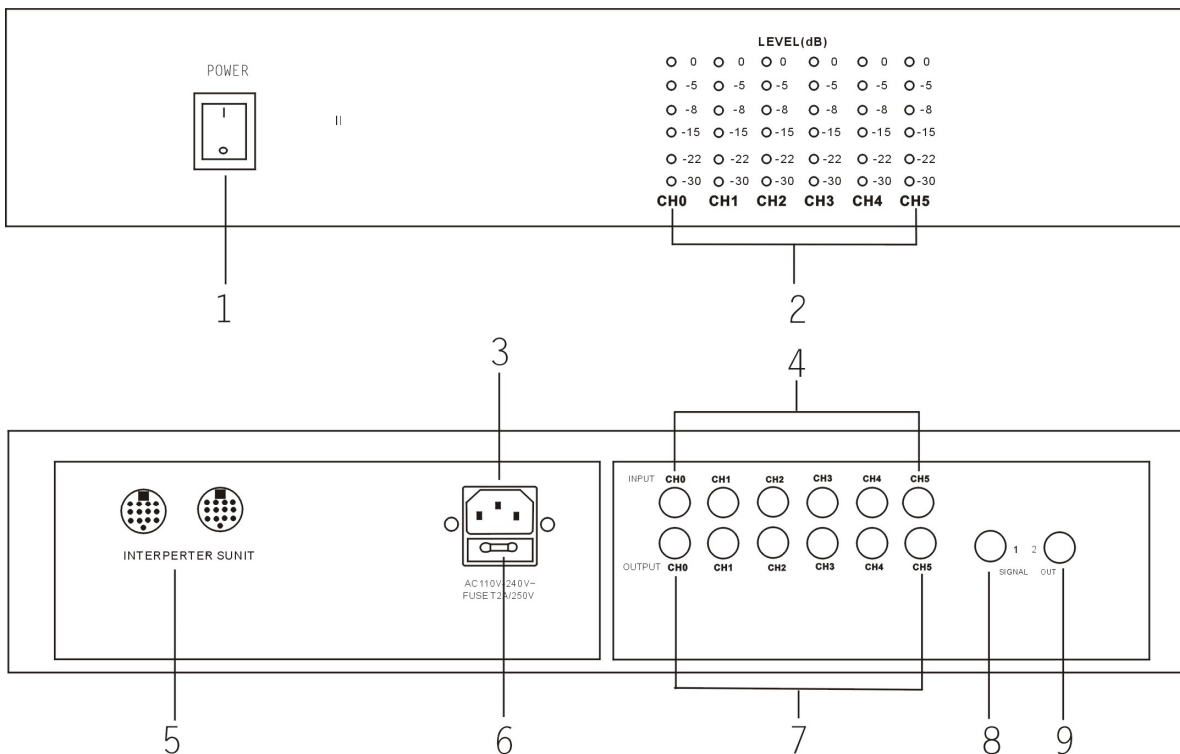
- a. Frequency band: 2.0 - 6.0 MHz
- b. Max. IR output power: 25W
- c. Max. coverage range: 30m
- d. Output level control: Low/High (50%/100%)
- e. Angle of half intensity:  $\pm 22^\circ$
- f. RF output impedance: 50 ohms
- g. RF input voltage: 100-2000mV
- h. Power consumption: 55W / Stand-by 8W
- i. Power Supply: 110V/220VAC $\pm 5\%$

**3. IR Receiver**

- a. Modulation mode: FM
- b. Frequency synthesis: digital PLL
- c. Carrier frequencies: 2.0 - 6.0MHz
- d. Frequency response: 100Hz-14kHz
- e. Pre-emphasis: 75  $\mu$ Sec.
- f. Peak deviation:  $\pm 7.5$ kHz
- g. Distortion at 1 kHz: <1%
- h. Channel separation: >55dBA
- i. Frequency stability: 10ppm
- j. Operating voltage: 2.3V-3.6V
- k. Power consumption: 50mW

**PART THREE. OPERATING INSTRUCTION**

**A. IR Transmission main unit**



**1. POWER SWITCH AND INDICATOR:** The transmission main unit will be on working mode after turn on the power switch, and power indicator will light.

**2. LEVEL INDICATOR:** When there has audio output, the relevant channel indicator will flashing.

**3. AC POWER INPUT:** 110V/220VAC±5% 50Hz

**4. AUDIO INPUT CHANNEL 0~5**

The original audio can be from wire microphone or wire interpretation audio input equipment.

**5. 5. INTERPRETER'S UNIT:** Main unit can connect 1~5 interpreter unit by "T" connection.

**AUDIO INPUT CHANNEL 0~5**

The original audio can be from wire microphone or wire interpretation audio input equipment.

**6. Fuse 2A**

**7. AUDIO OUTPUT CHANNEL 0~5**

Output the audio by shield cable to the audio equipment such as mixer, amplifier and recorder.

**8. SIGNAL OUT 1 (TO IR Radiator)**

**9. SIGNAL OUT 2 ((TO IR Radiator)**

Use BNC cable to connect from the "SIGNAL OUT" port of main unit to "INPUT" port of IR Radiator, and connect the next IR Radiator from "SIGNAL OUTPUT" of previous one to "SIGNAL INPUT" port of nest one by BNC cable.

**B. IR Radiator**

1. Power indicator

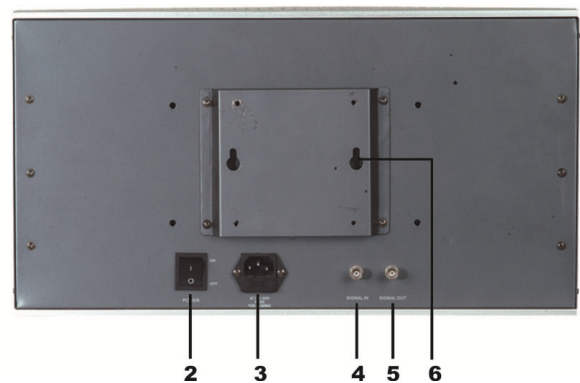
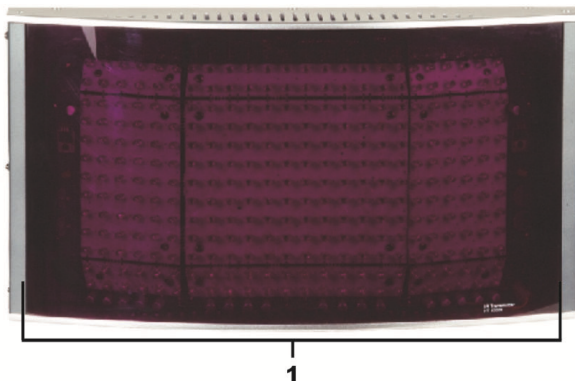
2. Power on/off switch

3. AC POWER INPUT: 220VAC±5% 50/60Hz

4. Signal input BNC jack: connect to the "SIGNAL OUT" port of main unit or previous IR radiator output port.

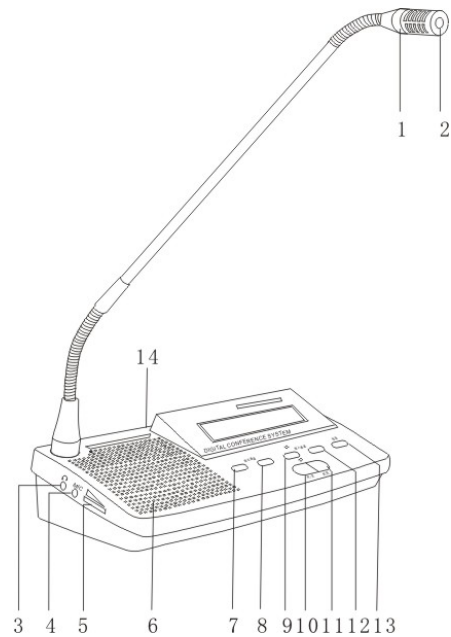
5. Signal output BNC jack: connection to the next IR radiator input port

6. Fixable orifice



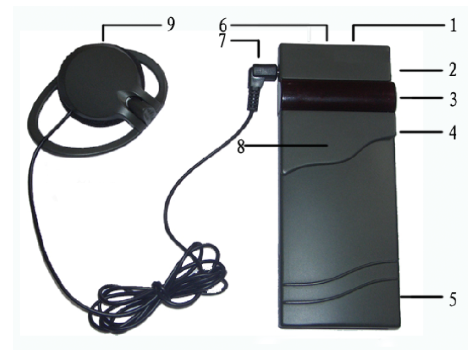
### C. Interpretation-Interpreter Unit

1. **LAMP:**
2. **MIC:**
3. **MIC.** 3.5mm input jack to connect the microphone.
4. **REC.** 3.5mm output jack to record the interpretation language by recorder.
5. **VOLUME:** Interpreter can debug the volume of headphone by this switch.
6. **Speaker**
7. **MICROPHONE OUTPUT CHANNEL(+):**
8. **MICROPHONE OUTPUT CHANNEL(-):**  
Please choose the output channel when interpreters interpret the languages, the indicator lamp will light if choose channel successful, if the busy lamp flashing, it means other interpreter has occupied this channel.
9. **MICROPHONE INPUT CHANNEL(+):**
10. **MIC ON/OFF:**
11. **COUGH CUT:** Prevention on interpreter's cough
12. **MICROPHONE OUTPUT CHANNEL(-):**
13. **SLOW:** Delegates speak too fast; give a request for slow the speed.
14. **OUTPUT:**

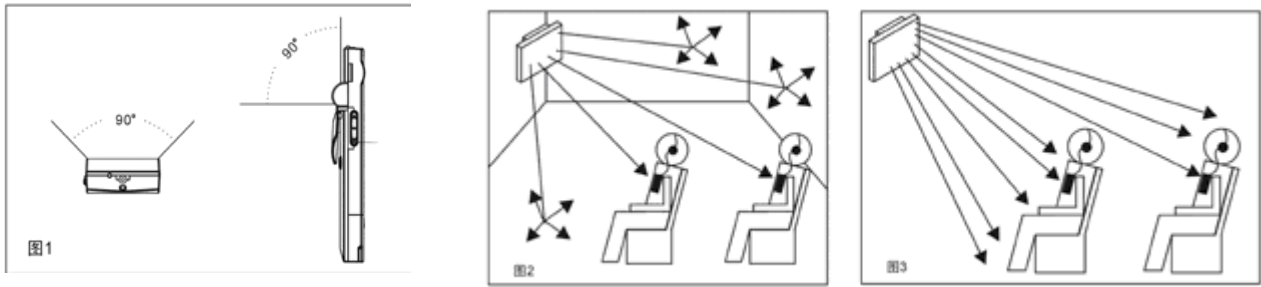


### D. IR Receiver

1. **Power indicator:** the indicator lamp will light after turn on the power.
2. **Power and volume switch:** Turn on the power and adjust the receiving volume by this switch.
3. **IR Lens**
4. **Channel:** User can select the receiving channel by this switch.
5. **Battery compartment:** 3 X AAA alkaline or rechargeable batteries to supply the power
6. **Gallus' orifice**
7. **Earphone jack:** used for connect earphone to receiving the sound.
8. **Fastness**
9. **Monitor earphone**



**PART FOUR. The Installation Introduction of IR radiator**



**The Direction and Sensitivity of IR Receiver (Fig.1)**

**(Fig.2)**

The infrared ray is a kind of directional and sightless light; the sensitivity of the IR receiver is the best when the receiver faces the IR radiator. The receiving angle of the IR receiver is level and vertical  $\pm 45^\circ$  (Fig. 1) The signal receive directionality within this range is the best.

The infrared emission signal is a kind of sightless light, it can transmit the signal to the IR receiver directly or reflecting (Fig.2) so you should consider this factor while installing the IR radiator. It is the best that the IR receiver receives the signal directly, But the reflected signal can also improve the signal effect. The front-seat audience will block the signal of the back row IR receiver in the large-scale meeting-place, it will influence the receiving effect, So you'd better install the IR radiator a little higher.

**PART FIVE. Configure Required Performance**

- ☑ The area of meeting room is 600 square meters.
- ☑ Four countries' languages are to be interpreted.
- ☑ Rostrum holds 20 representatives.

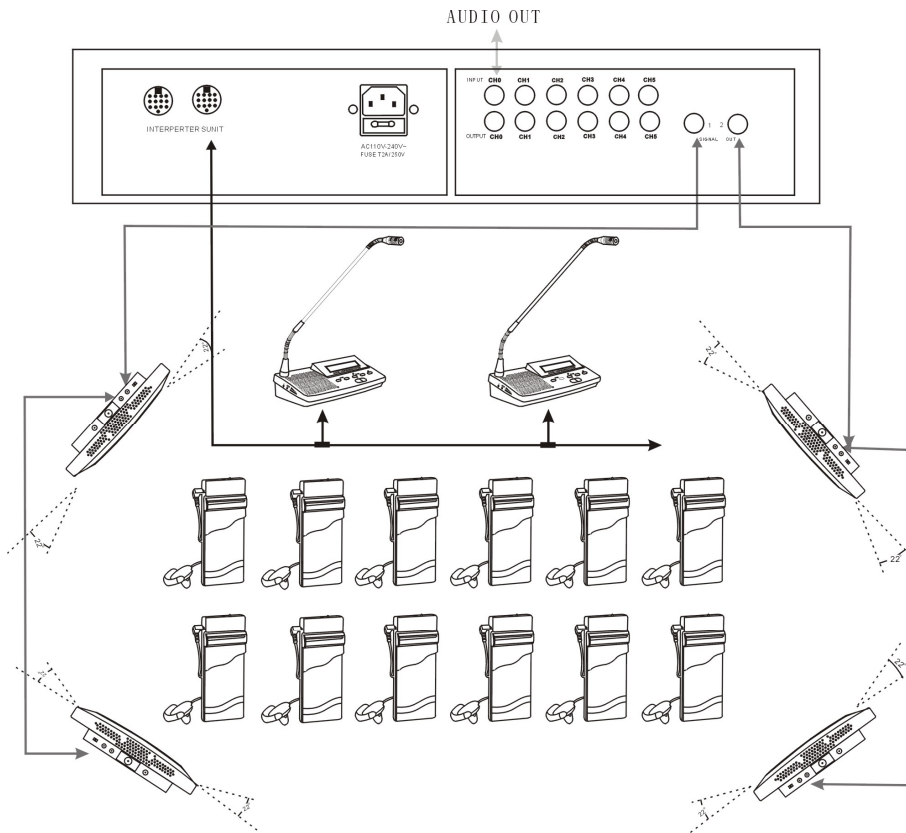
**List of Equipment**

Name	Model No.	Quantity
IR Transmission main unit		1
IR radiator		4
Interpreter Unit		3
Headset earphone		3
IR Receiver		250
Receiver earphone		270
Conference system main unit		1
Delegate unit		19
Chairman unit		1

## PART SIX. System set up and debug

1. Connect IR Transmit main unit to Interpreter unit  
please connect 13P extension cable to the port of interpreter's unit, then connect the male plug of T-type branch cable to the female plug of extension cable, and connect branch cable to the interpreter unit
2. Connect IR Transmission main unit to conference system main unit  
Use the Audio cable connects from the RF output port of conference system main unit to "SIGNAL IN CH0" port of IR Transmission main unit.
3. Connect other equipments to IR Transmission main unit.  
Use the RF cable connects from the output port of the equipments to "SIGNAL IN" port of IR Transmit main unit.
4. Connect IR Transmission main unit to IR radiator
  - A) Use BNC cable to connect from the "SIGNAL OUT" port of main unit to "INPUT" port of IR radiator, and connect the next IR radiator from "SIGNAL OUTPUT" of previous one to "SIGNAL INPUT" port of next one by BNC cable.
  - B) Switch the "TEST" to "OFF", then turn on the power switch after the equipments connected well, then the indicator will light.
  - C) Switch the "TEST" to "ON", the level indicator on the front panel of IR main unit will light. Then debug each channel, timbre, and distance by the receiver unit.
  - D) Turn on other equipments to test if they can work properly.

## PART SEVEN. PROJECT FOR INFRARED LANGUAGE DISTRIBUTION





## SERVICE MANUAL OF TROUBLE SHOOTING

TROUBLE	SOLUTION	
No power	Main unit	Please check the connection of power supply cable
		Please make sure the power switch has turn on
		Please check the fuse and replace it if it have fused
	Receiver	Please make sure the battery in the receiver
		Please replace the battery if the power use up
		Please check the power touch panel touch the battery well
	Interpreter	Check interconnection cable connect 13P port well
	IR Radiator	Please check the connection of power supply cable
Please make sure the power switch has turn on		
Drill noise in the receiver	Please switch the testing on-off to off position in the main unit	
Lower signal or noise in the receiver	Debug the direction of IR Radiator	
	Increase the quantity of IR Radiator	
	Debug the receiving direction of receiver	
Can not receive the signal	Please check the interconnection cable of the equipments	
	Please make sure the receiver earphone and interpreter headset can work well	
Interpreter can not select the channel	Please check if other interpreter has use this channel	