

# TAIDEN®

## Digital Infra-red Language Distribution System



Distributed by:



# Digital Infra-red Language Distribution System



## Features

- Compliant to IEC 61603-7 and IEC 60914
- Compatible with any other IR system that is compliant to IEC 61603-7
- Immune to interference from HF-driven lighting
- Flexible configuration of channels and channel quality modes
- LCD display of the receiver shows the channel number and language name
- Automatic synchronization: number of available channels is the same as the number of channels in use by the system
- 270°super wide reception angle
- Works without errors, even in bright sunlight
- Combination mode
- Bypass mode, used for signal distribution to multiple rooms
- Delay compensation for cable transmission
- Audio frequency response:20 Hz - 20 kHz (Premium mode), weighted S/N >80 dB(A)

## TAIDEN: Global Top-ranking Manufacturer of Conference System

After the launch of HCS-4100 fully digital conference system, TAIDEN company has now enhanced her existing product lines with HCS-5100 digital Infra-red language distribution system. This system adopts TAIDEN independent intellectual property chipset and is compliant to international standard for digital IR system with superb sound quality. HCS-5100 system also features language name display, 270°super wide reception angle and transmitter combination mode, making it the world's most advanced IR language distribution system.

## Fully Certificated, Comprehensive Compatibility

The HCS-5100 series is compliant to IEC 61603-7 and IEC 60914, moreover, it is compatible with any other IR system that conforms to IEC 61603-7.

IEC 61603-7: Transmission of audio and/or video and related signals using infra-red radiation-Part 7:

Transmission systems for digital audio signals for conference and similar applications

IEC 60914: Conference systems - Electrical and audio requirements



# Perfect Simultaneous Interpretation System

The interpretations will always arrive in perfect condition, as the digital infra-red language distribution system integrates seamlessly with TAIDEN HCS-4100 fully digital conference system and simultaneous interpretation unit.

Freedom of movement within the range of IR power radiator.  
Conference hall privacy; the congress venue itself acts as a barrier to infra-red signals escaping and being overheard, as infra-red is unable to pass through opaque objects such as walls.

HCS-4385A(64CH)  
Simultaneous Interpretation Unit



HCS-5100M Series  
Digital Infra-red Transmitter



HCS-4100 Series  
Fully Digital Conference System

HCS-5100R Series  
Digital Infra-red Receiver



HCS-5100T Series  
Digital Infra-red Radiator





# Innovation



## Display the name of language

Delegates can see the interpreted language' name of their choice intuitively on the LCD of the receiver.



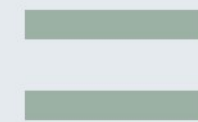
## Combination mode

Two N - channel IR transmitters can be incorporated to make up a 2N - channel system, at most 32 channels are available , providing the users with the most cost-effective solution, especially suitable for hotels with multiple conference rooms, convention centers and rental service.

16CH



16CH



32CH





## HCS-5100M Series Digital Infra-red Transmitter



### Features:

- Compliant to IEC 61603-7 and IEC 60914
- Compatible with any other IR simultaneous interpretation system that is compliant to IEC 61603-7
- DQPSK digital modulation/demodulation technology
- Capable of distributing a maximum of 4, 8, 16 or 32 audio channels
- Conference hall privacy; the congress venue itself acts as a barrier to infrared signals escaping and being overheard, as infrared is unable to pass through opaque objects such as walls
- Suitable for various kinds (small/medium/large international) of conference halls and outdoor venues
- Transmitting in 2-6MHz frequency band(IEC 61603 BAND IV) eliminates the disturbance from high freq. lighting systems
- Flexible configuration of channels and channel quality modes:
  - Mono, standard quality, maximum 32 channels
  - Mono, premium quality, maximum 16 channels
  - Stereo, standard quality, maximum 16 channels
  - Stereo, premium quality, maximum 8 channels
- Each audio channel can be assigned a language name for easy identification
- Adjustable sensitivity for each input to enable fine tuning of audio levels
- Automatic synchronization to the number of channels in use by the system
- Bypass mode for distribution of signals from another transmitter allows multiple rooms to be used
- Combination mode: two N channel IR transmitters can be incorporated to make up a 2N channel system, at most 32 channels
- Emergency signal interface, when the public emergency system is active, alarm signal can be fed to all channels automatically
- During the adjournment, the music mode can be used to feed music to all channels
- Independent test facility: self-generates diverse frequencies for system debugging
- Built-in infrared emitters for audio monitoring
- LCD display and configuration menu
- 4 BNC output connectors for HF signals, can be connected with radiators
- One BNC connector for receiving an HF signal from another transmitter
- Ethernet and RS-232 ports for connection to computer
- HCS-5100MA/04/08 with digital audio input interfaces can be connected to HCS-4100M Series Conference Main Unit directly, moreover, with 8 interpretation output channels for recording
- HCS-5100MB/04/08/16 can be connected with up to 11 HCS-850PB/10 interpretation units
- Universal mains power facility allows use worldwide
- Dimensions(L X W X H): 430 X 325 X 99mm
- Weight: 7.5kg



## HCS-5100T Series Digital Infra-red Radiator



### Features:

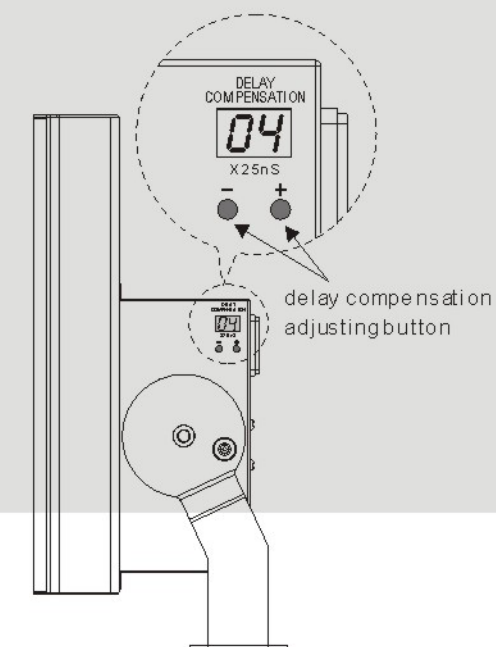
- Compliant to IEC 61603-7 and IEC60914
- Compatible with any other IR simultaneous interpretation system that is compliant to IEC 61603-7
- Different radiators(15W/25W/35W) are available to suit venues of various sizes
- Standby indication, working indication, failure indication
- Installation: fixed up by bracket or tripod (various mountings available), 10° Radiation angle
- Half-transmitting angle : ±22°
- Synchronization with main unit power ON/OFF
- Automatic gain control
- Temperature control: when the temperature is too high, it will switch to half-power with LED indication
- Manual half-power switch on the back, convenience for small conferences
- HF input and output connectors (2 x BNC) for connection to transmitter and loop-through to other radiators
- Delay compensation for differences in cable lengths between transmitter and radiators

### The way to adjust the delay compensation

- 1) HCS-5100T delay time compensation window displays two digits from "00" to "99". ("00" means without delay). 25ns will be added per step, that means the delay time is from "25ns" to "2475ns(99X25)".
- 2) The signal delay rate of the connection cable is 5.6ns per meter.
- 3) Set the delay time of the radiator which is the farthest away from the transmitter as reference, then adjust the delay time of the other radiators by "-", "+" button to make sure each delay time is the same as the reference time.
- 4) Calculation:

$$X = \frac{(L_{MAX} - L) \times 5.6}{25}$$

X: The value of the delay compensation to be adjusted in the window  
 L<sub>MAX</sub>: The Maximum length between the radiator and the transmitter  
 L: The length between the transmitter and the radiator to be adjusted





## HCS-5100R Series Digital Infra-red Receiver

### Features:

- Compliant to IEC 61603-7 and IEC 60914
- Compatible with any other IR simultaneous interpretation system that is compliant to IEC 61603-7
- Independent intellectual property chipset for digital Infra-Red processor, and DQPSK digital modulation/demodulation technology
- Transmitting in 2-6MHz frequency band(IEC 61603 BAND IV) eliminates the disturbance from high freq. lighting systems
- Channel Selection via Up/Down button, at most 4, 8, 16 or 32 channels are available
- LCD display with channel number, language name, battery and signal status indication
- Number of available channels is always the same as the number of channels in use by the system, eliminating the need to scroll through unused channels
- Adjustable volume
- Unique 270° super wide reception angle, ensuring perfect sound quality even when casually placed.
- Audio signal automatically muted when signal is too low, ensuring that the user receives only high quality audio
- Ergonomically compact and elegant designed
- Lightweight and handy receiver in conjunction with single earphone(EP-820A/EP-821) or headphone (HCS-5100P) for easy and comfortable use
- Can be hung over the neck via a nice strap or fit into the shirt pocket
- Freedom of movement within the range of IR power radiator
- No limit to the receiver number within the IR power radiation range
- Works without errors, even in bright sunlight
- Built-in high precision rechargeable circuitry to prolong the battery life
- Can be used with disposable batteries (2x AA alkaline batteries, not included) or environmentally-friendly Ni-MH rechargeable battery pack(not included)
- No power used when headphone is disconnected
- Measurement mode for easy checking of radiator coverage
- Can be equipped with alarm system to prevent the loss



## HCS-4385A Simultaneous Interpretation Unit

### Features:

- Designed by fully digital audio technology, compliant to IEC60914, ISO2603 and ISO4043
- Accommodates up to 64 interpretation channels (incl. original floor channel)
- Automatic feedback prevention when listening to own interpretation
- Direct and relay interpretation available
- Auto relay interpretation facility
- Predefine the language name either by the main unit or system software
- Graphic 256x32 LCD with back-lighting for bright display of the following:
  - Unit configuration information
  - Incoming/outgoing channel number and language name
  - Incoming language indication
    - If the monitoring language comes from the original floor channel, a "FLOOR" is displayed on the corresponding language channel
    - If the monitoring language comes from the direct interpretation channel, a "+" is displayed
    - If the monitoring language comes from the relay interpretation channel, a "-" is displayed
    - Note: The indication means to remind the interpreters to avoid using the relay interpretation as little as possible if the direct interpretation is available
  - Short message (administrator can send messages to all or part of participants, even a certain one)
  - Multilingual menus available (Simplified/Traditional Chinese, English, etc.)
- 3 pre-select keys(a/b/c) for relay languages with active indication on LCD
- Rotary step control for fast selecting language channels
- A & B channel key with status and engaged indicator
- All channels have channel number, language names and quality level indicated on LCD
- Outgoing B-channel selection keys(forward/reverse)
- Uni-directional electret condenser microphone with light-ring indicator, and can be unplugged during adjournment, easy to maintain
- Built-in loudspeaker with language channel selector. When all microphones in the booth are off, it gives out the voice from the floor language
- Channel interlock facility permits only one microphone on a channel to be activated at any time, ensuring the uniqueness of language channels
- Mute facility prevents the unnecessary voice being transmitted.(MUTE key)
- Speak slowly facility to alert the current speaker to slow down (SLOW key)
- Request call to an operator or an usher(CALL key)
- Headphone jack(φ3.5mm), and the volume and bass/ treble of the headphone is adjustable
- Microphone input socket(φ3.5mm), which can be connected with external microphone record output(φ3.5mm) or recording equipment
- A maximum of six interpreter units can be installed in each booth
- Length of microphone stem: 340mm, 420mm(default), 480mm
- Dimensions(LXWXH): 310 X 165 X 120mm(exd. Mic. stem)
- Connection:
  - 1.5m cable with 6P-DIN standard plug
  - 0.6m cable with 6P-DIN standard socket







HCS-5100P

#### HCS-5100P Headphone

- Hi-Fi sound quality
- 32Ω X2, ∅3.5mm Stereo
- 80~20000Hz



EP-950A

#### EP-950A Headset Earphone(w/ Microphone)

- Incorporated with interpreter unit for monitoring and speaking
- Delicate and fine appearance, comfortable for use
- Hi-Fi sound quality
- 32Ω X 2, ∅3.5mm mono jack



EP-820A

#### EP-820A Single Earphone

- Used with the receiver/conference unit
- 32Ω, ∅3.5mm mono jack
- Hi-Fi sound quality



HCS-5100BAT

#### HCS-5100BAT

- Rechargeable battery pack
- 2000mAh 2.4V
- Ni-MH battery



#### IR Receiver Charger Case(HCS-5100CHG)

- Used for charging IR receivers (HCS-5100R)
- High efficiency switch power
- Input voltage: AC110/220V
- Every time charge 36pcs of IR receivers
- Dimensions: 440X379X235mm
- Net weight: 11.5kg



#### IR Receiver Storage Case(HCS-5100KS)

- Used for storing and transporting IR receivers (HCS-5100R)
- Every case contains 100pcs of IR receivers
- Dimensions: 669X307X205mm
- Net weight: 8.8kg (w/o IR Receiver)
- Gross weight: 16.8kg (w/100pcs IR Receiver, w/o battery)



HCS-836 Burglarproof Detection system

#### HCS-836 Burglarproof Detection System (for IR Receiver)

- High sensitivity, low misinformation rate
- Adopts multiple advanced techniques, such as PLL simultaneous reduction filtering, noise suppression circuit, etc.
- User-friendly design with two ring tones and three volume levels optional
- Easy to install, debug and use
- Novel and unique appearance
- Maximum scan bandwidth : 7.7MHz~8.7MHz
- Scan frequency: 162/171/180/189Hz
- Signal sampling period: 21.8us
- Detection range: ≤1.2m
- Tag detection frequency ≥2m/S
- Frequency optional: 8.2MHz /10.5MHz
- Alarm volume optional: high /medium /low
- Dimensions: 340X85X1650 (mm)
- Weight: 22kg
- Color: black

#### HCS-851 Interpreter Booth

In large international conferences, interpreters should work concentratively and effectively. To meet this requirement, the interpreter booth must have perfect sound insulation and enough room for 2 or 3 interpreters to work in comfortably. The following gives the details:

- Compliant to ISO4043
- The booth should be installed at the opposite or side of the speaking delegate
- Interpreter in the booth must be able to watch the speaker clearly
- The booth should use the transparent glass to view the venue clearly and insulate noises efficiently
- As is recommended, the room of booth should be adequate for two/three interpreters to work in comfortably
- The booth should have fine ventilation, temperature and proper lighting





## Directional Sensitivity of the Receiver

Infrared is an invisible light with directivity. The sensitivity of a receiver is at its best when it is aimed directly towards a radiator. HCS-5100R comes with unique 270° super wide reception angle, ensuring perfect sound quality even when casually placed. (Figure 1)

## Positioning the Radiators

Since infrared radiation can reach a receiver directly and/or via diffused reflections (Figure 2), it is important to take this into account when considering the positioning of the radiators. Though it is best if receivers pick up direct path infrared radiation, reflections improve the signal reception and should therefore not be minimised. Radiators should be positioned high enough not to be blocked by people in the hall (Figure 3)

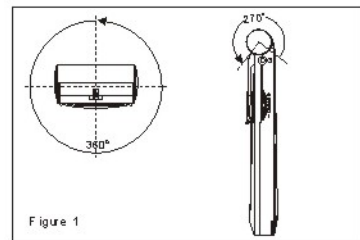


Figure 1

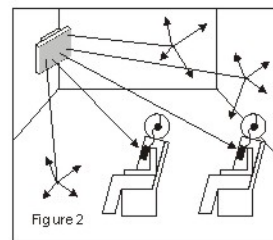


Figure 2

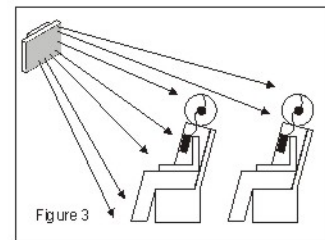
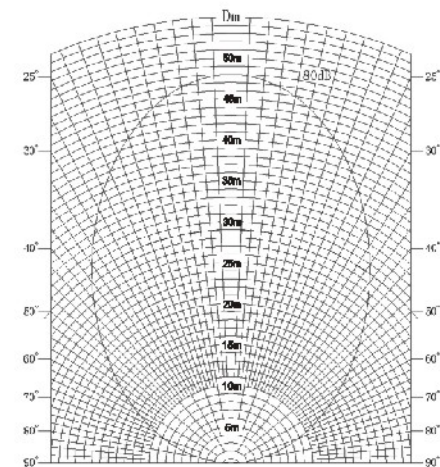
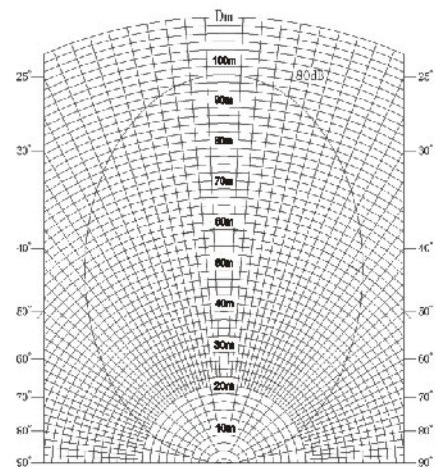


Figure 3



Distribution Pattern  
Model: HCS-5100T/25 Channels: 8CH  
Direction: Horizontal



Distribution Pattern  
Model: HCS-5100T/35 Channels: 8CH  
Direction: Horizontal

## Technical Data

Modulation: DQPSK, according to IEC 61603 part 7  
 Modulation frequency: Carriers 0 to 5: 2 to 6 MHz, according to IEC 61603 part 7  
 Carriers 6 and 7: up to 8 MHz  
 Audio frequency response: 20 Hz to 10 kHz (-3 dB) at Standard Quality  
 20 Hz to 20 kHz (-3 dB) at Premium Quality  
 Total harmonic distortion at 1 kHz: < 0.05 %  
 Crosstalk attenuation at 1 kHz: > 80 dB  
 Dynamic range: > 80 dB  
 Weighted signal-to-noise ratio: > 80 dB(A)

\* System audio performance is measured from the audio input of an HCS-5100M transmitter to the headphone output of an HCS-5100R receiver

## HCS-5100M Series Digital Infra-red Transmitter

Type No.	Channel	6Pin-DIN for HCS-4100M	25Pin D-SUB for HCS-850PB/10
HCS-5100MA /04	4	✓	
HCS-5100MA /08	8	✓	
HCS-5100MB /04	4		✓
HCS-5100MB /08	8		✓
HCS-5100MB /16	16		✓
HCS-5100MC /04	4		
HCS-5100MC /08	8		
HCS-5100MC /16	16		
HCS-5100MC /32	32		

## HCS-5100T Series Digital Infra-red Radiator

Type No.	Power
HCS-5100T /15	15W
HCS-5100T /25	25W
HCS-5100T /35	35W

## HCS-5100R Series Digital Infra-red Receiver

Type No.	Channel
HCS-5100R /04	4
HCS-5100R /08	8
HCS-5100R /16	16
HCS-5100R /32	32

## System Environmental Conditions

Transport Temp: -40°C ~ +70°C  
 Operational Temp: 0°C ~ +45°C  
 Max. Relative humidity: < 95%  
 Safety: Compliant to EN60065  
 EMC emission: Compliant to EN61000-6-3, EN55022  
 EMC immunity: Compliant to EN61000-4-3  
 EMC approvals: CE, FCC  
 Static resistance: Compliant to EN61000-4-2  
 Power Harmonic: Compliant to EN61000-3-2  
 Surge resistance: Compliant to EN61000-4-5  
 EFT test Compliant to EN61000-4-4  
 Transient power-off test: Compliant to EN61000-4-11