

# TAIDEN®

New Generation Digital Infrared Wireless Conference System



Privacy guarantee / Perfect sound quality / No interference

# The first digital infrared wireless conference system in the world

- Original dirATC -- digital infrared Audio Transmitting and Control technologies
- Wireless system, easy setup and removal
- Perfect CD-like sound quality from the microphone
- Microphone sensitivity and EQ individually adjustable
- Isolated audio recording function for simultaneous interpretation (1+7 CHs)
- Privacy guarantee by infrared transmission
- Unlimited quantity of infrared wireless conference systems within a building
- No worries about eavesdropping and radio interference, no radio radiation
- Adapts 1 to 8 MHz transmission frequency, undisturbed by HF-driven light sources
- Full functions (discussion, voting and 1+7 CHs interpretation)
- Excellent immunity to RF interference from mobile phone and RF devices



**TAIDEN TDIR04**  
**Digital Infrared Processing Chip**





City Council of Weert, the Netherlands



United Nations Secretary-General Meeting Room



World Bank Headquarters



Town council of Lansingerland, the Netherlands

## Wireless Conference System

- Quick setup and removal
- Elegant and unobtrusive design
- No impact on furniture, interior equipment or building structure
- No cabling needed and therefore free from troubles resulting from cable breaks and cable deteriorations, caused by repeated installations and removals

## Infrared Transmission Technology

- Conference privacy is guaranteed as infrared signals do not pass through opaque walls or ceilings
- Wherever there is a partition between conference rooms, there is no interference
- Any quantity of infrared wireless conference systems can be installed within a building
- The infrared communication frees users from worries about eavesdropping and radio interference inherent to radio wave-based wireless communications
- No radio radiation
- No radio frequency license needed for operating an infrared system all over the world
- Undisturbed by HF driven light sources and mobile phones
- Work without errors, even in bright sunlight

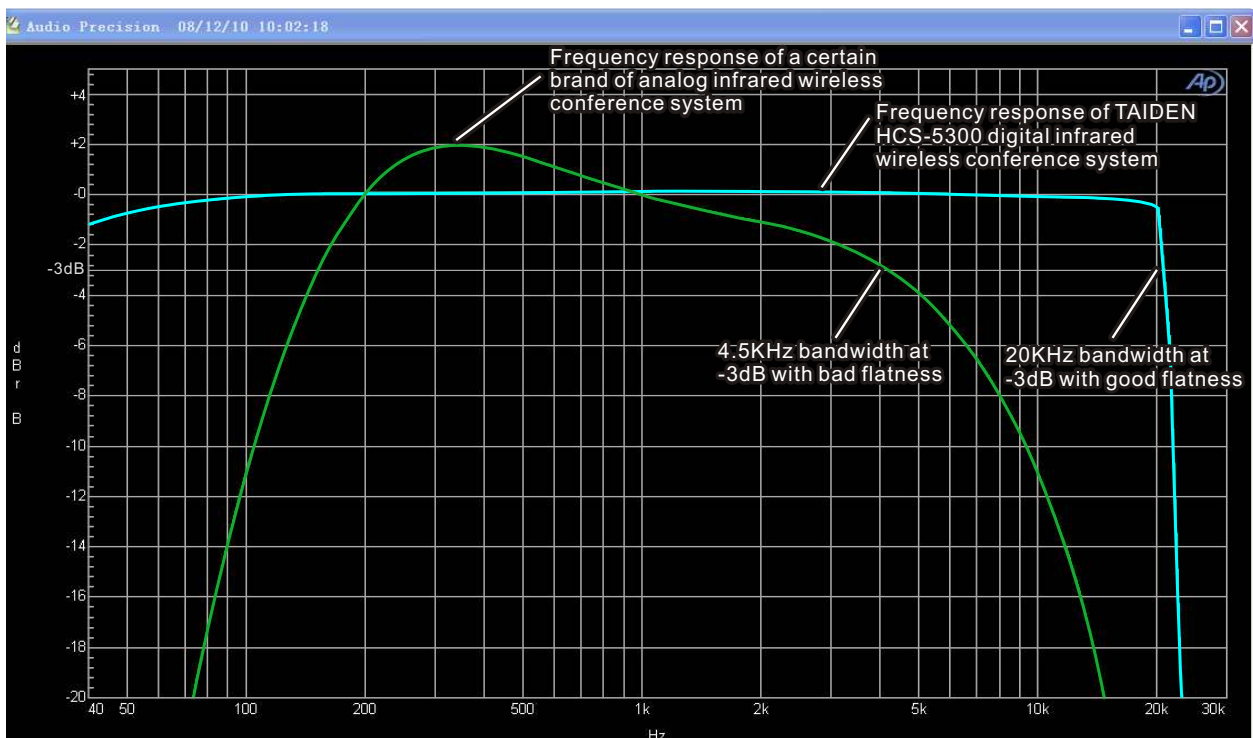
## Digital Infrared Audio Technology

- Digital infrared audio processing and transmitting technologies ensure superb sound quality:  
Frequency response: 20 Hz ~ 20 kHz  
S/N: > 85 dBA  
THD: < 0.06%

## Full Functions

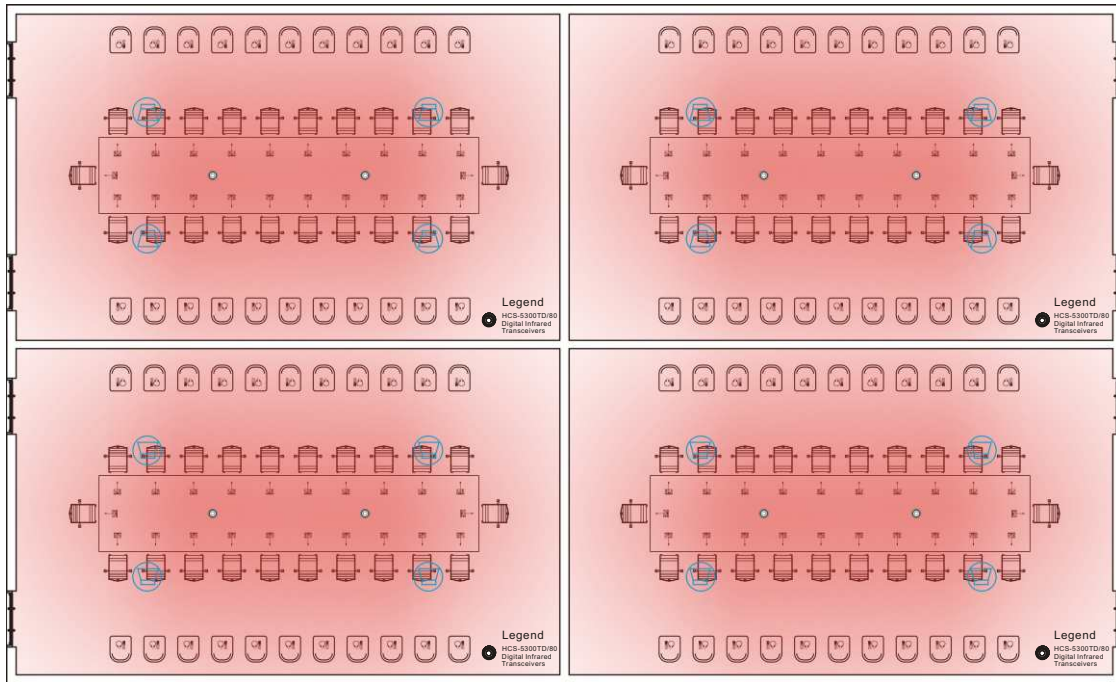
- Discussion
- Vote (5 keys)
- Simultaneous interpretation (1+7 CHs)
- Isolated audio recording function for simultaneous interpretation (1+7 CHs)
- Audio video tracking
- Compatible with HSC-5100Plus new generation digital infrared language distribution system
- Powerful application software
- Web control function

Frequency response measurement diagram of the TAIDEN HCS-5300 Digital Infrared Wireless Conference System compared with a customary conventional analog infrared wireless conference system. The system frequency response bandwidth of the TAIDEN digital infrared wireless conference system is large and flat, thus ensuring a perfect sound performance of the conference system.



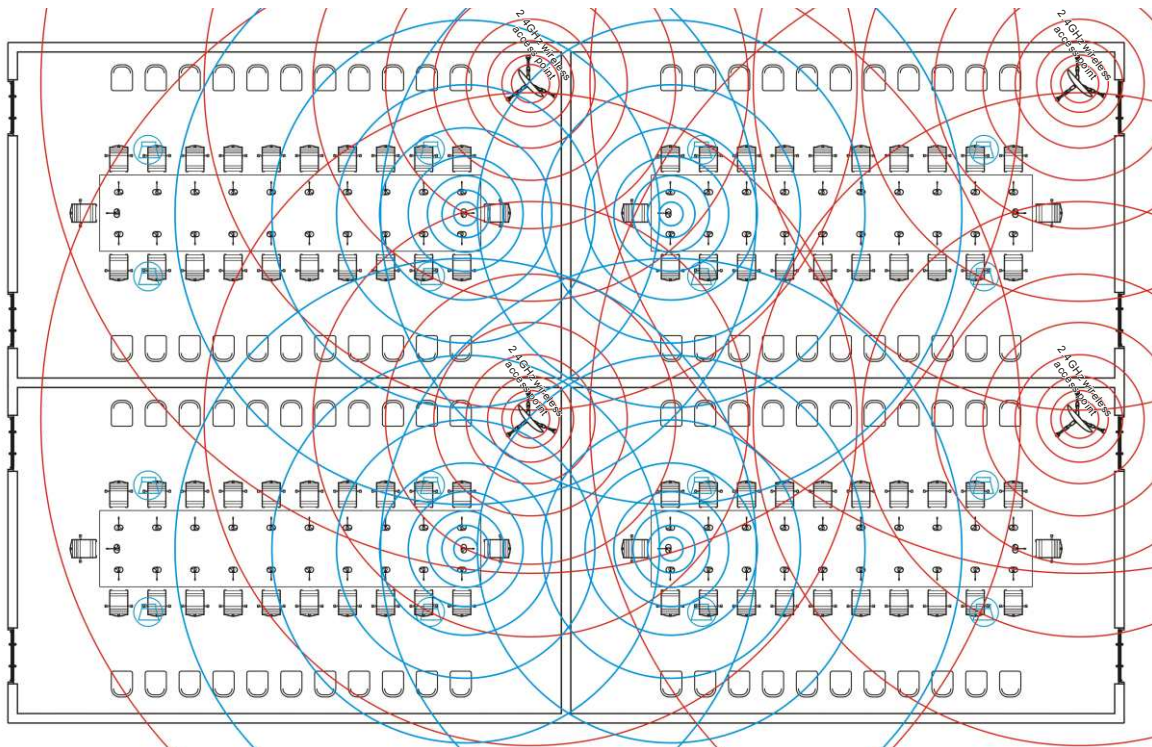


Digital infrared wireless conference systems can be operated in adjacent rooms (including the upstairs and downstairs). The users do not need to worry about mutual interference or about the breach of confidentiality.



Radio frequency (RF) systems in use in adjacent rooms (including the upstairs and downstairs) will interfere with each other. The more active units operated, the worse the interferences. Since a room receives signals of adjacent rooms, a breach of confidentiality could be caused.

In an existing application within a large Administration Center, nine installed RF wireless conference system sets often interfere with each other in operation. Therefore only alternating operation is possible - a great inconvenience for the user! Therefore wireless conference systems may interfere with WiFi devices, Bluetooth devices, wireless radio, cordless phones, wireless projectors, wireless mice, wireless keyboards and wireless touch panels of central control systems. These interferences are both space-and-time varying and a cause for the instability of RF wireless conference systems.



## HCS-5300/80 Series

### New Generation Digital Infrared Wireless Conference Units



HCS-5300DE\_S/80  
New Generation Digital IR Wireless Conference Unit  
(Mic. / CH Sel. / Vote)



HCS-5301D\_S/80  
New Generation Digital IR Wireless Conference Unit  
(Mic. / 2xCH Sel.)

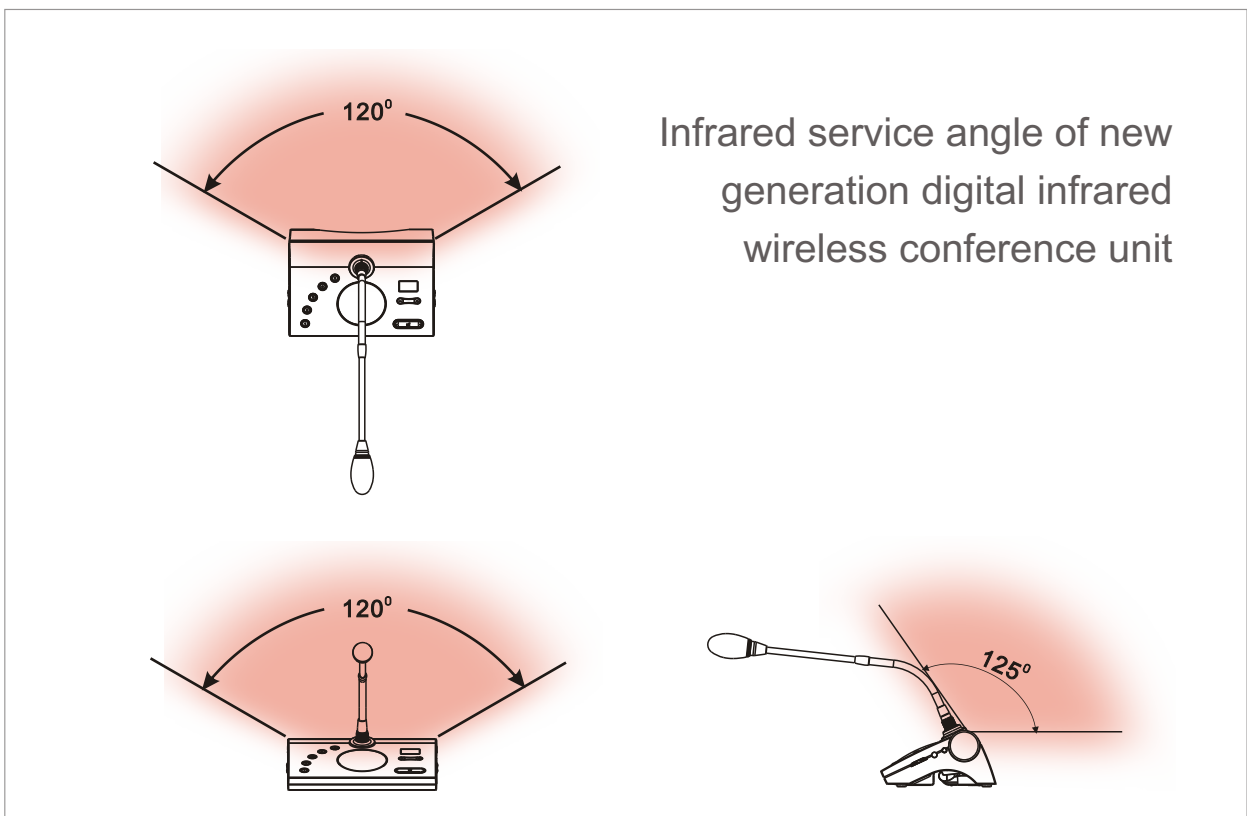


HCS-5302D\_S/80  
New Generation Digital IR Wireless Conference Unit  
(Mic.)

- Tabletop, stylish and ergonomically designed unit
- Based on TAIDEN original dirATC--digital infrared Audio Transmission and Control technologies
- Compliant with IEC 60914
- Infrared transmitting carrier frequency conforms to IEC 61603-7, DQPSK digital modulation/demodulation technology
- Controls up to 1000 contribution units
- Every delegate unit is assigned an individual ID for convenient setup and to avoid double ID forever
- Broadcast standard microphone and digital infrared audio processing and transmitting technologies ensure 20 Hz ~ 20 kHz perfect sound quality, extremely low distortion factor
- Digital infrared transmission technology guarantees privacy, no worries about eavesdropping and radio interference, no radiation, no radio frequency license needed
- Excellent immunity to RF interferences from HF-driven lighting and mobile phones
- Uni-directional electret condenser microphone with illuminated ring
- Dismountable microphone stem for convenient maintenance
- Built-in loudspeaker, mutes automatically when microphone is switched on
- $\phi$  3.5 mm stereo earphone jack for earphone with volume control (HCS-5301D/80 with two earphone jacks)
- Microphone on/off button (HCS-5301D/80 with two buttons)
- LCD for displaying channel number, language name, signal icon and battery capacity (HCS-5301D/80 with two LCD panels)
- Built-in channel selector (1+7 CHs, HCS-5301D/80 with two channel selectors)
  - Channel selector is operable only when earphone is inserted
- 5 voting keys
- System implements the following functions when operated in stand-alone mode:
  - Set up the number (1/2/3/4) of delegates permitted to speak at the same time
  - Mic. active mode: "OPEN"/"OVERRIDE"/"VOICE"
  - Simultaneous interpretation
- Multiform voting in combination with corresponding software modules:
  - Parliamentary: Yes/No/Abstain
  - Questionnaire/Opinion Poll: 1/2/3/4/5
  - Audience Response/Rating: - /- /0 /+ /++
- Key-press sign-in
- Automatic video tracking achievable when connected to camera and video switcher
- The chairman unit features the functions of a delegate unit and in addition priority function:
  - Activatable at any time provided that the total number of active microphone (including the active microphone of the chairman) is within the maximum of 4 active microphones allowed by the system
  - Priority button to switch off or to mute the speaking units according to preset
  - System supports up to 20 chairman units, while only 1 chairman unit has the control facilities listed above
- Built-in rechargeable Lithium battery operation duration: 14.4 hours when microphone is continuously on; 48 hours when microphone is off
- Stem length: 240 mm, 330 mm (standard version), 410 mm, 470 mm

# LCD Display

## Simultaneous Interpretation Channel Selector



### Function List

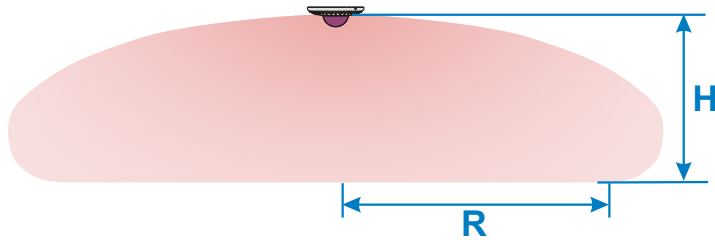
Type No.	Status	Discussion	Voting	Simultaneous Interpretation	LCD	Color	Main Unit
HCS-5300CE/80	Chairman	✓	5-Key	1+7 CHs	✓	Gray/Silver	HCS-5300MA/80
HCS-5300DE/80	Delegate	✓	5-Key	1+7 CHs	✓	Gray/Silver	HCS-5300MA/80
HCS-5301D/80	Delegate	✓		(1+7 CHs)×2	✓	Gray/Silver	HCS-5300MB/80
HCS-5302C/80	Chairman	✓			✓	Gray/Silver	HCS-5300MC/80
HCS-5302D/80	Delegate	✓			✓	Gray/Silver	HCS-5300MC/80

## HCS-5300T/80 Series New Generation Digital Infrared Transceivers

- Compliant with IEC 60914
- Infrared transmitting carrier frequency conforms to IEC 61603-7, DQPSK digital modulation/demodulation technology
- Transmitting in 1~8 MHz frequency band, eliminating the interference from HF-driven lights



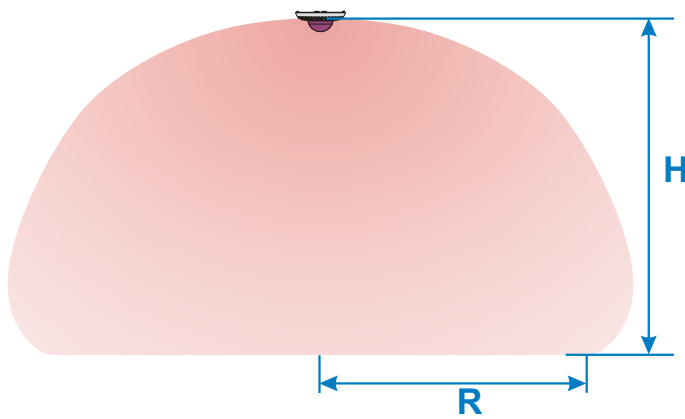
HCS-5300TD/80  
Digital Infrared Transceiver  
(ceiling, gray)



A. Cutaway view of coverage area of  
HCS-5300TD/80 digital infrared transceiver  
(If  $H=2.5 \sim 7.0$  m, then  $R=9.0 \sim 13.0$  m)



HCS-5300TD/80  
Digital Infrared Transceiver  
(ceiling, silver)



B. Cutaway view of coverage area of  
HCS-5300TH/80 digital infrared transceiver  
(If  $H=6.0 \sim 12.0$  m, then  $R=9.0 \sim 11.0$  m)



HCS-5300TD/80  
Digital Infrared Transceiver  
(ceiling, white)



HCS-5300TH/80  
Digital Infrared Transceiver  
(ceiling, white)



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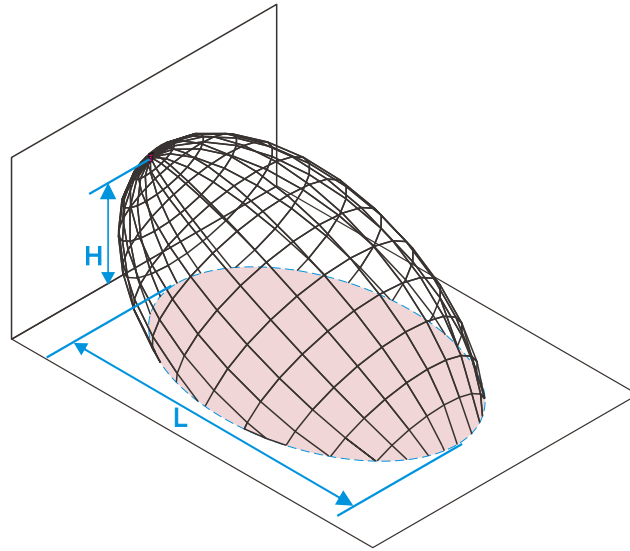


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The Government House in Bishkek, Kyrgyz Republic





C. Footprint of HCS-5300TW/80 digital infrared transceiver  
(If  $H < 5.0\text{m}$ , then  $L = 1.0 \sim 15.0\text{ m}$ )



HCS-5300TW/80  
Digital Infrared Transceiver  
(wall-mounted)



HCS-5300TZJ2  
Transceiver Stand



HCS-5300TD/80  
Digital Infrared Transceiver  
(Tripod mounted, adjustable angle)



HCS-5300TD/80  
Digital Infrared Transceiver  
(wall-mounted, adjustable angle)



HCS-5300TDS/80  
Digital Infrared Transceiver  
(suspension)



The Cultural & Media Centre for H.H  
Sheikh Sultan Bin Zayed Al Nahyan



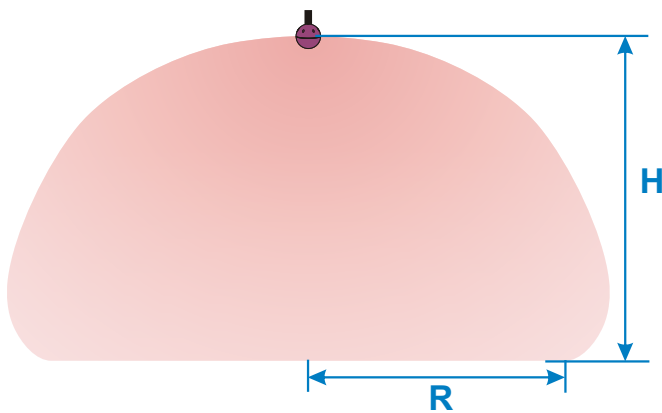
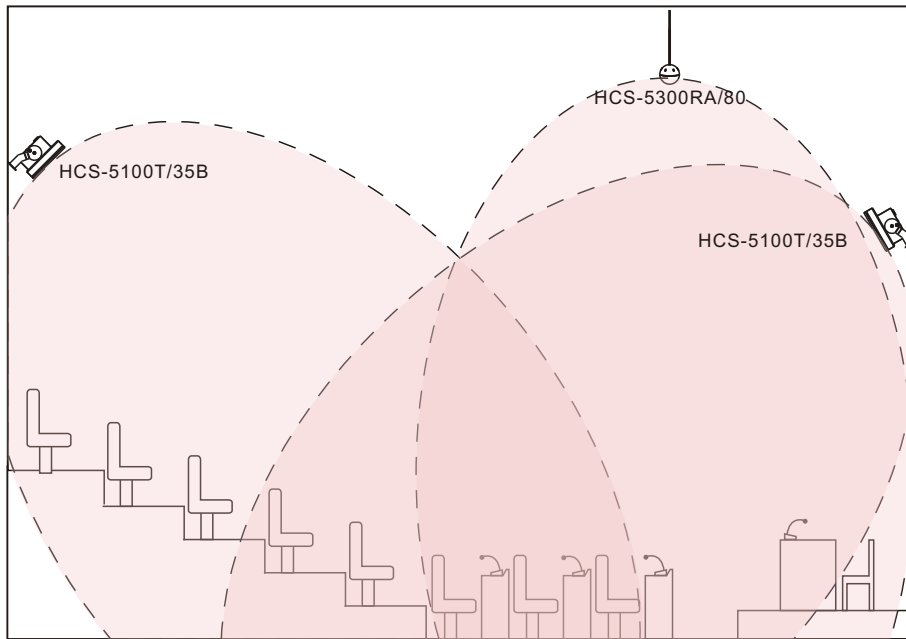
China National Convention Center (CNCC)



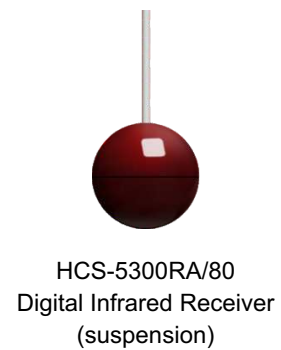
Chongqing Mayor's Conference Room

## HCS-5300RA/80 New Generation Digital Infrared Receiver

- Compliant with IEC 60914
- Infrared transmitting carrier frequency conforms to IEC 61603-7, DQPSK digital modulation/demodulation technology
- Transmitting in 1 ~ 8 MHz frequency band, eliminating the interference from HF-driven lights
- Suspension mounting or tabletop, easy to install



D: Cutaway view of coverage area of HCS-5300RA/80 digital infrared receiver  
(If  $H=6.0 \sim 12.0$  m, then  $R=9.0 \sim 11.0$  m)

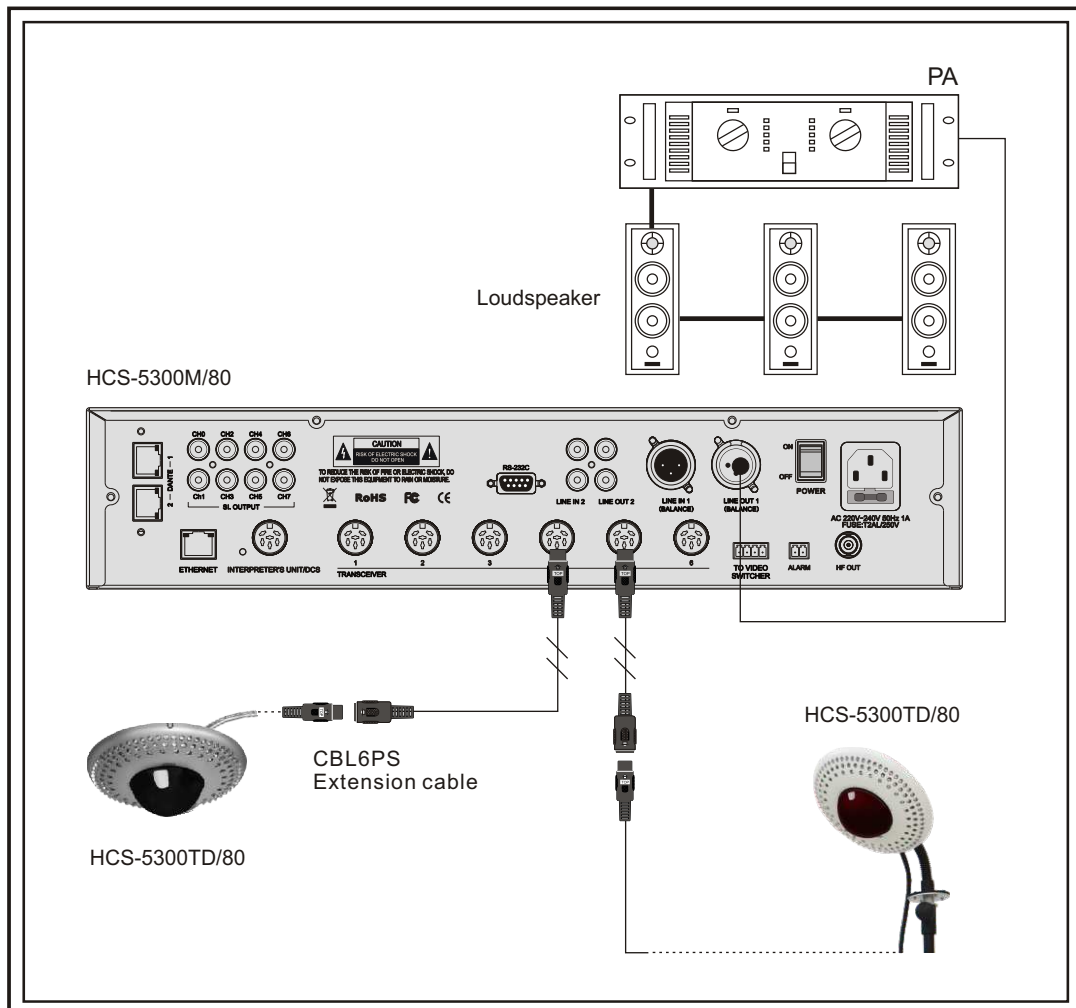


## Coverage Area for HCS-5300/80 New Generation Digital Infrared Transceivers and Receiver

Type No .	Mounting height (H)	Coverage area radius (R)
HCS-5300TD/80 HCS-5300TDS/80	2.5 ~ 3.0 m	13 m
	3.5 ~ 4.5 m	11m
	5.0 ~ 7.0 m	9 m
HCS-5300TH/80	6 m	9 m
	9 m	11 m
	12 m	9 m
HCS-5300RA/80	6 m	9 m
	9 m	11 m
	12 m	9 m

Type No .	Mounting height (H)	Coverage area length (L)
HCS-5300TW/80	< 5m	1 ~ 15 m

Note: The table above is the coverage area of a single transceiver; but the actual coverage area will be affected by the number of the transceivers and the length of the cable connected in system.



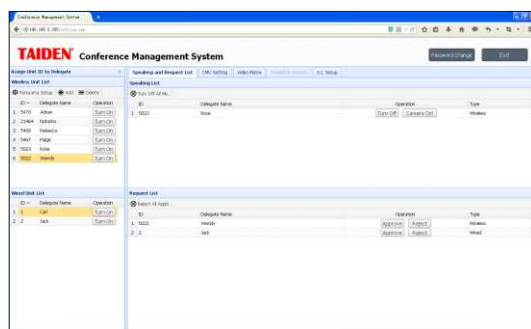
Note: In the same system, the distance between the main unit and each transceiver must be equivalent.

## HCS-5300M/80

### New Generation Digital Infrared Wireless Conference Main Unit

- Based on TAIDEN originated dirATC-digital infrared Audio Transmitting and Control technologies
- Compliant with IEC 60914
- Infrared transmitting carrier frequency conforms to IEC 61603-7, DQPSK digital modulation/demodulation technology
- Digital infrared audio processing and transmitting technologies ensure perfect sound quality
- Digital infrared transmission technology guarantees conference privacy. Users are released from worries about eavesdropping and radio interference inherent to radio wave-based wireless communications
- Operating the IR conference system does not require a radio frequency license all over the world
- Microphone sensitivity and EQ can be adjusted individually
- USB\_H interfaces to upgrade system and to save system parameters
- USB\_D interface realizing quality-lossless sound recording on PC and intact input of streaming audio into the system
- 6 digital infrared transceiver interfaces, each interface can connect 4 transceivers if operating distributor HCS-5352, thus each HCS-5300MA/MB/80 can connect up to 10 transceivers and each HCS-5300MC/80 can connect up to 6 transceivers
- Compatible with HCS-5100Plus Series Digital Infrared Language Distribution System, when cooperating with digital infrared language distribution system, enabling a larger audience to join in the conference
- With one balanced audio output and one unbalanced audio output
- 1 interpreter unit interface for connection to HCS-8385 Interpreter Unit, supports up to 8 simultaneous interpretation language channels (incl. the original floor channel), and the interface also for connection to wired conference units for more conference requirement
- LINE IN 1 and LINE IN 2 interfaces for connection to external audio devices
- Automatic video tracking, when cooperating with camera and video switcher unit
- Emergency signal interface: for connection to public emergency system
- Implemented features in stand-alone mode:
  - Set the number (1/2/3/4) of delegates permitted to speak at the same time
  - Microphone active mode: "OPEN", "OVERRIDE" and "VOICE"
  - Simultaneous interpretation

- In combination with the corresponding software modules, multiform voting can be implemented
- Advanced TCP/IP communication protocol in PC controlled mode, easy to carry out remote control
- Connection to central control system through RS-232 interface for centralized control
- With Dante interface for connecting the conference main unit to the Dante network to transmit input audio signals (only for HCS-5300MA/80)
- With Web page control function, the main unit can be controlled through web page (only for HCS-5300M/WS/80)



Web Control

### Function list

Type No	Discussion	Voting	Simultaneous interpretation	Web server	Dante
HCS-5300MA/80	✓	✓	1+7 CHs		✓
HCS-5300MB/80	✓		1+7 CHs		
HCS-5300MC/80	✓				
HCS-5300MA/WS/80	✓	✓	1+7 CHs	✓	✓
HCS-5300MB/WS/80	✓		1+7 CHs	✓	
HCS-5300MC/WS/80	✓			✓	

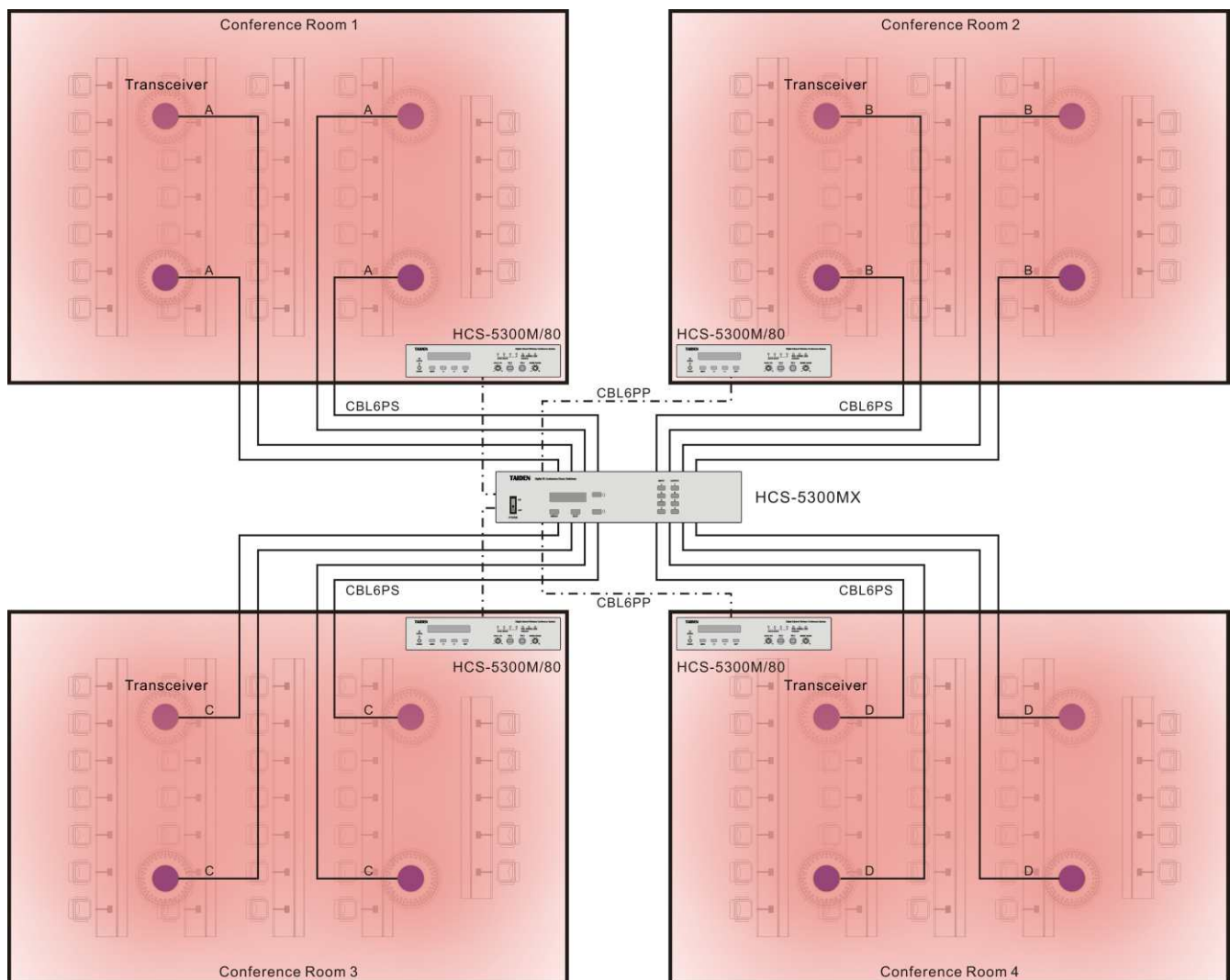


## HCS-5300MX Digital IR Conference Room Switcher



- Perfect solution for selectively combining or separating meeting rooms
- 4 inputs × 4 group outputs Digital IR Matrix Switcher, 5 outputs per group
- Up to 20 transceivers can be connected
- Able to merge up to 4 meeting rooms
- RS-232 port for connection to network central control system and system diagnosis
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- 2U high, full rack width

### Splitting/Combining several meeting rooms with the HCS-5300MX



**Note:**

- All cable lengths A must be equal; all cable lengths B must be equal; all cable lengths C must be equal; all cable lengths D must be equal.
- All cable lengths A, B, C and D must be equal when the four conference rooms are combined as one venue.

		<p>Earshell is detachable and washable</p>
<p><b>HCS-5100PA</b> <b>Headphone (stereo)</b></p> <ul style="list-style-type: none"> <li>■ Used with the receiver or a congress unit</li> <li>■ Hi-Fi sound quality</li> <li>■ <math>32\ \Omega \times 2</math>, <math>\phi</math> 3.5 mm stereo plug (TRS)</li> <li>■ Frequency response: 20 Hz to 20 kHz</li> <li>■ Sensitivity: <math>\geq 108</math> dBA/1 mW</li> <li>■ Weight: 70 g</li> </ul>	<p><b>EP-820AS</b> <b>Single Earphone</b></p> <ul style="list-style-type: none"> <li>■ Used with the receiver or a congress unit</li> <li>■ Hi-Fi sound quality</li> <li>■ <math>\phi</math> 3.5 mm stereo plug (TRS)</li> <li>■ <math>32\ \Omega</math> (Tip and Sleeve, Ring: NC)</li> <li>■ Frequency response: 50 Hz to 20 kHz</li> <li>■ Sensitivity: <math>\geq 102</math> dBA/1 mW</li> <li>■ Weight: 20 g</li> </ul>	<p><b>EP-829/ EP-829SW Single Earphone</b></p> <ul style="list-style-type: none"> <li>■ Used with the receiver or a congress unit</li> <li>■ Hi-Fi sound quality</li> <li>■ Earshell is detachable and washable, convenient for cleaning</li> <li>■ <math>\phi</math> 3.5 mm stereo plug (TRS)</li> <li>■ <math>32\ \Omega</math> (Tip and Sleeve, Ring: NC)</li> <li>■ Frequency response: 20 Hz to 20 kHz</li> <li>■ Sensitivity: <math>\geq 108</math> dBA/1 mW</li> <li>■ Built-in magnetic control switch (EP-829SW)</li> <li>■ Weight: 35 g</li> </ul>
<p>Ear pads are detachable and washable</p>	<p>Ear pads are detachable and washable</p>	
<p><b>EP-960AN</b> <b>Interpreter Headset</b></p> <ul style="list-style-type: none"> <li>■ Used with the interpreter unit</li> <li>■ Hi-Fi sound quality</li> <li>■ <math>150\ \Omega \times 2</math>, <math>\phi</math> 3.5 mm TRRS plug</li> <li>■ Frequency response of headphone: 20 Hz to 20 kHz</li> <li>■ Sensitivity: <math>\geq 108</math> dBA/1 mW</li> <li>■ Frequency of microphone: 50 Hz to 20 kHz</li> <li>■ Sensitivity of microphone: -48 dBV/Pa</li> <li>■ Weight: 95 g</li> </ul>	<p><b>EP-960BH</b> <b>Interpreter Headphone</b></p> <ul style="list-style-type: none"> <li>■ Used with the interpreter unit</li> <li>■ Hi-Fi sound quality</li> <li>■ <math>150\ \Omega \times 2</math>, <math>\phi</math> 3.5 mm stereo plug</li> <li>■ Frequency response: 20 Hz to 20 kHz</li> <li>■ Sensitivity: <math>\geq 108</math> dBA/1 mW</li> <li>■ Weight: 90 g</li> </ul>	<p><b>HCS-5352</b> <b>1 × 4 Cable Splitter</b></p> <ul style="list-style-type: none"> <li>■ Voltage: 33 V DC (supplied from HCS-5300M/80)</li> <li>■ Has one in and four out structure</li> <li>■ Interface: 4 × 6P-DIN sockets +2 m cable with 6P-DIN plug</li> <li>■ Dimensions h × w × d (mm): 35 × 149 × 90</li> <li>■ Weight: 0.3 kg</li> </ul>
<p><b>HCS-5300BAT</b> <b>Lithium Battery Pack</b></p> <ul style="list-style-type: none"> <li>■ Nominal voltage: 11.1 V DC</li> <li>■ Nominal capacity: 4400 mAh</li> <li>■ Used for HCS-5300/01/02 series conference unit</li> <li>■ Dimensions h × w × d (mm): 28 × 140 × 58</li> <li>■ Weight: 0.3 kg</li> </ul>	<p><b>HCS-ADP15V</b> <b>HCS-ADP24V Power Adapter</b></p> <ul style="list-style-type: none"> <li>■ Mains voltage: AC 100-240 V 50 Hz/60 Hz</li> <li>■ Output: DC 15 V, 2.4 A (HCS-ADP15V) DC 24 V, 1.5 A (HCS-ADP24V)</li> <li>■ Connector: UL, CE, VDE type according to the sales area</li> <li>■ Weight: 0.3 kg</li> </ul>	<p><b>HCS-5300CHG/08</b> <b>Charging Unit</b></p> <ul style="list-style-type: none"> <li>■ Mains voltage: AC 100-240 V 50 Hz/60 Hz</li> <li>■ Power consumption: max. 380 W</li> <li>■ Charging time: approx. 6 hours</li> <li>■ Charging capacity: 8 HCS-5300BAT batteries</li> <li>■ Dimensions h × w × d (mm): 74 × 300 × 288</li> <li>■ Weight: 4.5 kg</li> </ul>

## System performance

Compliant with IEC 60914

Infrared transmitting carrier frequency conforms to IEC 61603-7, DQPSK digital modulation/demodulation technology

## Transmission characteristics

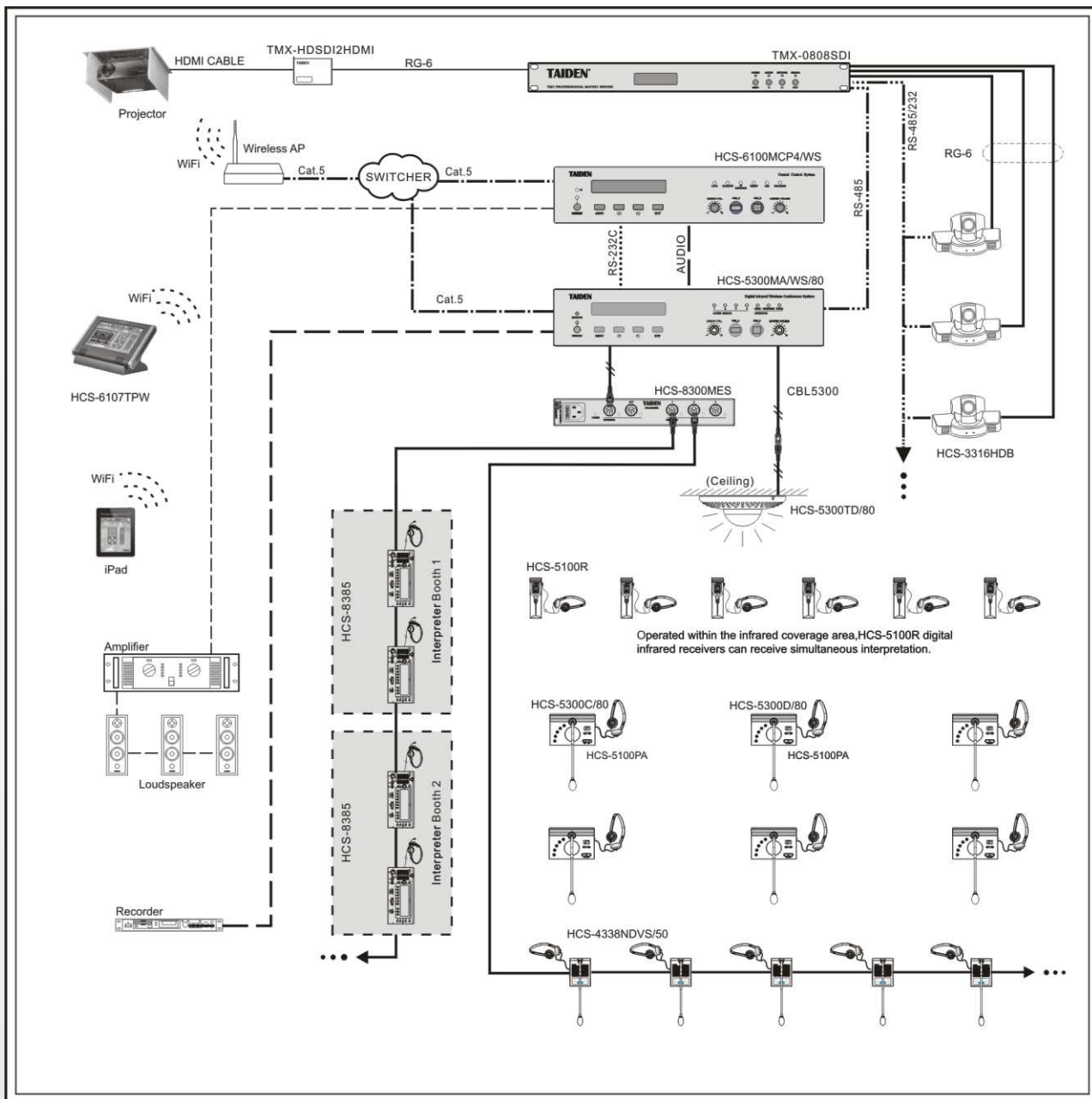
Wavelength .....	870 nm
Carrier frequency .....	1-8 MHz
Modulation method .....	DQPSK

## System Environmental Conditions


Transport temperature .....	-40 °C ~ +70 °C
Operational temperature .....	0 °C ~ +45 °C
Max. relative humidity .....	<95% (no condensation)
Safety .....	Compliant with EN60065
EMC emission .....	Compliant with EN55022
EMC immunity .....	Compliant with EN55024
EMC approvals .....	CE, FCC
Power harmonics .....	Compliant with EN61000-3-2
Voltage fluctuations and flicker .....	Compliant with EN61000-3-3




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 ISO9001:2000  
 Certified by UKAS  
 Certificate No.: FM 85884


 CE certified  
 (including EMC and Safety )  
 Certificate No.: 2015NT1143113 2015NT1143114


 FCC certified  
 Certificate No.: 2015NT1143115

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 2002/95/EC of the  
 European Parliament

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