# TAIDEN®

# Classroom Audio System







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# **About TAIDEN**

TAIDEN, one of the world's renowned suppliers of digital conference systems and simultaneous interpretation system, has equipped prestigious international institutions and high profile events including the UN headquarters in New York, Council of Europe, G20 Summits, APEC Summits, Asia-Europe Meeting, and IMF-World Bank Annual Meetings.



UN General Assembly Hall



World Bank Headquarters



BRICS Business Forum 2017



**APEC Summit** 



G20 Hangzhou Summit

In 2015, TAIDEN introduced its worldwide pioneering digital infrared technology into the field of multimedia teaching and released successively a series of classroom audio systems which can be categorized as digital IR wireless classroom audio reinforcement system, interactive audio recording system and lecture recording management platform. The audio systems featuring excellent audio clarity, great immunity to interference and convenient management fully satisfy the need for sound reinforcement, interactive recording and webcasting, and centralized management of all the multimedia equipment in classrooms. In addition, the wireless microphone of digital IR technology provides safe and RF radiation free use. What's more, the e-lock charging station for wireless microphones frees school AV/IT teams from keeping and charging the microphones, creating a genuine maintenance-free solution.

Apart from providing industry-leading solutions, TAIDEN also endeavors to shape the industry standard and promote the development of education informatization, co-developing a series of Chinese national standards and industry standards concerning teaching environment including GB/T 36447-2018 *Multimedia instructing environment design requirements and* GB/T 36449-2018 *General requirements for electronic examination room system*.



# Wireless Audio Reinforcement

# Common classroom audio challenges:

Poor sound due to inadequate classroom acoustics and audio equipment of uneven quality

# Wired tabletop microphone:

Teachers confined to the lectern, limited interaction between teacher and students

# Hanging microphone:

Greatly distorted sound, negative impact on students' hearing and learning

# RF microphones:

Frequency planning and paring needed, vulnerability to crosstalk and interferences

# **TAIDEN Digital IR Wireless Classroom Audio Reinforcement System**

The system based on TAIDEN's patented dirATC – digital infrared audio transmission and control technology, has avoided possible imperfections out of aforementioned solutions and delivers audio of broadcast quality. In classrooms where sound is enhanced by TAIDEN solution, teachers could be more clearly heard with less voice fatigue; students could have improved learning outcomes.

A TAIDEN audio reinforcement system comprises a control unit, IR receiver, IR microphone and speakers. Most of the control units can be directly connected to the existing speakers in classrooms thanks to their built-in audio power amplifiers. For better sound experience, other professional power amplifiers and line array column loudspeaker can be opted.





# World leading technology

Audio transmission and control based on proprietary digital infrared processing chip(DQPSK modulation)



TAIDEN TDIR04 Digital Infrared Processing Chip

# System features

### **Excellent audio clarity**

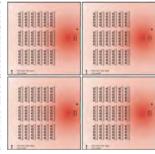
- CD quality audio within a range of 20 meters
- Signal to noise ratio higher than 85 dBA
- Frequency response: 50 Hz ~ 20 kHz

### Immunity to interference

- Allows for simultaneous use in adjacent rooms
- Insusceptible to radio and HF-driven lighting interference
- Works perfectly in direct sunlight

# Andrea An

Interferences generated between classrooms using RF systems



Zero interferences between classrooms using IR systems

### **Zero RF radiation**

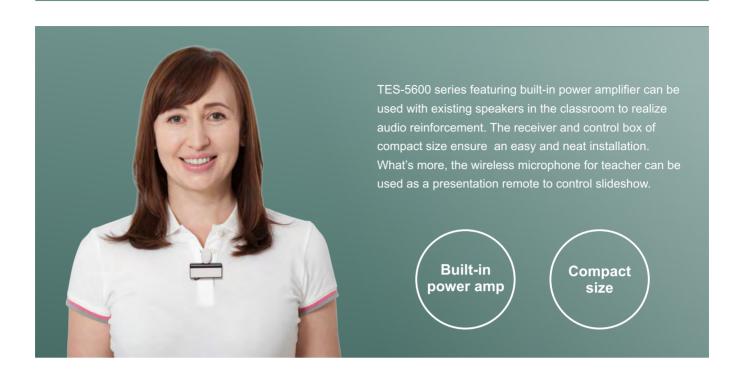
- No health hazards resulted from RF radiation
- Worry-free use for long-time wearing

# Convenient operation & management

- Power on to talk, no frequency tuning needed
- Personal mic for each teacher, adding hygienic bonus



# **TES-5600 Series**





# **Technical Specifications**

- Patented dirATC digital infrared audio transmission and control technology
- Digital infrared microphone for the teacher:
   Full channel frequency response: 50 Hz ~ 20 kHz

SNR: > 85 dBA THD: < 0.06%

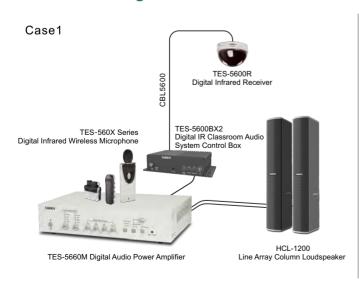
- Coverage of receiver: line of sight 25m, radius 12m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- BNC connector for one digital IR receiver
- Built-in digital audio power amplifier for easy sound reinforcement:
   Max. output power: 30 W×2 (8 Ohm)
   Virtual output power: 23 W×2 (8 Ohm)
- Audio in/out interfaces: 1 PC IN, 1 LINE OUT
- Remote control of PPT slides via TES-560X series microphone
- Public address facility with audio input interface and PA trigger
- Dimensions (h×w×d, mm): 41 × 168 × 103 (TES-5600BX series) Ø 84×57 (TES-5600R)
- Power supply: 24 V DC, 2.7 A

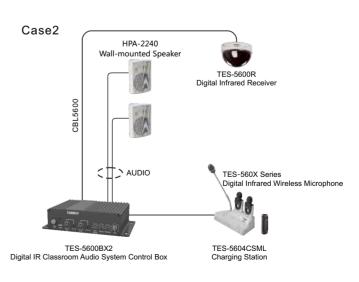


# **Function List**

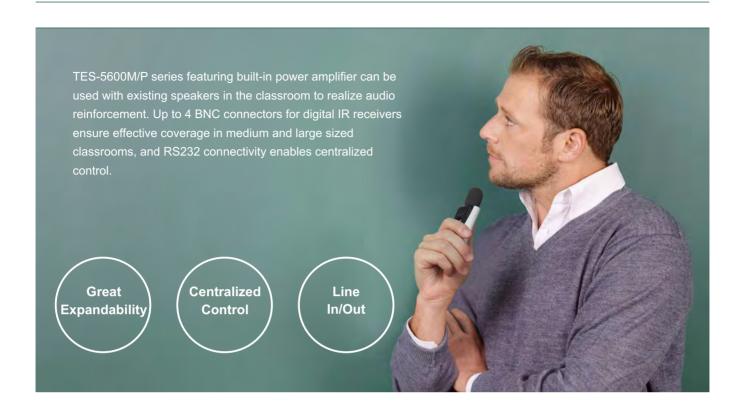
Model No.	Power amp	Speaker	Wireless mic.	Presentation remote	Public address
TES-5600BX1	•	4	1	•	
TES-5600BX2	•	4	2	•	
TES-5600BXP1	•	4	1	•	•
TES-5600BXP2	•	4	2	•	•

# **Connection Diagram**





# TES-5600M/P Series



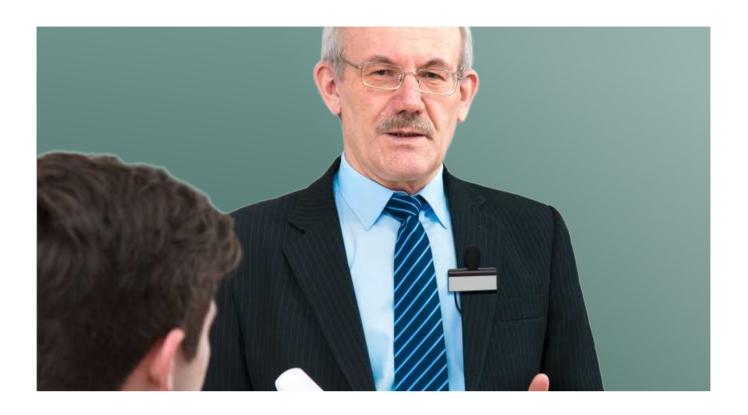


# **Technical Specifications**

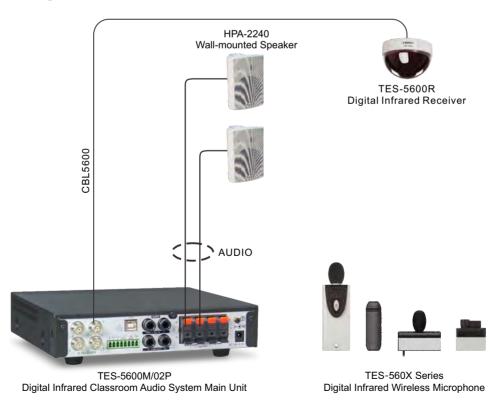
- Patented dirATC digital infrared audio transmission and control technology
- Digital infrared microphone for the teacher: Full channel frequency response: 50 Hz ~ 20 kHz SNR: >85 dBA

THD: < 0.06%

- Coverage of receiver: line of sight 25m, radius 12m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- Up to 4 BNC connectors for digital IR receivers
- Built-in digital audio power amplifier for easy sound reinforcement:
   Max. output power: 30 W×2 (8 Ohm)
   15 W×4 (8 Ohm)
- Multiple audio in/out interfaces: 2 Line IN and 2 Line OUT (Ø3.5 mm)
- Ethernet interface for centralized control and management
- Remote control of PPT slides via TES-560X series microphone
- Dimensions (h×w×d, mm): 55 × 211 × 236 (TES-5600M)Ø 84×57 (TES-5600R)
- Power supply: 24 V DC, 2.7 A



# **Connection Diagram**



# TES-5685M/20 Series









TES-5685M/20 series provides a highly integrated and easy wiring classroom audio reinforcement solution by combining top-firing speaker with control unit, digital IR receiver and power amplifier. Crystal clear sound reinforcement can easily be realized with only one combo unit (TES-5685M/20) and one wireless microphone. The four-sided top-firing speaker ensures even sound field distribution across the classroom.



TES-5685M/20 Series Digital Infrared Classroom Audio System





# **Technical Specifications**

- Patented dirATC digital infrared audio transmission and control technology
- Digital infrared microphone for the teacher:

  Full channel frequency response: 50 Hz ~ 20 kHz

SNR: >85 dBA THD: <0.06%

- Coverage of receiver: line of sight 25m, radius 12m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- Analog audio input/output and line in/line out with TES-5685BX series
- Built-in digital audio power amplifier for easy sound reinforcement
- Ethernet interface for centralized control and management
- Dimensions (h×w×d, mm): 206×331×319
- Power supply: AC 100-240 V, 1.5 A

### **Function List**

Function Model No.	TES-5685MB/20	TES-5685MC/20
Wireless mic.	2	1
Power amp	•	•
Speaker	•	•
Line In	with TES-5685BX series	with TES-5685BX series
Line Out	with TES-5685BX series	with TES-5685BX series
Mic In (TES-5604CSM series)	with TES-5685BX series	with TES-5685BX series
Public address	with TES-5685BXP	with TES-5685BXP
Presentation remote	•	•
Analog input/output	•	•
Connectivity	RJ45	RJ45

# **TES-564X Series**



TES-5641 series, a combination of fixed gooseneck microphone, digital IR receiver and power amplifier, fits on the lectern. Audio amplification can be realized via the fixed gooseneck microphone or the wireless IR microphone once the system is connected to existing speakers in the classroom. The wireless microphone can be put back in the e-lock charging station after use to be charged up for following classes. And the e-lock ensures secure storage of the microphone.







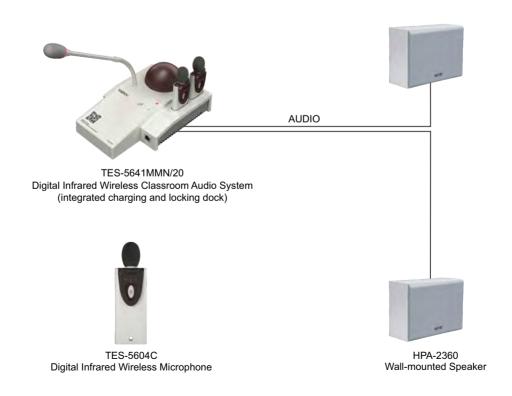
### **Function List**

Model No.	Gooseneck mic.	Wireless mic.	Charging dock	E-lock	Network
TES-5641MMN/20	•	2	•	•	
TES-5641MML/20	•	2	•	•	
TES-5641MM/20	•	2	•		

# **Technical Specifications**

- Patented dirATC digital infrared audio transmission and control technology
- Easy installation with desktop digital IR receiver
- Coverage of receiver: radius 10m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- Perfect fit interface side cover
- Gooseneck microphone to complement the wireless microphone
- Two-bay charging station for TES-5604, 1 bay with e-lock built in the dock to secure the microphone. Authorized users can scan QR code or swipe IC card to talk
- Multiple audio in/out interfaces: 1 LINE OUT and 2 LINE INPUT
- Built-in digital audio power amplifier for easy sound reinforcement: Max. output power: 30 W×2 (8 Ohm)
- Dimensions (h×w×d, mm): 92×168×250
- Power supply: 24 V DC, 2.7 A

# **TES-5641 Digital Infrared Wireless Classroom Audio System**



# **TES-5630 Series**

TES-5630 series, a combo of digital IR receiver, control unit and audio power amplifier, can easily realize classroom sound reinforcement after connected to the existing speakers in classroom. It boasts of a compact structure and neat in-ceiling installation.



TES-5630M
Economical Digital Infrared Wireless System







# **Technical Specifications**

- Patented dirATC digital infrared audio transmission and control technology
- Digital infrared microphone for the teacher:
   Full channel frequency response: 50 Hz ~ 20 kHz

SNR: > 85 dBATHD: < 0.06%

- Coverage of receiver: line of sight 25 m, radius 12 m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- Built-in digital audio power amplifier for easy sound reinforcement:

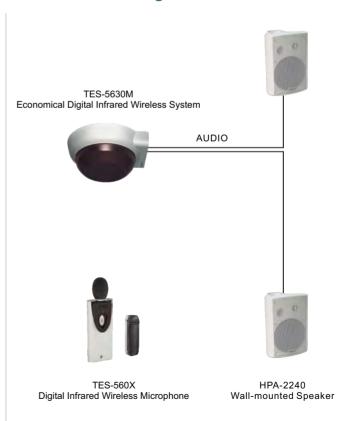
Max. output power: 30 W×2 (8 Ohm)
■ Dimensions (h×w×d, mm): 150 × 146 × 66

■ Power supply: 24 V DC, 2.7 A

# **Function List**

Model No.	Power amp	Speaker	Wireless mic.
TES-5630M	•	2	2
TES-5630MA	•	2	1

# **Connection Diagram**



# **TES-560X Series Digital Infrared Wireless Microphone**

TES-560X series microphone, based on the digital infrared audio transmission and control technology, features excellent audio quality with a s/n ratio higher than 85 dBA, ease of use with power on to talk and no frequency tuning needed, and insusceptibility to interference allowing simultaneous use in adjacent rooms. Thanks to its RF radiation free merit, teachers do not have to worry about possible health hazards even for long time wearing. The light-weight microphone can be handheld, attached to collars, ties or pockets or worn around the neck.

The best and most ideal application is "personal mic. for each teacher" to ensure personal hygiene and convenient management.









# **Technical Specifications**

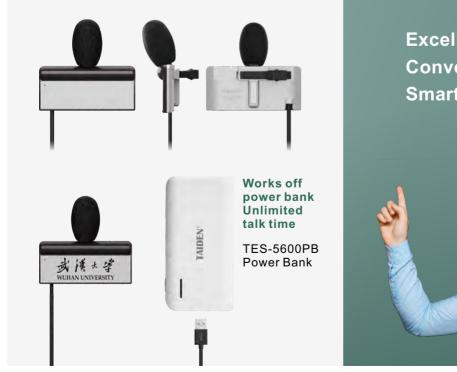
■ Patented dirATC – digital infrared audio transmission and control technology

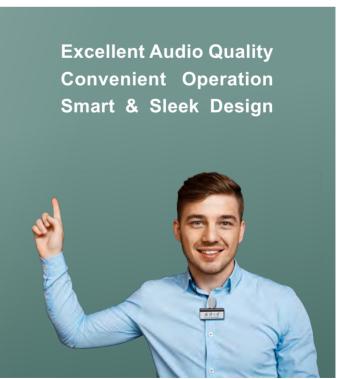
Full channel frequency response: 50 Hz ~ 20 kHz

SNR: >85 dBA THD: <0.06%

- Undisturbed by HF driven lights, works perfectly in direct sunlight
- Emission angle: vertical: 0°~ 90°, horizontal: 120°
- Selectable infrared carrier frequency
- Remote control of PPT slides
- Supports PTT (push to talk)

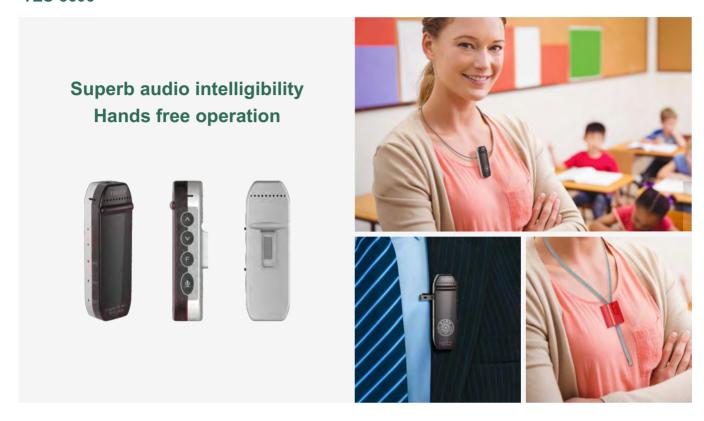
# **TES-5607**





# **TES-560X Series**

# **TES-5606**



# **TES-5605**



# TES-5604C



# **Function List**

Model	TES-5604C	TES-5605	TES-5606	TES-5607
Spec		-		Total Control
LINE IN	•	•	•	•
MIC IN	•			
Flexible use	handheld, lapel, pendant type			
Battery	built-in rechargeable Lithium battery works off power bar			works off power bank
Battery life	6 hrs	4 hrs	5 hrs	2600 mAh, >13 hrs 5200 mAh, >20 hrs
Power life	DC 5 V, 2 A			
Dimensions (h×w×d mm)	42×19×133	45×45×17	24×22×76	65×23×61 (TES-5607) Ø22×92 (power bank)
Weight	60 g	30 g	40 g	70 g ( power bank only )

# **TES-5604CS Series Charging Station**

- Two-bay charging station for TES-5604C wireless microphones
- One bay with e-lock to secure the microphone
- Scan the QR code or swipe IC card to unlock
- Power supply via TES-ADP5V power adapter or TES-56xxBX control box
- Equipped with one stem microphone of optional length, complementing the wireless microphone
- Dimensions (h×w×d, mm; w/o stem microphone): 53×166×79



# **Function List**

Model	TES-5604CSMN	TES-5604CSML	TES-5604CSM	TES-5604CSN	TES-5604CSL	TES-5604CS
Spec	12					
Stem mic	•	•	•			
Charging dock	2	2	2	2	2	2
E-lock	1	1		1	1	
Network	•			•		

# **TES-5660M Digital Audio Power Amplifier**



- Class D audio power amplifier
- Switching mode power supply
- Audio output: 1/2 channel(s)
- $100V/70V/8\Omega/4\Omega$  outputs
- Audio input via Bluetooth or USB
- On board DSP with web control

# **Technical Specifications**

■ Output power: 2×160 W (8 Ω)

2×200 W (4 Ω)

 $1\times400$  W (8  $\Omega$  , bridge)

 $1\times400$  W (4  $\Omega$  , bridge)

1×400 W / 70 V

1×400 W / 100 V

- Frequency response: 30 Hz ~20 kHz (8 Ω, ±0.5 dB)
- THD<0.04%
- Working modes: stereo/mono/zone
- Support low cut and auto fade
- 3 stereo Line In, 1 stereo Line Out and 2 MIC input
- Adjustable 1/2 Line In/ MIC/ Bluetooth input level
- Web-enabled control over: 5-band parametric EQ of microphone, amp output delay and 31-band graphic EQ, saving of scenes
- 1 x RJ45 port (ETHERNET) for public address
- 1 x USB port for digital audio input
- 1 x 3.5 mm headphone jack for external audio devices
- Perfect protection functions: short circuit, DC, over temperature protection, overload power control, temperature control, etc
- Dimensions ( h×w×d, mm): 99 x 430 x 288

# **HPA-160A/02** Digital Audio Power Amplifier



- Class D audio power amplifier
- Switching mode power supply
- Audio output: 1/2 channel(s)
- $100V/70V/8\Omega/4\Omega$  outputs
- On board DSP with web control

# **Technical Specifications**

■ Output power: 2×160 W (8 Ω)

2×200 W (4 Ω)

1×400 W (bridge/constant voltage)

- Frequency response: 20 Hz ~20 kHz (8 Ω)
- THD<0.04%
- Working modes: stereo/mono/balanced
- 2 Speakon connectors for loudspeakers
- 1 LINE IN and 1 LINE OUT (Loop Out)
- Web-enabled control over: 5-band parametric EQ of microphone, amp output delay and 31-band graphic EQ, saving of scenes
- 1 x RJ45 port (ETHERNET) for centralized control and upgrade
- Dimensions ( h×w×d, mm): 179 x 252 x 62

# **HCL-1000 Series Line Array Column Loudspeaker**



HCL-1000 Series Line Array Column Loudspeaker, composed of multiple full-range drivers, features natural and high-quality sound in a compact and exquisite enclosure. It offers rich and nice mids, and crisp and sweet highs. Thanks to its wide and even sound field, HCS-1000 series can be used for various applications such as in conference room, lecture hall, ballroom, auditorium and classroom.

# Longer Throw Distance Less Susceptible to Feedback

The internal speaker units arrayed vertically in close proximity form a linear sound source, which guarantees better coverage and less susceptibility to feedback at a longer throw distance.

# Wide Frequency Range Enhanced Performance

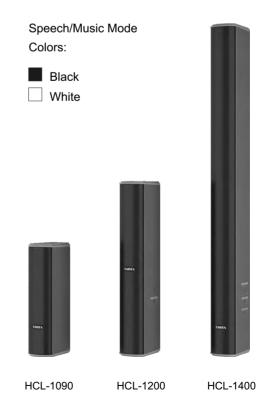
A multi-way full range loudspeaker characterized with wider bandwidth, has the lowest frequency at 80 Hz. Default constant resistance mode (8  $\Omega$ ) for higher output level.

### Switchable Speech/Music Mode

HCL-1000 series is versatile by accommodating different applications with enhanced mid-range output in Speech mode and more flat response in Music mode.

### **Durable in Outdoor Use**

Enclosure designed per IP-54 rate, IEC 529 allows use in a wide range of adverse conditions such as wet, dirty or corrosive environments.



100V/70V /8 Ω mode

# **Technical Specifications:**

Model	HCL-1200	HCL-1400			HCL-1800	
Components	Eight 2.5 inch full-range	Sixteen 2.5 inch full-range		Three-two 2.5 inch full-range		
Coverage Pattern	Horizontal: ±150° Vertical: ±20°	Horizontal: ±150° Vertical: narrow: ±15° broad: ±40°		Horizontal: ±150° Vertical: narrow: ±15° broad: ±30°		
EQ Mode	Speech v. Music (@2 K	(Hz-5 KHz): 2	2.5 dB-4 dB			
Power Capacity	200 W, 2 hrs (8Ω) 120 W, 100 hrs (8Ω)	400 W, 2 hrs (8Ω) 240 W, 100 hrs (8Ω)		800 W, 2 hrs (4Ω) 480 W, 100 hrs (4Ω)		
Frequency Response	80 Hz~18 KI	80 Hz~18 KHz ( -10 dB )		80 Hz~16 KHz ( -10 dB )		
Impedance	8 Ω ( in Thru mode )			4 Ω		
Max. Sound Speech mode: 12	Speech mode: 120 dB	Broad coverage	Speech mode: 129 dB Music mode: 126 dB	Broad coverage	Speech mode: 132 dB Music mode: 129 dB	
Pressure Level	· •	Narrow coverage	Speech mode: 132 dB Music mode: 129 dB	Narrow coverage	Speech mode: 135 dB Music mode: 132 dB	
Sensitivity	93 dB ( 8 Ω, 2.83 V@1 M )	93 dB	(8Ω, 2.83 V@1 M)	95 dB ( 4 Ω, 2 V@1 M )		
Enclosure	Fiberglass reinforced ABS cabinet, painted aluminum grille; moisture- and water-proof, dust-proof; water-proof cable gland (for HCS-1200 only)					
Dimensions (h x w x d)	620×102×157 mm	1180×102×157 mm		236	50×102×157 mm	
Mounting	standl-mount or wall-mount (with swivel/tilt wall brackets)					



# Interactive Audio Recording and Webcasting



TAIDEN's interactive audio recording solution, working entirely behind the scenes, is a completely non-disruptive tool to capture lectures. Teachers' sound picked up by the IR wireless microphone and students' sound by an exclusive omnidirectional microphone are captured and recorded in sync. The audio captured can be archived for after-class review by teachers and students.

The system is compatible with any third-party streaming and recording products for simultaneous HD capture of both the lecturer and their presentation for live streaming, webcasting, video on demand, after class review by students or teachers' performance assessment.

Aside from audio capturing, the system also amplifies the teacher's sound so that each student can hear clearly anywhere in the classroom.

# Innovative sound pickup technology New era of lecture recording







# IR mic. + array mic

- Digital infrared wireless microphone for the teacher, SNR >85 dBA
- Built-in omnidirectional array microphone for capturing students' sound within a radius of 5 to 8 m
- Optimal recovery of student voice by high-performance DSP
- Audio ducking ensures the priority of IR microphone input over the array microphone input

# Beamforming and adaptive steering technology

- Microphone array using audio beamforming technology steer pickup patterns towards teacher and students, rejecting unwanted noises and reflections
- Bi-color indicator displays standby/working mode, 12-segment indication of sound direction

# Highly integrated, space saving

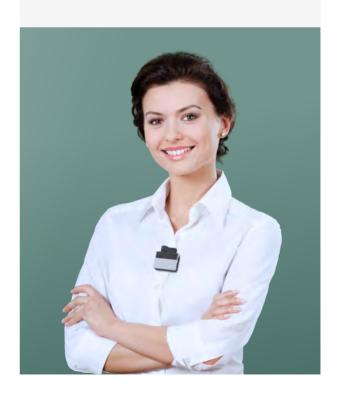
- All-in-one solution with microphone, power amplifier and speakers
- Compatible with any third party streaming and recording solutions
- Quick, easy and neat setup

# Zero RF radiation, green and healthy

- IR microphone free from RF radiation
- No worries about health hazards for long time wearing









All-in-one solution Quick and easy setup





# **Technical Specifications**

- Patented dirATC digital infrared audio transmission and control technology
- Digital infrared microphone for the teacher:

Full channel frequency response: 50 Hz ~ 20 kHz

SNR: >85 dBA THD: <0.06%

- Coverage of receiver: line of sight 25 m, radius 12 m
- Selectable infrared carrier frequency for use of one or two wireless microphones
- Built-in array microphone for students:

Pickup range: 5 m radius with medium ambient noise

8 m radius in a quiet environment

- Analog audio input/output and line in/line out with TES-5685BX series
- Built-in digital audio power amplifier for easy sound reinforcement:
- Ethernet interface for centralized control and management
- Power supply: 24 V DC, 2.7 A
- Dimensions (h×w×d, mm): 206×331×319



# **Connection Diagram**

AV recorder

TES-5685BX
Funtion Extension Box

TES-5685BX
Charging Station

Highly integrated Compact sized





# **Technical Specifications**

■ Digital infrared microphone for the teacher:

Full channel frequency response: 50 Hz  $\sim$  20 kHz

SNR: >85 dBA THD: <0.06%

 Selectable infrared carrier frequency for use of one or two wireless microphones

■ Built-in array microphone for students:

Pickup range: 5 m radius with medium ambient noise 8 m radius in a quiet environment

■ Built-in digital audio power amplifier for easy sound reinforcement:

Maximum output power: 30 W $\times$ 2 (8  $\Omega$ ) 15 W $\times$ 4 (8  $\Omega$ )

■ 1 Line in (PC IN), 1 Line out (LINE), 1 audio recording output (REC.)

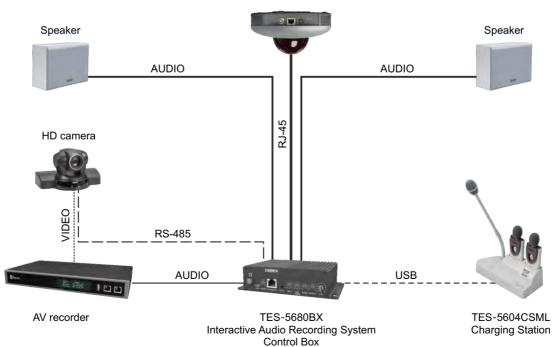
■ Ethernet interface for centralized control and management

Power supply: 24 V DC, 2.7 ADimensions (mm): Ø 181×96



# **Connection Diagram**

TES-5680M Interactive Audio Recording System Receiver



# **TES-5682 Economical Classroom Audio System**

# **Technical Specifications**

- Built-in array microphone for students:
  - Pickup range: 5 m radius with medium ambient noise
    - 8 m radius in a quiet environment
- High performance digital signal processor (DSP): automatic noise canceller (ANC), and automatic gain control (AGC)
- Connection to computer via USB for power supply and lossless recording of digital audio signals
- One audio output via 6.4 mm jack
- Dimensions (mm): Ø 181×96

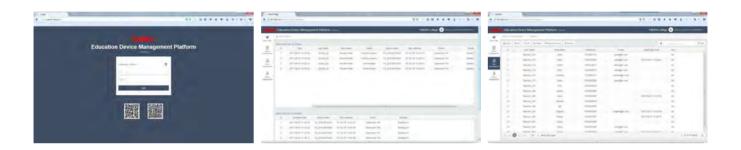


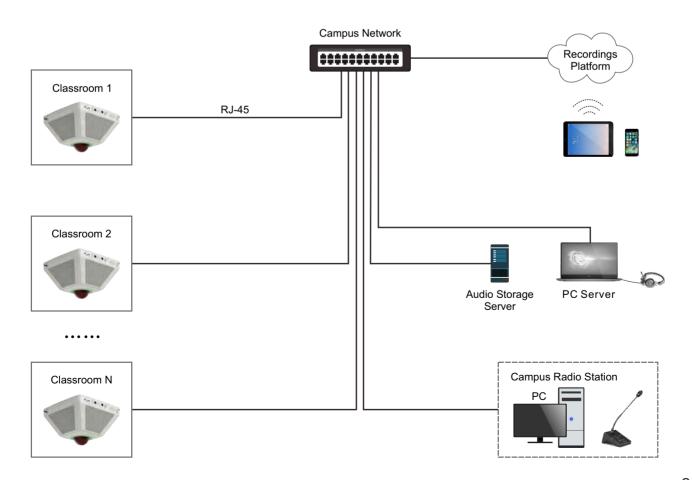
TES-5682



# **Lecture Recording Management Platform**

- Inspired by the multi-room management platform customized for the UN
- Designed for quality lecture recording and management
- Local and cloud storage of recordings
- Convenient search for specific lectures to playback, download or live stream
- Real-time monitoring and tracking of classrooms
- Compatible with speech recognition solutions for captioning and lecture transcription
- Centralized microphone management for schools
- Campus public address facility





# **Project Highlights**

# **Wuhan University**

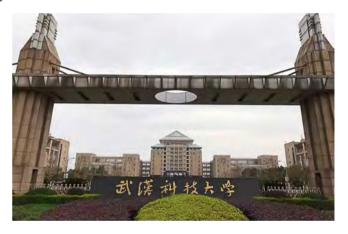
Wuhan University invested in TAIDEN digital infrared classroom audio system and 5,000 wireless microphones for nearly 500 classrooms. Each and every teacher at the university is provided with a personal wireless microphone for convenient management and personal hygiene.

Meanwhile, the classrooms are equipped with TAIDEN elock charging stations so that the microphones can be securely stored and charged between class sessions and good to go for classes after. The newly equipped classrooms boast of quality audio reinforcement that is RF radiation free and greatly saves operation costs.



# **Wuhan University of Science and Technology**

Wuhan University of Science and Technology invested in TAIDEN digital infrared classroom audio system and over 2,200 wireless microphones for 375 classrooms. Teachers have their own personal wireless microphones which offer hands-free operation and ensure personal hygiene. Besides, the school AV team does not have to bother with the management of microphones.



# **Products Applied:**

Digital IR Classroom Audio System Main Unit + Digital IR Receiver

+ Wall Speakers + Digital IR Wireless Microphone



TES-5600MA/02P Digital IR Wireless System Main Unit



TES-5600R Digital IR Receiver



HPA-2360 Wall Mounted Speaker



TES-5603B2 Digital IR Wireless Microphone

# References

Southeast University	Bohai University
Nantong Vocational College of Science & Technology	Liaoning Institute of Science and Technology
Suzhou University	Liaoning Business and Trade Vocational College
Zhejiang International Studies University	Police Dog Technical School
Hangzhou Normal University	Liaoning Vocational College of Medicine
Tourism College of Zhejiang	Beijing Wuzi University
Zhejiang Pharmaceutical College	Civil Aviation University Of China
Ningbo Polytechnic	China University of Petroleum
Ningbo City College of Vocational Technology	Military Transportation University
Education Institute of Yangpu District Shanghai	Tianjin Medical University
Zhengzhou University	Tianjin Normal University
North China University of Water Resources and Electric Power	Tianjin Chengjian University
Zhongyuan University of Technology	Shanxi Agricultural University
Henan Police College	Shanxi University of Finance & Economics
Henan Institute of Economics and Trade	Shanxi Medical University
Henan Technical College of Construction	Shanxi Professional College of Finance
Nanchang University	Northwest University
Guangdong University of Technology	Shaanxi University of Science & Technology
Guangdong Police College	Xianyang Normal University
Xiamen University	The Affiliated High School of Henan University
Huaqiao University	Zhengzhou No.101 High School
Xiamen Medical College	Tongchuan No.1 Middle School
Sichuan University	Wuluolu Middle School
Sichuan International Studies University	The Primary School Attached to Central China Normal University
Southwest Petroleum University	The High School Attached to Huaiyin Normal University
Chengdu University of Technology	Yangzhou High School of Jiangsu Province
Southwest Medical University	Huaiyin Middle School in Jiangsu Province
Southwestern University of Finance and Economics	Si Hong Middle School Jiangsu
Sichuan University of Science & Engineering	Chongqing No.2 Foreign Language School
Chengdu Sport Institute	Shenzhen Luohu Senior High School
Chengdu University of Information Technology	Shenzhen Overseas Chinese Town High School
Chongqing Jiaotong University	Cuiyuan Middle School, Shenzhen
Chongqing University of Technology	Shenzhen Nanshan Liuxian Primary School
Chongqing University of Arts and Sciences	Shenzhen Luoling Foreign Language Experimental School

# **Accessories**







### **TES-ADP24VL Power Adapter**

- Power Supply: AC 100 V 240 V, 50 Hz / 60 Hz
- Output: 24 V DC, 2.7 A
- Approvals: UL, CE, VDE
- Cable length: 3 m
- Dimensions (h×w×d, mm):  $32\times115\times50$
- Color: black
- Weight: 0.4 kg

### **TES-ADP24V Power Adapter**

- Power Supply: AC 100 V 240 V, 50 Hz / 60 Hz
- Output: 24 V DC, 2.7 A
- Approvals: UL, CE, VDE type, according to the sales area
- Cable length: 3 m
- Dimensions (h×w×d, mm):  $32\times115\times50$
- Color: black
- Weight: 0.4 kg

### **TES-ADP5V Power Adapter**

- Power supply: AC 100 V 240 V, 50 Hz/60 Hz
- Output: 5 V DC, 2.0 A
- Connector: UL, CE or VDE type, according to the sales area
- Cable length: 1 m
- Dimensions (h×w×d, mm):  $43\times39\times27$
- Color: White
- Weight: 50 g







### TES-5604CHG/09 Charging Station

- Charges 9 TES-5604 series wireless microphones per charging
- Power supply: 5 V DC, 6.0 A
- Dimensions (h×w×d, mm): 55×232×173
- Color: White
- Weight: 0.8 kg

### TES-5604CHG/01 Charging Unit

- Used for charging TES-5604 Series microphone
- Charges 1 TES-5604 wireless microphone
- Power supply: 5 V DC, 2.0 A
- Dimensions (h×w×d, mm):  $52 \times 76 \times 57$
- Color: White
- Weight: 0.1 kg

### **TES-5600CE Encoder**

- Used for encoding IC cards (TES-5600K) of TAIDEN classroom audio system
- Dimensions (h×w×d, mm):  $66\times84\times121$
- Weight: 0.2 kg







### **TES-5600NS Neck Lanyard**

- Adjustable length
- Used for TES-560X series microphones
- Weight: 15 g
- Color: gray (PANTONE 431 C)

### TES-5606NSS/M/L Neck Lanyard

- Stylish and ergonomic design
- Used for TES-560X series microphones
- Length: 480/520/560 mm
- Color: gray (PANTONE 431 C) black (PANTONE 419 C)

# TES-1021 Clip Microphone

- Stylish and ergonomic design
- Used for TES-560X series microphones
- Excellent immunity to RF interferences from mobile phones
- ■Ø 3.5 mm stereo plug with a 0.3- meter cable
- Color: black (PANTONE 419 C)
- Weight: 10 g







# **TES-5600RZJ Fixing Bracket** ■ Length 0.12 m

- Weight 110 g
- Color Black (PANTONE 419 C)

### **TES-5685P Mounting Suspension**

- Used for TES-5680M series suspension mounted
- Optional: 0.5 m, 1.0m and 1.5 m available







### **HPA-2240 Wall Mounted Speaker**

- Frequency Response: 65 Hz 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 40 W
- Sensitivity: 90 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (h×w×d, mm): 290×215×190
- Weight: 3.4 kg

### **HPA-2360 Wall Mounted Speaker**

- Frequency Response: 80 Hz ~ 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 60 W
- Sensitivity: 89 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (h×w×d, mm): 215×290×123
- Weight: 2.8 kg

### **CBL-SPK2 Speaker Cable**

- 18AWG×2C
- Connecting between the main unit and the speakers
- Length of per roll: 305 meter







### **CBL5680 Classroom Audio System Cable**

- Dedicated cable for TES-5680M, TES-5685M series
- Parallel network cable + Ri45 interface
- Optional: 10/15/20/30/40/50 m
- Weight: 0.4 /0.5 /0.7/1.0/1.4/1.7 kg
- Color: black

### SB-204C3 Cable Splitter

- Used for extending TES-5600R
- One input and two output interfaces
- ■3 F interfaces, used with RG-6/U cable
- Weight: 20 g

### SB-408C3 Cable Splitter

- Used for extending TES-5600R
- One input and four output interfaces
- 5 F interfaces, used with RG-6/U cable
- Weight: 30 g

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