TAIDEN®

Digital IR Wireless Classroom Audio System

The World's First Digital IR Wireless Classroom Audio System

System Overview

TAIDEN, the global top-ranking manufacturer of conference systems, as early as in 2001, invented the world's first infrared simultaneous interpretation system that is undisturbed by HF-driven lighting, then developed the digital infrared processing chip and invented the digital infrared wireless conference system in 2008.

Now TAIDEN is applying this worldwide pioneering digital infrared technology to the field of multimedia teaching, introducing the world's first digital infrared wireless classroom audio system. This system provides an ideal audio solution for teaching environment owing to its various advanced features such as high anti-interference, reliable privacy assurance, convenient for managing and excellent audio clarity.
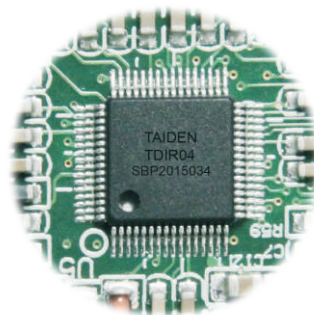
TAIDEN TDIR04
Digital Infrared Processing Chip

Excellent Audio Clarity

- Crystal-clear audio everywhere within an operating range
  of 20 meters
    - Frequency Response: 50 Hz ~ 20 kHz
    - THD: $<$0.06%
    - SNR: $>$85 dBA
- Better audio acoustics protects lecturers from hoarse voice
- Clearer audio facilitates learning efficiency by helping
  students stay focused

Immunity to Interferences

- No crosstalk and interference between classrooms even when their systems are used at the same time
- Free from radio interferences and electromagnetic radiation
- Insusceptible to interferences from HF-driven lighting and works perfectly in sunlight
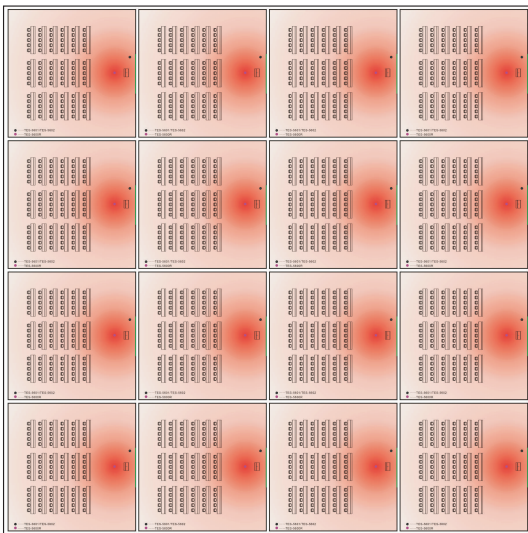
Zero interferences
between classrooms using IR systems
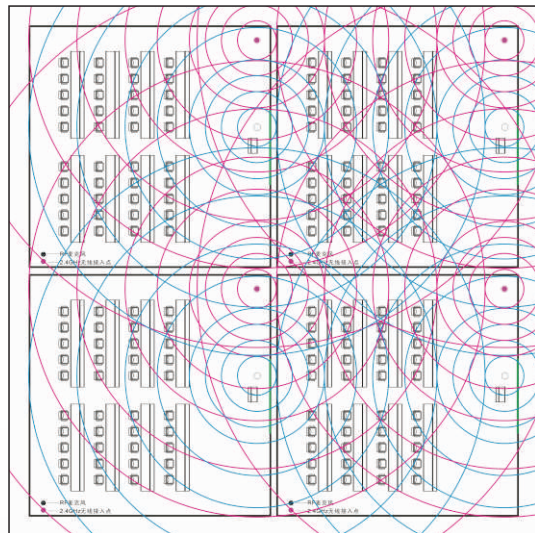
Interferences generated
between classrooms using RF systems

Convenient Operation & Management

- Digital infrared microphones can be used in different classrooms
  without channel matching. Simply switch on and talk
- Integrated charging dock to park the mic. when it is not in use
- Electronic lock built in the dock to secure the mic.
  Authorized users can scan QR code to talk

No Electromagnetic Radiation

- Zero radio transmission
- Unaffected by radio frequency licensing

TES-5603 Digital Infrared Wireless Microphone (pendant type)

Remote control source indicator:
OWN：PPT mode／Own microphone volume indicator
OTR：Other microphone volume indicator
LINE：MIC./LINE IN volume incicator

Built-in microphone

Positioning pin

Hanging piece slot

Electronic lock: working on combo
units of TES-5640 series

Remote control
source selector

Function switch

Power indicator

IR transmission glass

Stem microphone

Power/Mute button

USB interface

Remote volume button／
PPT-page switch

TES-5603 (B)

Auxiliary audio input   Charging port   TES-5603A

Features

- World pioneering digital infrared wireless classroom audio system
- Original dirATC—digital infrared audio transmission and control technologies
- Insusceptible to interferences from HF-driven lighting and works perfectly in sunlight
- Remote volume control of different signals (OWN/OTR/LINE IN) with LED source indicator
- Independent volume adjustment and muting of the current audio source without impact on others
- Superior extendability, supporting audio input (Ø 3.5 mm AUDIO IN) from devices such as MP3 and mobile phone
- Remote control of PPT slides using with TES-5600MAU/P or TES-5600MBU/P main unit
- Supports audio input from external microphones like headworn microphone
- Free selection from different frequency bands
- Emission angle: vertical: 0°-90°, horizontal: 120°
- IR transmitter shuts off automatically when there is no audio input for a pre-defined period of time

- Excellent audio quality owing to digital infrared audio processing and transmitting technologies
  - Frequency response: 50 Hz - 20 kHz
  - SNR: >85 dBA
  - THD: < 0.06%
- Sleek and light-weight design, fatigue-free even for long-time wearing
- Charge with USB charger or charging station
- Supports rechargeable Lithium battery and AA alkaline cell, when microphone is continuously on, the operationduration time is 5 hours (TES-5603), 10 hours (TES-5603A/B)
- Automatic recognition of battery type and low battery alarm
- Power adapter: DC 5 V, 2 A
- Dimensions: 102 × 52 × 33 mm (TES-5603(B)),
              163 × 52 × 33 mm (TES-5603A)
- Weight: 60 g (excl. battery)
          38 g (lithium battery TES-5600BAT)
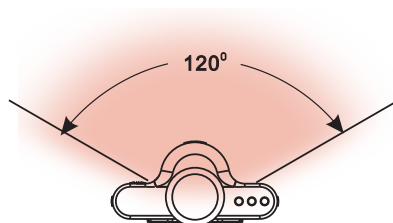   21 g (lithium battery TES-5603BAT)

IR radiation range:
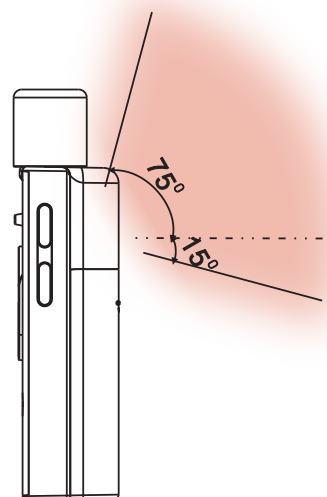Line-of-sight distance: 25 m
Effective distance: 12 m

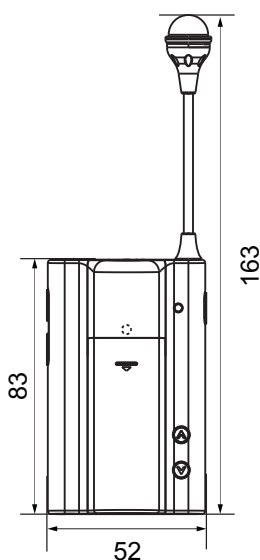**Emission angle:**
Vertical: 90°
Horizontal: 120°

120°

Horizontal

75°

15°

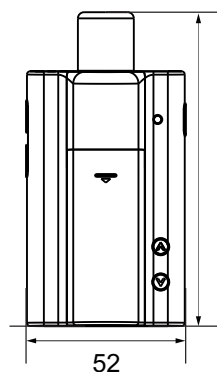Vertical

Dimensions:

163

83

26

52

TES-5603A

102.2
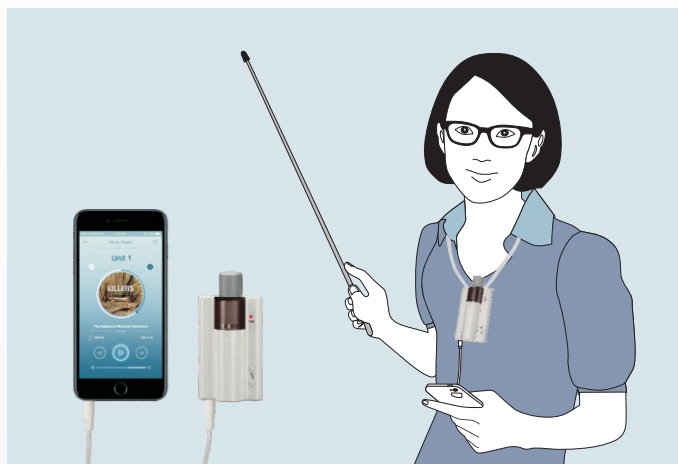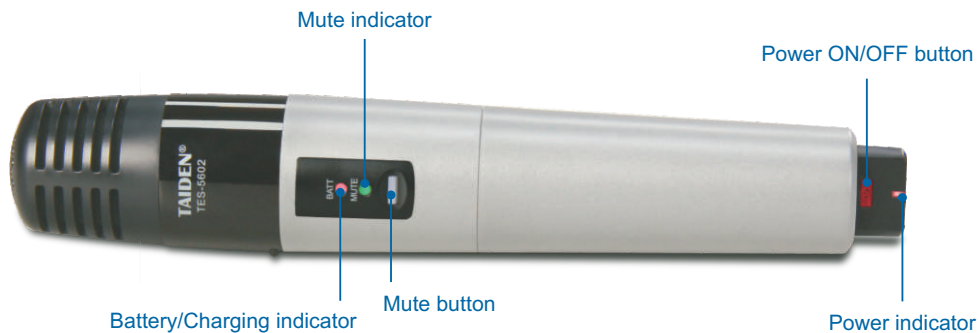
52
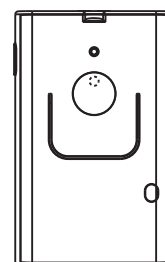
TES-5603 (B)

TES-5600CS Charging Station

Microphones are equipped with Ø 3.5 mm auxiliary audio input for devices like MP3 and mobile phone, which enables flexible and high quality audio extension.

TES-5602A Digital Infrared Wireless Microphone (handheld type)

Mute indicator

Power ON/OFF button

Battery/Charging indicator

Mute button

Power indicator

Features

- World pioneering digital infrared wireless classroom audio system
- Original dirATC—digital infrared audio transmission and control technologies
- Insusceptible to interferences from HF-driven lighting and works perfectly in sunlight
- Superior extendability, supporting audio input (Ø 3.5 mm AUDIO IN) from devices such as MP3 and mobile phones
- Free sensitivity setting and selection from different frequency bands
- Mute function
- Easy setting and operation on such a sleek microphone
- Excellent audio quality owing to digital infrared audio processing and transmitting technologies
- Frequency response: 50 Hz - 20 kHz
- SNR: > 85 dBA
- THD: < 0.06%
- Emission angle: vertical: 0°-90°, horizontal: 360°
- Continuous operation duration: 6 hours (rechargeable lithium battery provided)
- Low battery alarm, charge with USB charger or charging station
- Power adapter: DC 5 V , 2A (compatible with mobile phone charger)
- Dimensions: 225 $\times$ Ø 40 mm
- Weight: 146 g (excl. battery)
          182 g (incl. Lithium battery)

Gravity Sensing :

- Gravity sensor is equipped to detect the spatial location of the handheld microphone, enabling intellectual control of infrared emission angle. This ensures efficient coverage and prolongs the battery runtime
- When the handheld microphone is detected being placed horizontally (no Audio In input) for a preset period of time, it will shut down automatically

Voice control

- When there is voice input or no voice input for a preset period of time, infrared emitter turns on/off automatically
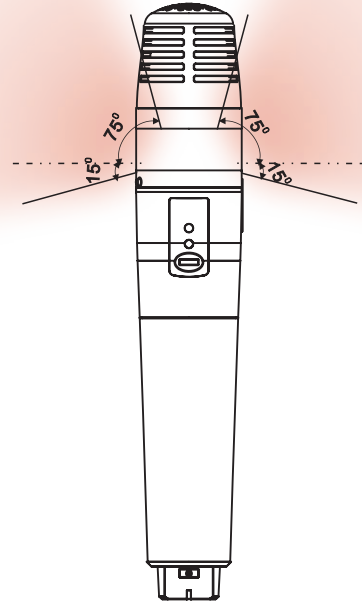
$$x = \frac{-b \pm \sqrt{-4ac}}{}$$

IR radiation range:
Line-of-sight distance: 25 m
Effective distance: 12 m

Emission angle:
Vertical: 90°
Horizontal: 360°

$75°$ $75°$

$15°$ $15°$

Horizontal

Vertical

40 mm

225 mm
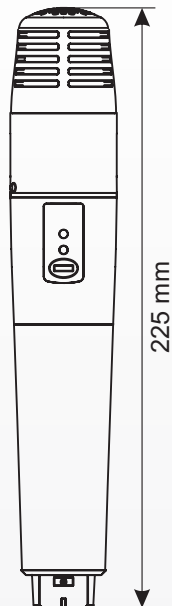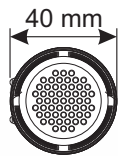
Ø 3.5 mm auxiliary audio input for devices like MP3 and mobile phone, enabling flexible and high quality audio extension

TES-5600ZJ1
Microphone Stand

TES-5600M/P Digital Infrared Wireless System Main Unit

Features

- World pioneering digital infrared wireless classroom audio system
- Original dirATC-digital infrared audio transmitting and control technologies
- 4 ports for digital infrared receivers
- 2 audio LINE OUT, 2 audio LINE IN (LINE IN 1 can offer phantom power when being used for microphone input)
- Connection to central control system through Rs232 interface for centralized control
- Excellent audio quality owing to digital infrared audio processing and transmission technologies:
  - ◆ Frequency response: 50 Hz ~ 20 kHz
  - ◆ SNR: >85 dBA
  - ◆ THD: <0.06%
- Built-in amplifier, 4 speaker ports (TES-5600MA)
  - ◆ Max. output power: 30 W × 2 (8 Ohm)
    Virtual output power: 23 W × 2 (8 Ohm)
  - ◆ Signal-to-Noise: >85 dBA
  - ◆ THD: <0.1%
- Power adapter: (24 V DC, 2.7 A, for TES-5600MA)
  (15 V DC, 2.4 A, for TES-5600MB)
- Dimensions: 211 × 236 × 55 mm (1U high & half rack width)
- Weight: 1.3 kg

HCS-5600MAU/02P

TES-5600M Digital Infrared Wireless System Main Unit
(1U rack for two main units abreast)

Type	Built-in amplifier, support 4 speakers	Microphone number	Digital audio input/output	Phantom power
TES-5600MAU/02P	●	2	●	●
TES-5600MBU/02P		2	●	●
TES-5600MA/02P	●	2		●
TES-5600MB/02P		2		●

USB Link Function

With connection to a computer with USB cable:

- Digital audio input/output:
  Lossless audio recording and steaming audio transmission from a computer
- Remote control of PPT slides via TES-5603 series microphone
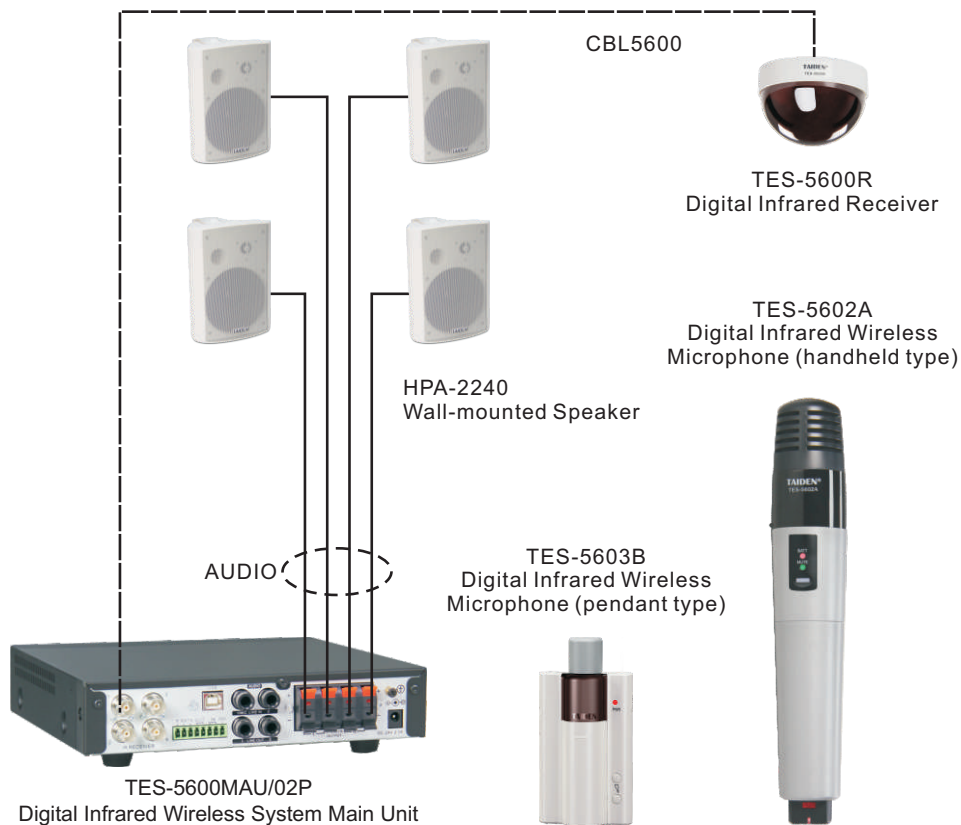
To computer

Multiple Emergency Alarms

- Alarm can be triggered by either the emergency switch on the main unit, central system or by the pendant microphone to meet different needs of the customers
- After the alarm is activated, emergency signal can be transmitted to central system. The signal can also control the electrical level to connect relay or alarm devices of a third party, which is highly flexible
- The lecturer can trigger the alarm from the pendant microphone unnoticedly to send the emergency signal to campus security center

Automatic alarm
in emergency

TES-5600 Digital Infrared Wireless Classroom Audio System Connection Diagram

CBL5600

TES-5600R
Digital Infrared Receiver

TES-5602A
Digital Infrared Wireless
Microphone (handheld type)

HPA-2240
Wall-mounted Speaker

AUDIO

TES-5603B
Digital Infrared Wireless
Microphone (pendant type)

TES-5600MAU/02P
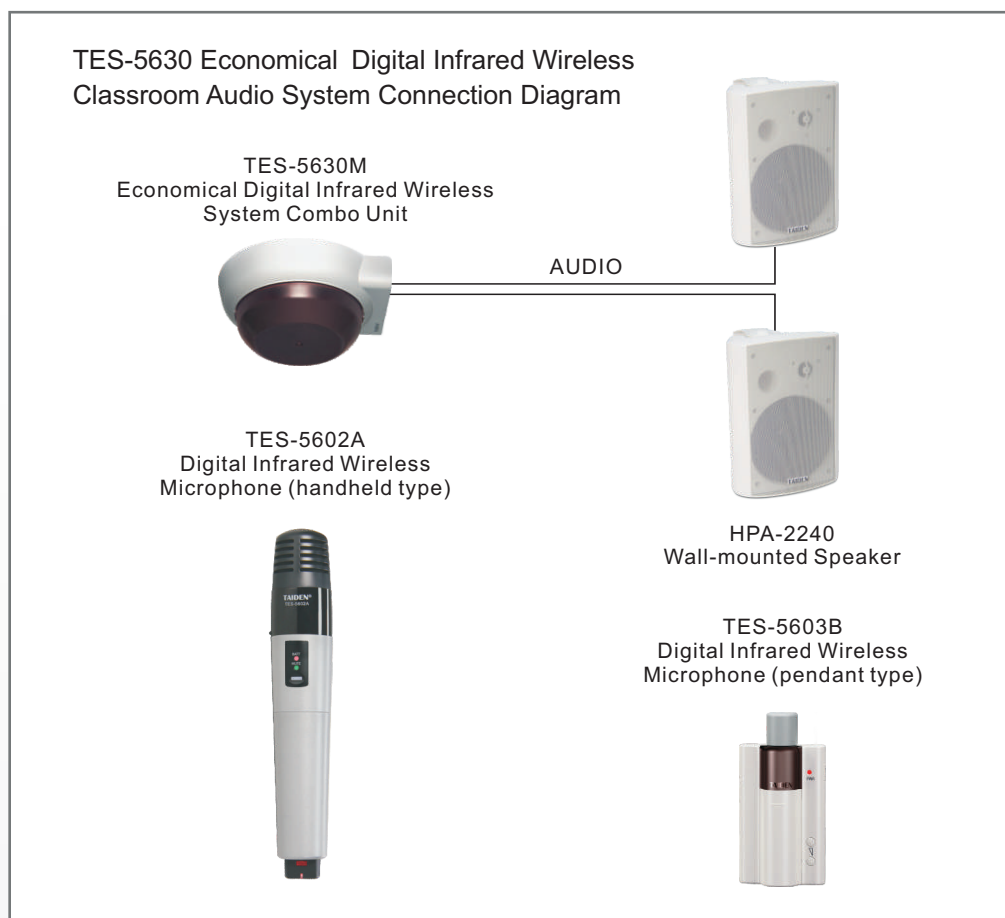Digital Infrared Wireless System Main Unit

TES-5630M
Enconomical Digital Infrared Wireless System Combo Unit

Features

- World pioneering digital infrared wireless classroom audio system
- Based on TAIDEN original dirATC-digital infrared Audio Transmitting and Control technologies
- Blend of digital infrared wireless system main unit and digital infrared wireless receiver
- Digital infrared audio processing and transmitting technologies enable excellent audio quality
  - Frequency response: 50 Hz ~ 20 kHz
  - SNR: $>$85 dBA
  - THD: $<$0.06%
- Built−in amplifier, supports 2 speakers
  - Max. output power: 30 W $\times$ 2 (8 Ohm)
    Virtual output power: 23 W $\times$ 2 (8 Ohm)
- Supports 2 wireless microphones
- Dimensions: 150 $\times$ 146 $\times$ 66 mm
- Weight: 0.6 kg

TES-5630 Economical Digital Infrared Wireless
Classroom Audio System Connection Diagram

TES-5630M
Economical Digital Infrared Wireless
System Combo Unit

AUDIO

TES-5602A
Digital Infrared Wireless
Microphone (handheld type)

HPA-2240
Wall-mounted Speaker

TES-5603B
Digital Infrared Wireless
Microphone (pendant type)

TES-5600R Series Digital Infrared Receiver

Features

- Excellent immunity to RF interferences from HF-driven lighting and works perfectly in sunlight
- Reception angle: vertical: 150° (±75°), horizontal: 360°
- Dimensions: 57 × Ø 84 mm (TES-5600R)
    52 × Ø 116 mm (TES-5600RN)
- Weight: 110 g (TES-5600R)
    220 g (TES-5600RN)

TES-5600R

TES-5600RN

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Accessories

TES-ADP5V Power Adapter
- Power Supply: 100 V - 240 V, 50 Hz / 60 Hz
- Output: 5 V DC, 2.0 A
- Approvals: UL, CE, VDE
- Cable: 1 m
- Dimensions (w×d×h, mm): 43 × 39 × 27
- Weight: 50 g
- Color: white

TES-5600CS Charging Station
- Input Power: 5 V DC, 2.0 A
- Charges one TES-5602A and one TES-5603 series at one time
- Dimensions (w×d×h, mm): 106 × 112 × 82
- Weight: 0.3 kg
- Color: charcoal gray

TES-5600CHG Charging Station
- Input Power: 5 V DC, 2.0 A
- Charges two TES-5600BAT at one time
- LED Indicators: power and battery charge
- Dimensions (w×d×h, mm): 73 × 47 × 27
- Weight: 35 g
- Color: white

TES-5603BAT Rechargeable Lithium Battery
- Nominal Voltage: 3.7 V
- Nominal Capacity: 700 mAh
- For TES-5603 wireless microphone
- Dimensions (mm): Ø15 × 51
- Weight: 21 g
- Color: blue

TES-5600BAT Rechargeable Lithium Battery
- Nominal Voltage: 3.7 V
- Nominal Capacity: 1600 mAh
- For TES-5602 series and TES-5603A/B wireless microphones
- Dimensions (mm): Ø18 × 55
- Weight: 38 g
- Color: blue

TES-ADP24V Power Adapter
- Power Supply: 100 V - 240 V, 50 Hz / 60 Hz
- Output: 24 V DC, 2.7 A
- Approvals: UL, CE, VDE
- Cable: 3 m
- Dimensions (w×d×h, mm): 115 × 50 × 32
- Weight: 0.4 kg
- Color: black

TES-5602CHG/09 Charging Station
- For TES-5602A wireless microphone
- Charges 9 TES-5602A wireless microphones at one time
- Input Power: 5V DC, 6 A
- Dimensions (w×d×h, mm): 233 × 175 × 60

TES-5603CHG/09 Charging Station
- For TES-5603 series wireless microphone
- Charges 9 TES-5603 series wireless microphones at one time
- Input Power: 5V DC, 6 A
- Dimensions (w×d×h, mm): 233 × 175 × 47

TES-ADP5V6A Power Adapter
- Power Supply: 100 V - 240 V, 50 Hz / 60 Hz
- Output: 5 V DC, 6 A
- Approvals: UL, CE, VDE
- Cable: 2.8 m
- Dimensions (w×d×h, mm): 121 × 52 × 33
- Weight: 0.4 kg
- Color: black

HPA-2220 Wall Mounted Speaker
- Frequency Response: 85 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 20 W
- Sensitivity: 89 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (w×d×h, mm): 170 × 150 × 215
- Weight: 2.1 kg

HPA-2230 Wall Mounted Speaker
- Frequency Response: 75 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 30 W
- Sensitivity: 89 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (w×d×h, mm): 182 × 162 × 242
- Weight: 2.4 kg

HPA-2240 Wall Mounted Speaker
- Frequency Response: 65 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Constant Input Voltage: 70-100 V (HPA-2240A)
- Nominal Output: 40 W
- Sensitivity: 90 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (w×d×h, mm): 215 × 190 × 290
- Weight: 3.4 kg

HPA-2280 Wall Mounted Speaker
- Frequency Response: 60 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 80 W
- Sensitivity: 90 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (w×d×h, mm): 215 × 210 × 345
- Weight: 4.9 kg

HPA-22100 Wall Mounted Speaker
- Frequency Response: 40 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 100 W
- Sensitivity: 90 dB
- Installation: vertically or horizontally wall-mounted
- Dimensions (w×d×h, mm): 280 × 270 × 455
- Weight: 7.7 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 (w×d×h, mm): 290×123×215
- Weight: 2.8 kg

HPA-2140 Ceiling Speaker
- Frequency Response: 75 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 40 W
- Sensitivity: 90 dB
- Installation: ceiling-mounted
- Hole size: Ø198 ~ 208 (mm)
- Dimensions: Ø230 ~ 128 (mm)
- Weight: 1.7 kg

HPA-2160 Ceiling Speaker
- Frequency Response: 60 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 60 W
- Sensitivity: 89 dB
- Installation: ceiling-mounted
- Hole size: Ø222 (mm)
- Dimensions: Ø252 ~ 215 (mm)
- Weight: 5 kg

HPA-21240 Ceiling Speaker
- Frequency Response: 45 Hz - 20 kHz
- Constant Input Impedance: 8 Ω
- Nominal Output: 240 W
- Sensitivity: 92 dB
- Installation: ceiling-mounted
- Hole size: Ø330 (mm)
- Dimensions: Ø360 ~ 330 (mm)
- Weight: 7.5 kg

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