



INFRARED WIRELESS CLASSROOM SYSTEM



Enrich your students' learning experience with clear and audible classroom communication.

TOA's educational classroom system brings class clear, interference-free voice transmission through

TOA innovative all-in-one solution

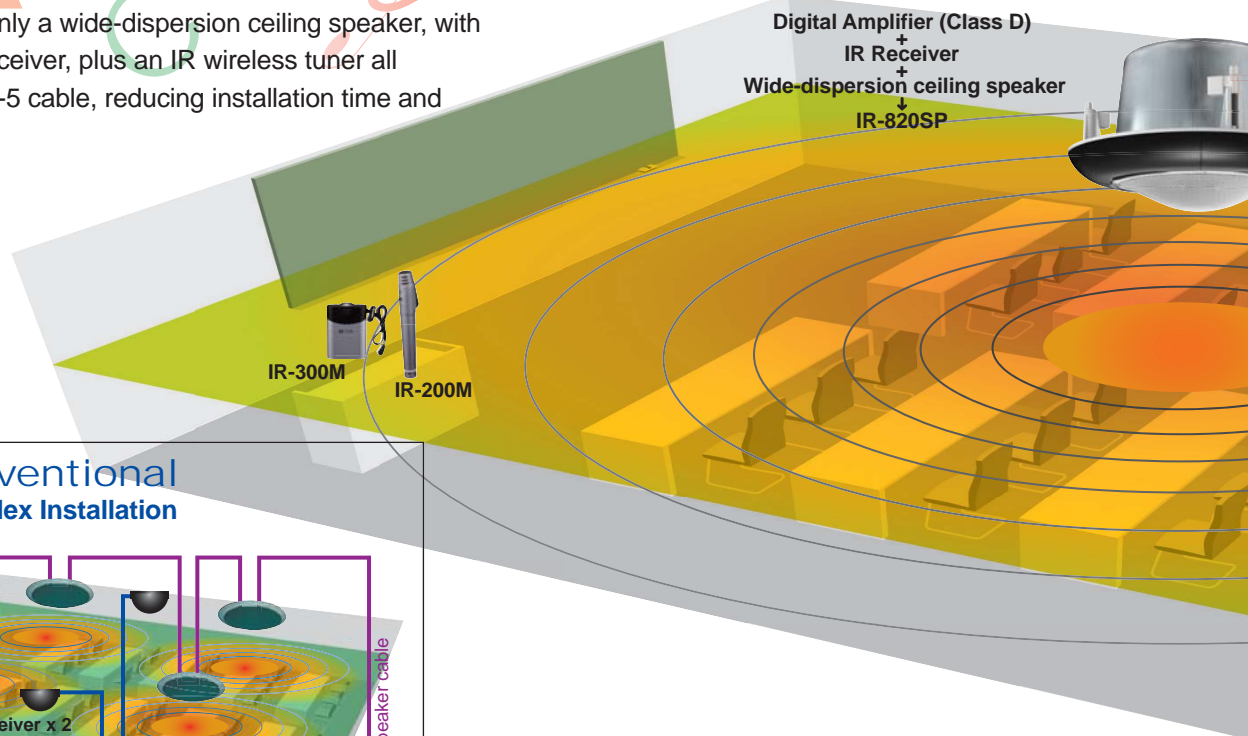
- Uniform classroom-wide sound quality with single wide-dispersion speaker
- Minimized system components (tuner, 2 microphones and integrated speaker)
- Quick, easy installation requiring just one CAT-5 cable.
- TOA lightweight, low-fatigue infrared wireless microphones



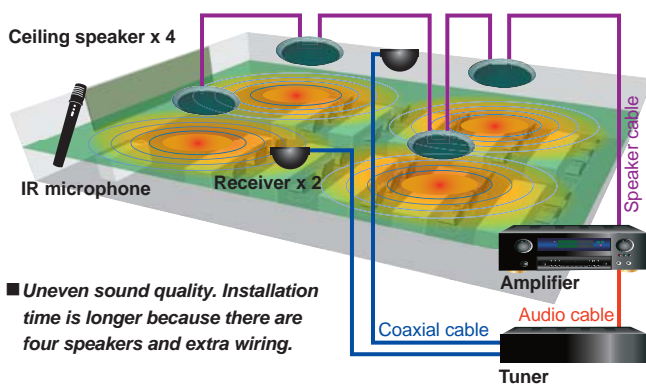
Assembled specifically for classroom use, TOA's new Infrared Wireless Classroom System includes a ceiling-mounted wide-dispersion speaker (with integrated receiver and amplifier), an easily accessed desktop tuner and a pair of lightweight IR wireless microphones, one each for the teacher and students.

This system requires only a wide-dispersion ceiling speaker, with built in amplifier and receiver, plus an IR wireless tuner all connected by one CAT-5 cable, reducing installation time and cost.

TOA IR Classroom System Simple and easy



Conventional Complex Installation



■ Uneven sound quality. Installation time is longer because there are four speakers and extra wiring.

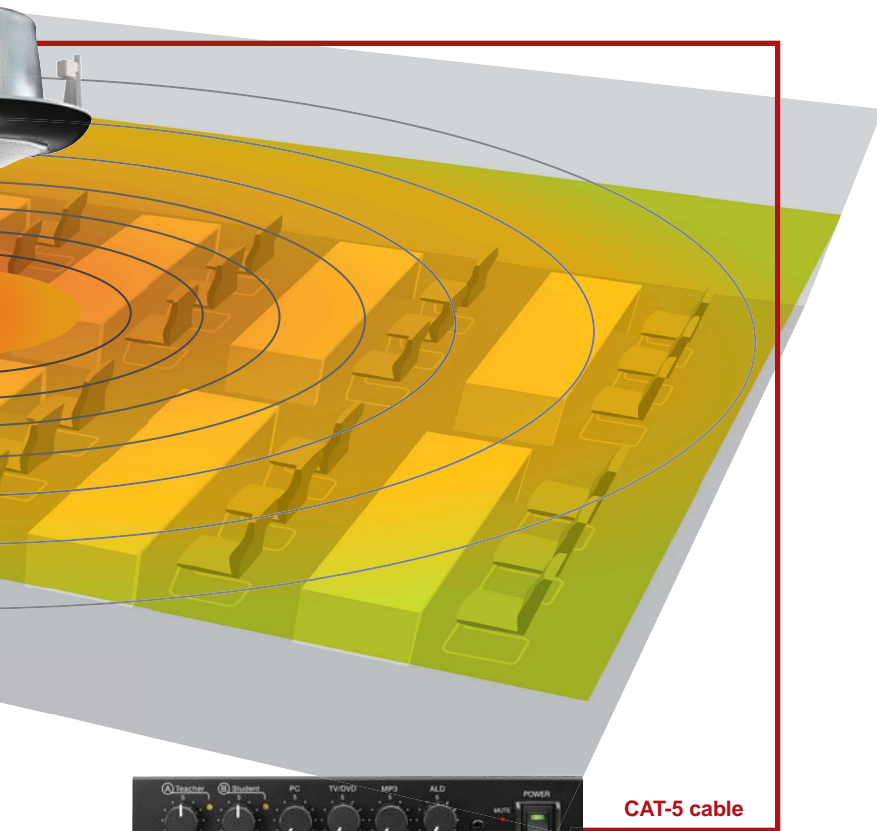
■ Uniform sound quality throughout the classroom through one speaker. Quick and easy installation using one CAT-5 cable.

rooms to life by providing
gh wireless technology.

— simple and easy



The wide-dispersion speaker provides impressive 30ft x 30ft coverage, transmitting teachers' and students' normal speaking voices throughout the room, with equal clarity provided by TOA's renowned superior sound quality. The result: easy interactive communication that stimulates the students and improves their understanding of the spoken word.



IR-802T (Built-in Preamp)

CAT-5 cable

IR-820SP Infrared Wireless Speaker



- Built-in infrared receiver and 20W digital amplifier
- Unique wide-dispersion acoustic structure employing innovative TOA technology to achieve uniform output over a wide radius
- Bass-reflex speaker system achieving a wide frequency range and high power-handling capability

- Easy installation with quick, optimally positioned ceiling mounting

IR-802T Infrared Wireless Tuner



- 3 AUX inputs for PC, TV/DVD player and MP3 audio player
- Output muting by 25V speaker line signal from emergency/intercom paging
- Equalizer control knobs for low-, mid- and high-frequency outputs
- Mixing output terminal for ALD (Assistive Listening Device)
- Frequency response optimized to reduce acoustic feedback in 30 ft x 30 ft classrooms

IR-300M (for Teacher)

Infrared Wireless Microphone



- Easy-to-wear, neck-suspension design permitting immediate use
- 2-level adjustable infrared light emission intensity
- Lightweight body can be worn for long periods of time without causing fatigue (0.29 lb with 2 alkaline batteries).
- Usable as transmitter for external microphone
- Antibacterial treatment



Optional External Microphones



IR-200M (for Student)

Infrared Wireless Microphone



- Designed for stable voice transmission, with 2 infrared emitters positioned on the body to avoid accidental interference by a hand holding the microphone
- 2-level adjustable infrared light emission intensity
- Lightweight body keeps hands from tiring, even during long hours of use (0.37 lb with 2 alkaline batteries).
- Antibacterial treatment

IR-200BC Battery Charger



IR-200BT-2 Ni-MH Batteries



- Ni-MH AA rechargeable batteries for dedicated use with IR-200M/300M.

- Rapid-charging function permitting simultaneous charging of 2 infrared microphones within 3 hours (max.)

SPECIFICATIONS

IR-820SP Infrared Wireless Speaker	
Power Source	24 V DC (supplied from IR-802T)
Power Consumption	4.4 W (based on UL standard)
Rated Output	20 W
Frequency Response	100 Hz – 20 kHz (-10 dB) at installation in 1/2 free sound field (Measured by installing the unit in the center of a ceiling.)
Amplification System	Class D
Distortion	5% or less (rated output, A-weighted)
Speaker Component	12 cm (4.72") cone-type
UL Code	UL2043 (with ring installed)
Infrared Wireless Receiver	
Wavelength	870 nm
Carrier Frequency	Teacher (Channel A) : 3.100 MHz Student (Channel B) : 3.350 MHz
Reception Angle	360° (Horizontal)
Connection Terminal	RJ-45
LED Indicator	Power (green) × 1
Mounting Hole	ø11.81"
Connection Cable	CAT-5 UTP
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Operating Humidity	90% RH or less (no condensation)
Finish	Enclosure : Steel plate, plating Baffle : Fire-resistant ABS resin (resin material grade: UL94V-0), white Punched net : Steel plate, white Filter section : Polycarbonate, optical cut filter
Dimensions	ø12.6" × 8.07" (D)
Weight	7.5 lb
Accessories	Safety wire × 1, Ceiling reinforcement ring × 1, Paper pattern × 1
Option	Tile bar bridge: HY-TB1

*0 dB = 1V

IR-802T Infrared Wireless Tuner	
Power Source	120 V AC, 50/60 Hz (supplied AC adapter must be used)
Power Consumption	8 W (based on UL standards) Max. 40.8 W (rated output of IR-820SP)
Receiving Frequency	Teacher (Channel A): 3.100 MHz Student (Channel B): 3.350 MHz
Receiver Sensitivity	50 dB or more, Signal-to-noise ratio (40 dB _μ V input, 1 kHz modulation, ±4.8 kHz deviation)
S/N Ratio	Tuner: 60 dB or more (60 dB _μ V input, 1 kHz modulation, ±4.8 kHz deviation, A-weighted, Equalization: Centered) AUX: 75 dB or more (A-weighted, Equalization: Centered)
Tone Squelch Frequency	32.768 kHz
Input	AUX PC: line, -10 dB*, 10 kΩ, unbalanced, stereo mini jack (internal mixing) AUX DVD/TV: line, -10 dB*, 10 kΩ, unbalanced, 2P RCA jack (internal mixing) AUX MP3: line, -10 dB*, 10 kΩ, unbalanced, stereo mini jack (internal mixing) Mute: 25 V line signals of telephone paging from a school intercom system
Output	ALD (Assistive Listening Device): line, -10 dB*, 10 kΩ, unbalanced, monaural mini jack Speaker: RJ45 (dedicated terminal for IR-820SP connection)
Equalization	High: ±10 dB at 10 kHz; Mid: ±10 dB at 1.3 kHz; Low: ±10 dB at 100 Hz
Mute Function	Muted by 25 V line signals
LED Indicator	Power (green) × 1, Infrared reception (yellow) × 2, Mute (red) × 1
Operating Temperature	-10°C to 50°C (14°F to 122°F)
Operating Humidity	90%RH or less (no condensation)
Finish	Panel: Aluminium, black/Case: Steel plate, black
Dimensions	8.27" (W) × 1.81" (H) × 12.28" (D)
Weight	3.97 lb
Accessories	AC adapter (DC cord length:5.91 ft) × 1, AC power cord (6.56 ft) × 1 Volume control cover × 6, Removable terminal plug (2 pins) × 1
Option	Half-width blank panel: MB-15B-BK

*0 dB = 1V

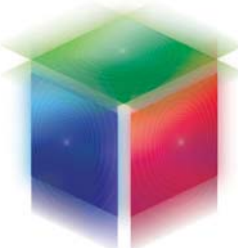
IR-200M Infrared Wireless Microphone		IR-300M Infrared Wireless Microphone	
Batteries	IR-200BT-2 rechargeable batteries for the infrared wireless microphone (option) or AA alkaline dry cell batteries (2 pieces)		
Current Consumption	typ.250 mA (2.4 V, Power selector switch: N); typ.340 mA (2.4 V, Power selector switch: H)		
Infrared Emitter	870 nm (AM: Brightness modulation)		
Wavelength	Frequency modulation		
Modulation Method	Channel A: 3.100 MHz/Channel B: 3.350 MHz		
Carrier Frequency	Approx. 65 ft (Power selector switch: H; In an unobstructed space); Approx. 50 ft (Power selector switch: N; In an unobstructed space)		
Transmission Distance	32.768 kHz		
Tone Signal	±4.8 kHz (1 kHz, when SPL of 84 dB is input)		
Modulation Sensitivity	120 dB SPL		
Maximum Input Sound Pressure	—		
Input Sensitivity Adjustment	Adjustment range: -9 dB to 0dB (factory-preset: 0 dB)		
Microphone Unit	Unidirectional electret condenser microphone		
Frequency Response	100 Hz – 12 kHz		
Pre-emphasis	300 μs		
Input	—		
Battery Operation Time	External microphone input (ø3.5 monaural mini jack)		
Operating Temperature	Approx. 8 hours (when IR-200BT-2 rechargeable batteries for the infrared wireless microphone are used; Power selector switch: N) Approx. 6 hours (when alkaline batteries are used; Power selector switch: N)		
Operating Humidity	0°C to 40°C (32°F to 104°F)		
Finish	30% to 85% RH		
Dimensions	Control Section: ABS resin, metallic gray, 50% gloss, paint/Filter Section: Polycarbonate, optical cut filter		
Weight	ø1.46" × 9.52"		
Accessories	0.37 lb (with batteries)		
	2.52" (W) × 3.59" (H) × 1.07" (D)		
	0.29 lb (with batteries and strap)		
	Screw driver (for setting) × 1, Color label (6 colors) × 1		

IR-800KIT IR Classroom System Kit (Each kit includes one of each item)	
IR-820SP	Infrared Wireless Speaker
IR-802T	Infrared Wireless Tuner
IR-300M	Infrared Wireless Microphone (Hands-free)
IR-200BC	Battery Charger
IR-200BT-2	Ni-MH Battery (1 pair)
HY-TB1	Support rails for ceiling speaker (1 pair)
WB-802	Wall-mount bracket for tuner
CAT-5E	50ft. Category 5 Ethernet Cable
CSTEREO-03	3ft. 3.5mm Stereo Cable
ACG36	3ft. RCA Stereo Cable
IR-800KIT2 IR Classroom System Kit (Each kit2 includes all items above plus:	
IR-200M	Infrared Wireless Microphone (Handheld)
IR-200BT-2	Ni-MH Battery (1 pair)

IR-200BC Battery Charger	
Power Source	AC mains 50/60 Hz (supplied by the accessory AC adapter)
Current Consumption	Max. 2 A
Charging Time	Max. 3 hours
Number of Wireless Microphones Charged Simultaneously	2 pieces*
Operating Temperature	0°C to 40°C (32°F to 104°F)
Operating Humidity	30% to 85% RH
Finish	Case: ABS resin, metallic gray, 50% gloss, paint, Microphone receptacle section : PPE resin, black
Dimensions	9.37" (W) × 4.31" (H) × 3.86" (D)
Weight	1.41 lb (unit only, including mounting adapter)
Accessories	AC adaptor (DC cord length: 5.91 ft) × 1, Power cord (6.56 ft) × 1 Mounting adapter (preinstalled) × 2

* Use of the mounting adapter allows one IR-200M and one IR-300M to be charged in combination.

Ask about TOA's Wall Mount IR Classroom System, available upon request. Contact TOA for details.



**Human Society with
Sound & Communication**

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