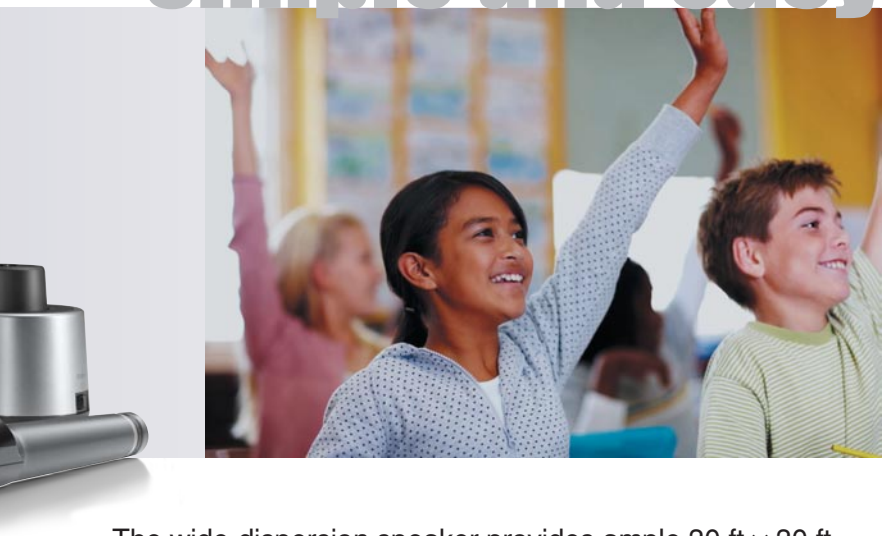
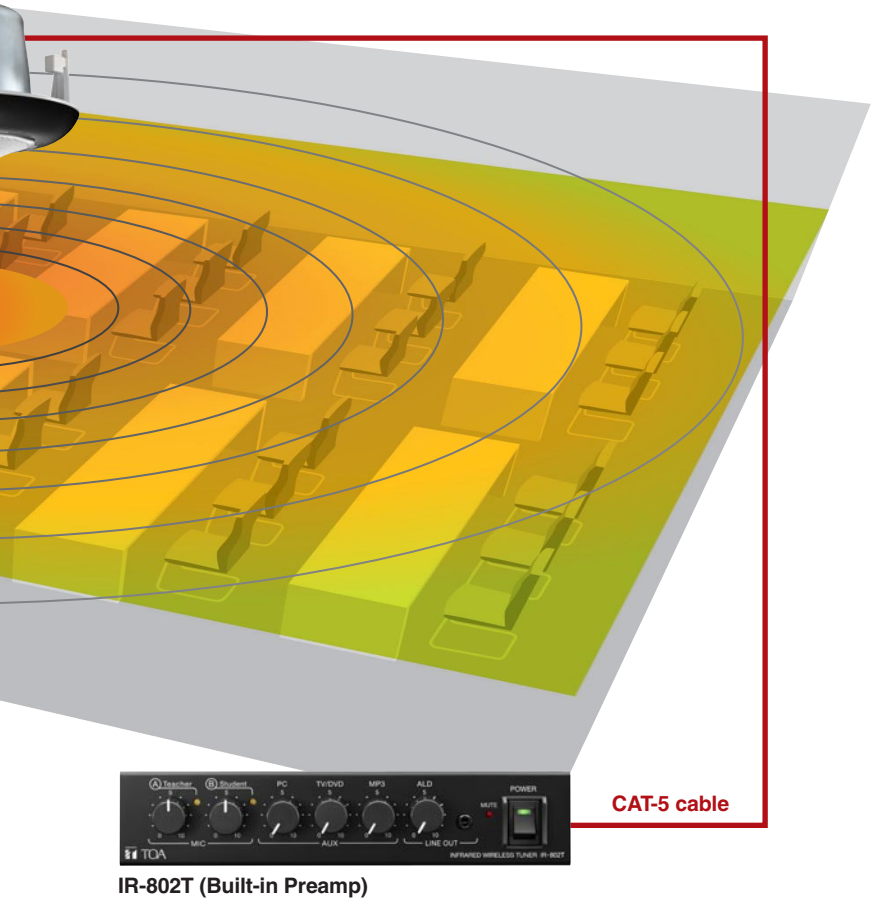
less convenience and clear, brings classrooms to life.

—simple and easy



The wide-dispersion speaker provides ample 30 ft × 30 ft coverage, transmitting teachers' and students' normal speaking voices to everyone in the room, from front to back, with equal clarity and TOA's renowned superior sound quality. The resulting easy interactive communication stimulates students and improves their understanding of the course content.



IR-802T (Built-in Preamp)

IR-820SP
Infrared Wireless Speaker

- Built-in infrared receiver and 20 W 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

YP-M101
Tie-clip Microphone

YP-M301
Headset Microphone

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

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

IR-200BT-2
Ni-MH Batteries

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

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
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	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 dBμV input, 1 kHz modulation, ±4.8 kHz deviation)
S/N Ratio	Tuner: 60 dB or more (60 dBμV 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	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) x 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		
Wavelength	870 nm (AM: Brightness modulation)	
Modulation Method	Frequency modulation	
Carrier Frequency	Channel A: 3.100 MHz/Channel B: 3.350 MHz	
Transmission Distance	Approx. 65 ft (Power selector switch: H; In an unobstructed space)/Approx. 50 ft (Power selector switch: N; In an unobstructed space)	
Tone Signal	32.768 kHz	
Modulation Sensitivity	±4.8 kHz (1 kHz, when SPL of 84 dB is input)	
Maximum Input Sound Pressure	120 dB SPL	
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	
Preemphasis	300 μs	
Input	—	External microphone input (ø3.5 monaural mini jack)
Battery Operation Time	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 Temperature	32°F to 104°F	
Operating Humidity	30% to 85% RH	
Finish	Control Section: ABS resin, metallic gray, 50% gloss, paint/Filter Section: Polycarbonate, optical cut filter	
Dimensions	ø1.46" × 9.52"	2.52" (W) × 3.59" (H) × 1.07" (D)
Weight	0.37 lb (with batteries)	0.29 lb (with batteries and strap)
Accessories	Screw driver (for setting) × 1, Color label (6 colors) × 1	

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	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.

Human Society with Sound & Communication

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Specifications are subject to change without notice.
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