



INFRARED WIRELESS MICROPHONE SYSTEM



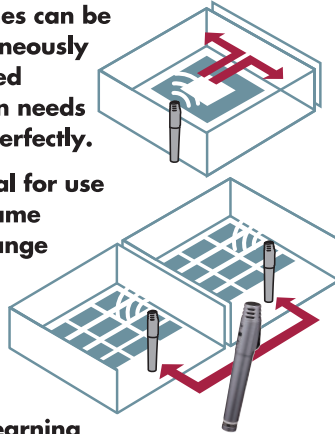
***Introducing an infrared wireless microphone system
that meets the need for secure and
interference-free communication***

Offering secure and interference-free communication

TOA's latest Infrared Wireless Microphone System incorporates a range of conference and communication enhancing features that will appeal to users who want confidentiality as well as interference-free communication. Because the microphones use infrared signals, sensitive matters being discussed in a meeting room won't leave the room, and the wireless microphones can be used in several adjacent classrooms simultaneously without interference. In this way, this infrared microphone system can meet communication needs in educational and business environments perfectly.

The TOA Wireless Microphone System is ideal for use in schools. If the microphone is set for the same channel, there is no need for teachers to change to another one when moving to a different room. This IR system ensures that the teacher's voice reaches all the students in the classroom, and helps the students to better understand what's being taught. Consequently, a stress-free classroom and learning environment for both teachers and students is created.

The microphones are also an excellent solution for secure, efficient and smooth conducting of meetings, free from concern about confidentiality, or about being disturbed by interference from outside. They can even be used in a room where a TOA TS-800/900 Series Infrared Wireless Conference System is also in operation, offering an added convenience.



IR-200M Infrared Wireless Microphone (Hand-held)



- Designed for stable voice transmission, thanks to two infrared emitters carefully located on a microphone body shape that helps prevent the emitters from being accidentally covered by a hand when holding the microphone.
- Lightweight body keeps hands from tiring even during long hours of use (170 g with 2 alkaline batteries).
- Infrared light emission intensity is adjustable at 2 levels.
- Two selectable channel frequencies.
- Antibacterial treatment.
- Employs an electret condenser microphone unit.
- Low-battery indicator.

IR-200BC Battery Charger

- Capable of charging up to 2 microphones (both hand-held and hands-free types) at a time.
- With rapid charging feature, up to 2 infrared microphones can be simultaneously charged in 3 hours (maximum).
- Charge status indicator (charging, charge complete).



IR-300M Infrared Wireless Microphone (Hands-free)



- Easy-to-wear, neck-suspended design means unit can be ready for use quickly.
- Infrared light emission intensity adjustable at 2 levels.
- 2 selectable channel frequencies.
- Employs an electret condenser microphone unit.
- Can be used with a built-in microphone or external microphone.
- An external MIC input level adjustment function allows sensitivity adjustment if the connected external microphone has a different sensitivity.

IR-310M Infrared Wireless Microphone (Hands-free)



- Easy-to-wear neck suspended lanyard
- 2 selectable frequencies
- Electret condenser microphone, Uni-directional
- Adjustment range: 2 levels (high, low)
- External microphone input (ø3.5 monoaural mini jack, phantom powered)
- Power Switch, Channel selector switch, Microphone sensitivity selector switch, Function button

IR-310BC Battery Charger



- Dedicated battery charger for IR-310M IR-200BT-2 nickel metal hydride (Ni-MH) battery
- 3 hour charging time, 1 unit per charger
- Charging status LED x 2

Application in classrooms, conferences, banquets...



IR-702T Infrared Wireless Tuner

- Comes with a built-in 2-channel fixed-frequency tuner.
- Enables installation of up to 4 infrared light receivers per unit
- Equipped with signal reception light and knob for microphone volume control.
- Two line outputs, one with a MIX output switch allowing output of mixed voices from channels A and B.
- Rack-mountable with optional brackets (MB-WT3/MB-WT4)



IR-700D Infrared Wireless Distributor

- Equipped with 4 receiver mixing outputs and 2 distribution outputs.
- By using the IR-700D in conjunction with IR-702T and YW-1022/1024, the system with up to 16 infrared receivers can be configurable.
- Rack-mountable with optional brackets (MB-WT3/MB-WT4)



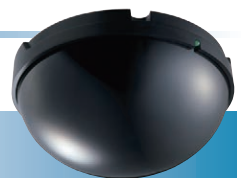
IR-500R Wall-Mount Receiver

- Supplied wall-mounting brackets facilitate installation.
- Can be installed in an electric circuit box.
- Equipped with power indicator LED.
- Reception area is up to approx. 15m line of sight.*
- Infrared light reception angle can be changed.



IR-510R Ceiling-Mount Receiver

- Supplied ceiling-mounting brackets facilitate installation.
- Equipped with power indicator LED.
- It covers a practical radius of approx. 8 m.*



IR-520R Wall-Mount Receiver

- Can be mounted on a wall and on a microphone stand. Supplied stand-mounting brackets facilitate installation.
- Equipped with power indicator LED.
- Reception area is up to approx. 15m line of sight.*



* In a space without any obstacle.

SPECIFICATIONS

| Model No. | IR-200M Infrared Wireless Microphone | IR-300M Infrared Wireless Microphone |
|-------------------------------------|--|---|
| Battery | IR-200BT-2 rechargeable battery for the infrared wireless microphone (2 pieces) or AA alkaline dry cell battery (2 pieces) | |
| Current Consumption | typ.250mA (2.4V, Power selector switch: N)/typ.340mA (2.4V, 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. 20 m (Power selector switch: H; In an unobstructed space.)/Approx. 15 m (Power selector switch: N; In an unobstructed space.) | |
| Tone Signal | 32.768kHz | |
| 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: -9dB to 0dB (factory-preset: 0dB) |
| Microphone Unit | Unidirectional electret condenser microphone | |
| Frequency Response | 100Hz – 12kHz | |
| Preemphasis | 300µs | |
| Input | — | External microphone input (ø3.5 monaural mini jack) |
| Battery Operation Time | Approx. 8 hours (when the IR-200BT-2 rechargeable battery for the infrared wireless microphone is used; Power selector switch: N) Approx. 6 hours (when the alkaline battery is used; Power selector switch: N) | |
| Operating Temperature | 0°C to +40°C | |
| Operating Humidity | 30% to 85% RH | |
| Finish | Control Section: ABS resin, metallic gray, 50% gloss, paint/Filter Section: Polycarbonate, optical cut filter | |
| Dimensions | ø37 × 241.8mm | 64 (W) × 91.3 (H) × 27.3 (D)mm |
| Weight | 170g (with batteries) | 130g (with batteries & strap) |
| Accessories | Screw driver (for setting) × 1, Color label (6 colors) × 1 | |

| Model No. | IR-500R Infrared Wireless Receiver | IR-510R Infrared Wireless Receiver | IR-520R Infrared Wireless Receiver |
|------------------------------|---|---|---|
| Power Source | 24V DC (supplied from the optional IR-702T) | | |
| Current Consumption | Max. 40mA | Max. 60mA | Max. 30mA |
| Infrared Detector | | | |
| Wavelength | 870nm | | |
| Carrier Frequency | Channel A: 3.100MHz/Channel B: 3.350MHz | | |
| Reception Area | Approx. 15m (in the space where no obstacles exist) | Practical radius of approx. 8 m in a space without any obstacle | Approx. 15m (in the space where no obstacles exist) |
| Reception Angle | Vertical: 80° (up to 30° movable downward) Horizontal: 80° (up to 30° movable left or right) | — | — |
| Connection Terminal | 75 Ω, BNC jack | | |
| Operating Temperature | 0°C to +40°C | | |
| Operating Humidity | 30% to 85% RH | | |
| Finish | Case: Polycarbonate resin, visible light cut filter Base: ABS resin, off-white | Case: Polycarbonate resin, visible light cut filter Base: ABS resin, black | Case: Polycarbonate resin, visible light cut filter |
| Dimensions | 70 (W) × 120 (H) × 72(D)mm | ø120 × 71.3 (H) mm | 84.5 (W) × 63.5 (H) × 32(D)mm |
| Weight | 220g (unit only) | 205g (unit only) | 100g (unit only) |

| IR-310M Infrared Wireless Microphone | |
|--------------------------------------|--|
| Batteries | One piece of IR-200BT-2 rechargeable battery for the infrared wireless microphone (option) |
| Current Consumption | typ.215 mA (1.2 V) |
| Infrared Emitter | |
| Wavelength | 870 nm (AM: Brightness modulation) |
| Carrier Frequency | Channel A: 3.100 MHz/Channel B: 3.350 MHz |
| Transmission Distance | 50 ft (In an unobstructed space) |
| Maximum SPL | 120 dB SPL |
| Microphone Unit | Unidirectional electret condenser microphone |
| Frequency Response | 100 Hz-12 kHz |
| Input | External microphone input (03.5 monaural mini jack, phantom powered) |
| Battery Operation Time | Approx. 8 hours (one piece of IR-200BT-2) |
| Operating Temperature | 0°C to +40 °C (32 °F to 104 °F) |
| Operating Humidity | 90 % RH or less (no condensation) |
| Finish | Control Section: ABS resin, white/Filter Section: Polycarbonate, optical cut filter |
| Dimensions (W) x (H) x (D) | 2.13" (W) x 4.29" (H) x 1.06" (D), 54.2 x 109 x 27 mm |
| Weight | 0.21 lbs (95 g) (with battery and strap) |
| Accessories | Neck strap x 1 |

| IR-310BC Battery Charger | |
|--|---|
| Power Source | AC mains 50/60 Hz (use of the supplied AC adapter) |
| Current Consumption | Max.: 2 A |
| Charging Time Max. | Max.: 3 hours |
| Number of Wireless Charged Simultaneously | 1 piece |
| Operating Temperature | 0°C to +40 °C (32 °F to 104 °F) |
| Operating Humidity | 90 % RH or less (no condensation) |
| Finish | Control section: PPE resin, white |
| Dimensions (W) x (H) x (D) | 2.99" X 2.97" X 2.36" (76 x 75.5 x 60 mm) |
| Weight | 0.23 lbs (105 g) 1 |
| Accessories | AC adapter x 1, Power cord x 1 |

| Model No. | IR-500R Infrared Wireless Receiver | IR-510R Infrared Wireless Receiver | IR-520R Infrared Wireless Receiver |
|------------------------------|---|---|---|
| Power Source | 24V DC (supplied from the optional IR-702T) | | |
| Current Consumption | Max. 40mA | Max. 60mA | Max. 30mA |
| Infrared Detector | 870nm | | |
| Wavelength | 870nm | | |
| Carrier Frequency | Channel A: 3.100MHz/Channel B: 3.350MHz | | |
| Reception Area | Approx. 15m (in the space where no obstacles exist) | Practical radius of approx. 8 m in a space without any obstacle | Approx. 15m (in the space where no obstacles exist) |
| Reception Angle | Vertical: 80° (up to 30° movable downward) Horizontal: 80° (up to 30° movable left or right) | — | — |
| Connection Terminal | 75 Ω, BNC jack | | |
| Operating Temperature | 0°C to +40°C | | |
| Operating Humidity | 30% to 85% RH | | |
| Finish | Case: Polycarbonate resin, visible light cut filter Base: ABS resin, off-white | Case: Polycarbonate resin, visible light cut filter Base: ABS resin, black | Case: Polycarbonate resin, visible light cut filter |
| Dimensions | 70 (W) × 120 (H) × 72(D)mm | ø120 × 71.3 (H) mm | 84.5 (W) × 63.5 (H) × 32(D)mm |
| Weight | 220g (unit only) | 205g (unit only) | 100g (unit only) |

| | IR-700D Infrared Wireless Distributor |
|--------------------------------|--|
| Power Source | AC mains 50/60Hz (supplied from the accessory AC adaptor) |
| Power Consumption | 25W or less |
| Input/Output | 4 mixing inputs, 2 distribution outputs |
| Band-Pass Frequency | 3.0 – 6.0MHz |
| Gain | 0dB (±3dB) |
| Infrared Receiver Input | 75 Ω, BNC jack × 4 (Infrared wireless receiver's power source: 24V DC, 800mA max. in total of 4 terminals) |
| Distribution Output | 75 Ω, BNC jack |
| Operating Temperature | -10°C to +50°C |
| Operating Humidity | 30% to 85% RH |
| Finish | Case: ABS resin, black |
| Dimensions | 210 (W) × 44 (H) × 200.9 (D)mm |
| Weight | 640g (unit only) |
| Accessories | AC adaptor × 1, Power cord (2 m) × 1, BNC plug-tp-BNC plug cord (50cm) × 1, Rubber foot × 4 |

| | IR-200BC Battery Charger |
|---|---|
| Power Source | AC mains 50/60Hz (supplied from the accessory AC adaptor) |
| Current Consumption | Max. 2 A |
| Charging Time | Max. 3 hours |
| Number of Wireless microphone to be charged simultaneously | 2 pieces* |
| Operating Temperature | 0°C to +40°C |
| Operating Humidity | 30% to 85% RH |
| Finish | Case : ABS resin, metallic gray, 50% gloss,paint, Microphone receptacle section : PPE resin, black |
| Dimensions | 238 (W) × 109.5 (H) × 98 (D)mm |
| Weight | 635 g (charger with the mounting adapters attached) |
| Accessories | AC adaptor (DC cord length: 1.5m) × 1, Power cord (2 m) × 1, Mounting adapter (pre-installed) × 2 |

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

| | IR-702T Infrared Wireless Tuner |
|--------------------------------|--|
| Power Source | AC mains 50/60Hz (supplied from the accessory AC adaptor) |
| Power Consumption | 15W or less |
| Receiving Frequency | Channel A: 3.100MHz/Channel B: 3.350MHz |
| Receiver Sensitivity | S/N ratio over 50dB (40dBμ V input, 1 kHz modulation, ±4.8 kHz deviation) |
| S/N Ratio | 61 dB or more (60dBμ V input, ±4.8 kHz deviation, A-weighted) |
| Tone Squelch Frequency | 32.768kHz |
| Infrared Receiver Input | 75 Ω, BNC jack × 2 (Infrared wireless receiver's power source: 24V DC, max. 220mA in total of 2 terminals) |
| Output | Channel A and B: -10 dB* (±4.8kHz deviation, at volume level max.), 600 Ω, electronically balanced, 3 pole phone jack Note: Channel A switchable to mixer output |
| Frequency Response | 100Hz – 12kHz |
| Operating Temperature | -10°C to +50°C |
| Operating Humidity | 30% to 85% RH |
| Finish | Case: ABS resin, black |
| Dimensions | 210 (W) × 44 (H) × 210.9 (D)mm |
| Weight | 630g (unit only) |
| Accessories | AC adaptor × 1, Power cord (2 m) × 1, Cord with a phone plug (1m) × 1, Color label (6 colors) × 1, Rubber foot × 4 |

*0db = 1V

IR-210BT-2 Ni-MH Battery



- Ni-MH AA rechargeable battery (containing 2 pieces) dedicated for use with IR-200M, IR-300M and IR-310M.