

UHF WIRELESS MICROPHONE

WM-5220

Thank you for purchasing TOA's UHF Wireless Microphone.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

1. SAFETY PRECAUTIONS

- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.
- We also recommend you keep this instruction manual handy for future reference.

Safety Symbol and Message Conventions

Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.



WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



WARNING

- To prevent the electromagnetic wave from badly influencing medical equipment, make sure to switch off the unit's power when placing it in close proximity to the medical equipment.



CAUTION

- When the unit is not in use for 10 days or more, be sure to take the battery out of the unit because battery leakage may cause personal injury or contamination of environment.

- Make sure to observe the following handling precautions so that a fire or personal injury does not result from leakage or explosion of the battery.

- Do not short, disassemble, heat nor put the battery into a fire.
- Never charge batteries of the type which are not rechargeable.
- Do not solder a battery directly.
- Be sure to use the specified type of battery.
- Note correct polarity (positive and negative orientation) when inserting a battery in the unit.
- Avoid locations exposed to the direct sunlight, high temperature and high humidity when storing batteries.

CAUTION TO USER: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. GENERAL DESCRIPTION

The TOA's WM-5220 Wireless Microphone employs an electret condenser microphone element of high sensitivity and intelligible sound quality, and is suitable for speech use.

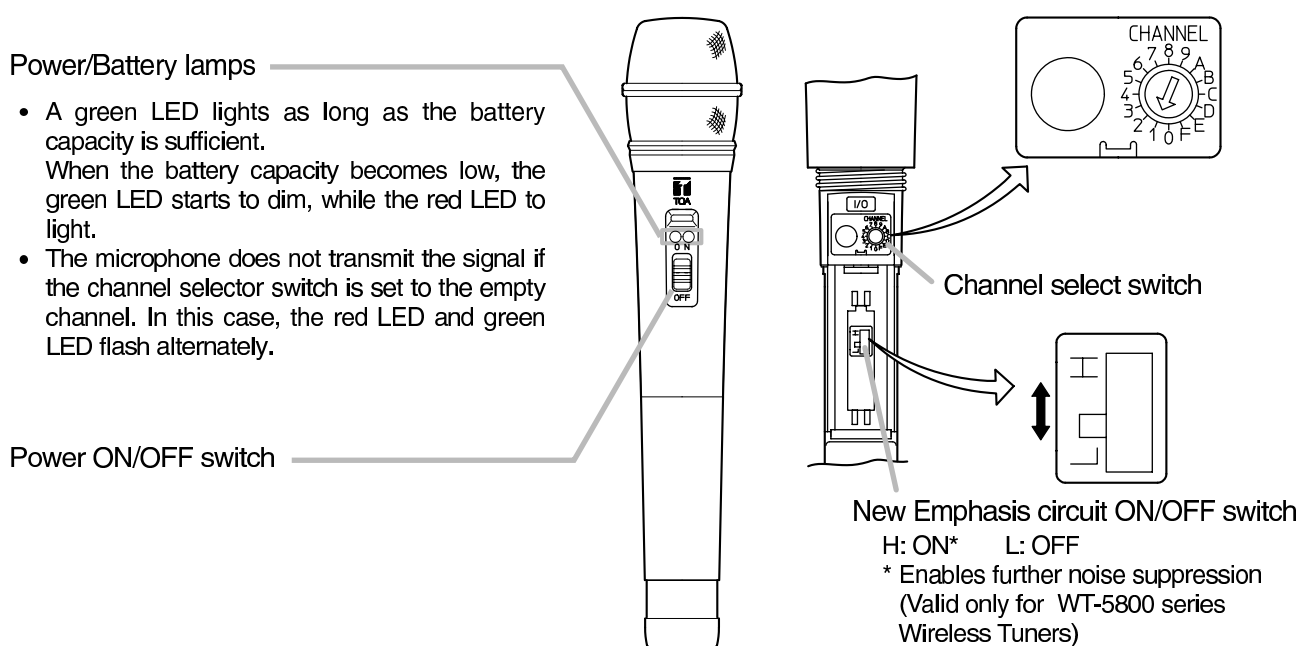
3. FEATURES

- One frequency can be selected from 16 operating frequencies of 692 – 865 MHz.
- An optimized PLL-synthesizer minimizes the oscillation frequency drift resulting from the ambient temperature or voltage fluctuation.
- Power/Battery lamps indicate battery consumption to prevent the unit from malfunctioning when the battery level remarkably decreases.
- Operates on a single AA battery.
- Employs a built-in antenna.
- The state of battery consumption can be displayed on the tuner's indicator when the unit is used in conjunction with the optional WT-5800, WT-5805 or WT-5810 Wireless Tuner.

4. HANDLING PRECAUTIONS

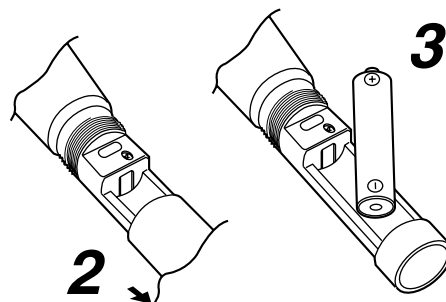
- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in unit failure.
- Never open nor remove the unit case to modify the unit. Refer all servicing to your nearest TOA dealer.
- Take care not to drop the unit onto the floor nor bump it against a hard object as the unit could fail.
- Do not place the unit in locations of high temperature (ex. in a car parked in summer) or high humidity as the unit could fail.
- Do not use the unit in locations where it is exposed to seawater.
- To clean, use a dry cloth. When the unit gets very dirty, wipe lightly with a cloth damped in a dilute neutral cleanser, then wipe with a dry cloth. Never use benzine, thinner, or chemically-treated cleaning towel.
- Avoid using a mobile telephone near the wireless microphone in use. Noise could be picked up.
- When using two or more wireless microphones, keep them at least 50 cm away from each other to avoid malfunctions or noise.
- Keep the wireless microphone at least 3 m away from the receiving antenna. Using the microphone in close proximity to the antenna could result in malfunctions or noise.

5. NOMENCLATURE



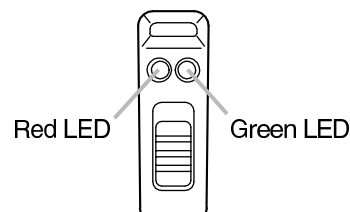
6. BATTERY INSERTION

- Step 1.** Turn off the power switch.
- Step 2.** Hold the microphone body and rotate the microphone grip counterclockwise to remove it.
- Step 3.** Insert an AA battery according to (+) and (–) indications on the battery compartment.
- Step 4.** Replace the microphone grip by sliding and rotating it clockwise.



Battery replacement

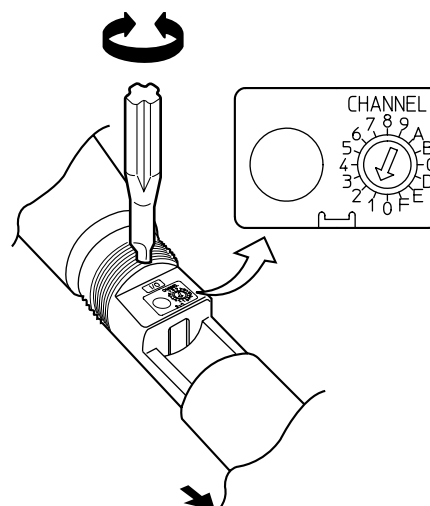
- A brand-new AA alkaline battery will continuously operate the unit for about 10 hours.
- When the battery capacity becomes low, the green LED of the Power/Battery lamps starts to dim, while the red LED to light. When only the red LED lights, replace the battery with a new one. In this condition, the unit transmits the remaining battery capacity information to the tuner, causing the tuner's BATT indicator to light.



7. CHANNEL NUMBER SETTING

- Step 1.** Switch off the power. Rotate the microphone grip counterclockwise to remove it.
- Step 2.** Using the supplied screwdriver, set the Channel setting switch pointer to the desired channel number.
- Step 3.** Replace the microphone grip.

Note: Make sure that the wireless microphone is identical to the wireless tuner in the channel number. Should the microphone's setting differ from that of the tuner, the tuner does not receive the microphone signal.



8. OPERATION

- Step 1.** Confirm that the wireless microphone and the wireless tuner are identical in the channel number. If not identical, turn the power ON/OFF switch to the OFF position, then set the channel number to the same channel number as the tuner.
- Step 2.** Turn the Power ON/OFF switch to the ON position. Then, confirm the green LED of the Power/Battery lamps will light.
- Step 3.** Turn the Power ON/OFF switch to the OFF position after use.

9. OPERATIONAL HINTS

- The microphone's service distance is 3 – 120 m. When the microphone user moves in a facility, signal dropouts (momentary losses of signal reception) may be encountered. These dropouts are caused by the building's architectural designs or materials which block the travel of or reflect the radio signal. If this occurs, the user needs to change locations for better signal reception.
- The proper operation of your wireless system may be interfered with by other system operating on the same frequency. In such cases, change the operating frequency of your system. (As to dealing with the interference, refer to the operating instructions of the wireless tuner.)
- Should you have any questions regarding the use or availability of TOA wireless products, please contact your local TOA dealer.

10. NEW EMPHASIS CIRCUIT ON/OFF SWITCH

The WM-5220 incorporates an improved new Emphasis circuit that further suppresses noise.

The Emphasis circuit can be switched to the new circuit (pre-compressor Emphasis) by setting the New Emphasis circuit ON/OFF switch to ON (H position), and to the conventional circuit (post-compressor Emphasis) by setting the switch to OFF (L position).



When using the WM-5220 with the switch set to ON, also reset the WT-5800 series tuner to a new circuit by means of the optional RW-4800 ROM Writer. So, further noise suppressed and clearer sound can be assured.

The WM-5220 is compatible with the WT-4800 series tuners when shipped from the factory (New Emphasis circuit ON/OFF switch: OFF). Once the switch is set to ON, however, no more compatibility is ensured.

The table below shows the compatibility between the Wireless Microphones and Tuners.

[Compatibility table]

✓ : Compatible

Wireless Microphones Wireless Tuners		WM-5220	
		New Emphasis circuit ON/OFF switch: ON (H) 	New Emphasis circuit ON/OFF switch: OFF (L) 
WT-5800 series	Pre-compressor (New Emphasis circuit)	✓	—
	Post-compressor (Conventional Emphasis circuit)	—	✓
WT-4800 series		—	✓

11. SPECIFICATIONS

Microphone Element	Electret condenser type, cardioid pattern
Modulation	Frequency modulation
Frequency Range	692 – 865 MHz, UHF
Selectable Channel	16 channels
RF Carrier Power	Less than 50 mW
Tone Frequency	32.768 kHz
Oscillator	PLL synthesized
Maximum Input Level	126 dB SPL
Maximum Deviation	±40 kHz
Audio Frequency Response	200 – 15,000 Hz
Dynamic Range (AF Circuit)	More than 95 dB (with WT-5800)
Battery	LR6 (AA)
Battery Life	More than 10 hours (alkaline)
Indicator	Power/Battery lamps
Antenna	Built-in type
Operating Temperature	–10 to +50°C
Finish	Resin, rubber coating
Dimensions	ø43.6 x 231.5 mm
Weight	180 g (with battery)

Note: The design and specifications are subject to change without notice for improvement.

• Accessories

Microphone holder (with stand adapter) 1 Storage case 1
Screwdriver (for setting) 1

License requirement

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.