

### Infrared Wireless Microphone WM-100 WM-100S

#### Be sure to read this manual before using the microphone.

Thank you for your purchase of the infrared wireless microphone WM-100/WM-100S. Before using the microphone, be sure to read this operating manual so that you can take full advantage of the WM-100/WM-100S's superior performance and enjoy it for many years. After you finish reading, keep this document handy in a safe place in case you need them in the future.

#### Safety Precautions

To ensure proper use of the microphone, carefully read the Safety Precautions prior to use. After you finish reading, keep this document and the warranty handy in case you need them in the future.

#### Icon Labels

A variety of icon labels are used in this operating manual and on the microphone to ensure safe use of the product, to prevent injury to yourself and others, and to prevent property damage. Make sure you fully understand the meanings of the icon labels as you read the manual.

	<b>WARNING</b>	This label is used in cases where there may be a possibility of death or serious injury.
	<b>CAUTION</b>	This label is used in cases where there may be a possibility of injury or just physical damage.

#### Icon label examples

- (triangle) is used in cases where caution (danger, warning) is urged. Inside the triangle, the specific type of caution is shown (in the example shown here, the caution is an electric shock caution).
- (circle) with a line through it is used in cases where an action is not allowed. Inside the circle or near it, the specific type of action which is not allowed is shown (in the example shown here, disassembly is not allowed).

#### Installing the microphone

	<b>WARNING</b>
	<ul style="list-style-type: none"> <li>Do not install the microphone in an unstable location, such as a wobbly mount or on a slanted surface. The microphone may fall off or tip over, resulting in injury, if installed in such locations.</li> </ul>
	<ul style="list-style-type: none"> <li>Do not use the microphone near water. Doing so may result in a fire.</li> </ul>

#### Installing the microphone

	<b>WARNING</b>
	<ul style="list-style-type: none"> <li>Do not install the microphone in locations subject to significant vibrations or mechanical shocks. The microphone may fall, resulting in injury, if installed in such locations.</li> <li>Do not set any container filled with water or other liquids on top of the microphone. In such cases, fire may result if the liquid spills out.</li> </ul>
	<b>CAUTION</b>
	<ul style="list-style-type: none"> <li>Do not install the microphone in locations that become extremely hot, such as locations exposed to direct sunlight. Doing so may result in a fire.</li> <li>Do not install the microphone in humid or dusty locations. Doing so may result in a fire.</li> <li>Do not install the microphone in smoky or steamy locations, such as near kitchens or humidifiers. Doing so may result in a fire.</li> </ul>

#### Using the microphone

	<b>WARNING</b>
	<ul style="list-style-type: none"> <li>Do not set any container filled with water or other liquids, or any small metal objects, near the microphone. In such cases, fire may result if the liquid spills out or the metal falls into the microphone.</li> <li>Do not short-circuit the charging terminal with metal. Doing so may result in a fire.</li> <li>Do not charge the microphone if there are any water droplets on the charging terminal. Doing so may result in a fire.</li> </ul>
	<b>CAUTION</b>
	<ul style="list-style-type: none"> <li>A fire may result if the microphone is used under abnormal conditions (e.g., if it is emitting smoke, or strange odors or noises). In such cases, immediately turn off the power switch on the main unit. When you turn off the power switch while the microphone is emitting smoke or the like, the case may heat up, creating a burn risk. Therefore, in such cases, be sure to put on thick gloves or the like before turning off the power switch. Make sure the microphone stops emitting smoke, then contact your dealer to have the microphone repaired.</li> <li>If water or metal enters the microphone, turn off the microphone's power switch and contact your dealer. Using the microphone under such conditions may result in a fire.</li> <li>If you drop or damage the microphone, first turn off the power switch and then contact your dealer. Using the microphone under such conditions may result in a fire.</li> </ul>
	<b>CAUTION</b>
	<ul style="list-style-type: none"> <li>Do not disassemble or modify the microphone. Doing so may result in a fire or a burn.</li> </ul>
	<ul style="list-style-type: none"> <li>Do not use or store the microphone in locations accessible to small children. They may drop or damage the microphone, which could result in injury.</li> </ul>
	<ul style="list-style-type: none"> <li>If you do not plan to use the microphone for an extended period of time, remove the batteries from the microphone. Failure to do so may result in a fire.</li> </ul>

#### Batteries

	<b>WARNING</b>
	<ul style="list-style-type: none"> <li>Only use the included Ni-MH batteries (NHB-100), AA manganese dry cells, and AA alkaline dry cells. Failure to do so may result in a fire.</li> <li>Do not throw used batteries into a fire. Batteries thrown into a fire may explode, resulting in a fire or burns.</li> <li>Do not charge dry cell batteries. This may cause the battery to burst or leak, possibly resulting in a fire or injury.</li> </ul>
	<ul style="list-style-type: none"> <li>Keep the batteries in a location that is not accessible to young children. In the event that a child swallows a battery, contact a physician immediately.</li> </ul>

#### Batteries

	<b>CAUTION</b>
	<ul style="list-style-type: none"> <li>Only use the microphone, charger, and batteries specified by Marantz. Failure to do so may result in a fire.</li> <li>Do not short-circuit the battery terminals. Doing so may result in burns due to heat buildup. A battery may be short-circuited if you carry it by itself.</li> <li>Do not carry or store a battery together with metal ballpoint pens, necklaces, coins, or the like. Doing so may short-circuit the positive and negative battery terminals, causing the battery to burst or leak, possibly resulting in a fire or injury.</li> </ul>
	<ul style="list-style-type: none"> <li>Do not use new batteries together with old batteries. Doing so may cause a battery to burst or leak, possibly resulting in a fire or injury, or contaminating the environment.</li> <li>Check the polarity labels (positive and negative directions) on the batteries before inserting them in the microphone. Insertion in the wrong direction may cause a battery to burst or leak, possibly resulting in a fire or injury, or contaminating the environment.</li> <li>When disposing of old batteries, be sure to distinguish them from other waste products.</li> <li>When you do not use the microphone for an extended period of time, remove the battery from the microphone. Failure to do so may cause a battery to leak, possibly resulting in a fire, injury or damage to the surroundings. If a battery leaks, carefully wipe off any battery acid residue from the battery case and insert a new battery. If any leaked residue comes into contact with your skin, wash the affected area thoroughly with water.</li> </ul>

#### Maintenance

	<b>CAUTION</b>
	<ul style="list-style-type: none"> <li>Do not wipe the exterior with a benzene or paint thinner-based liquid, and do not apply insecticide near the microphone. Doing so may damage the microphone's surface. To clean the microphone, always wipe it with a soft, dry cloth.</li> <li>Contact your dealer about once a year to have the microphone's interior cleaned.</li> <li>Before cleaning the microphone, turn off the power and remove the batteries. Failure to do so may result in an accident.</li> </ul>

#### Features

- This microphone is designed with a mono-directional dynamic microphone unit for superior sound quality and reliability.
- With the channel setting switch of the microphone, you can choose a channel from among 8 channels: Channel 1 to Channel 8.
- As a power source, only rechargeable special nickel-hydrogen batteries and AA size dry cell batteries can be used.

#### Package contents

- The package contents are shown below. Make sure the package contains all of the contents shown here.
  - Infrared wireless microphone

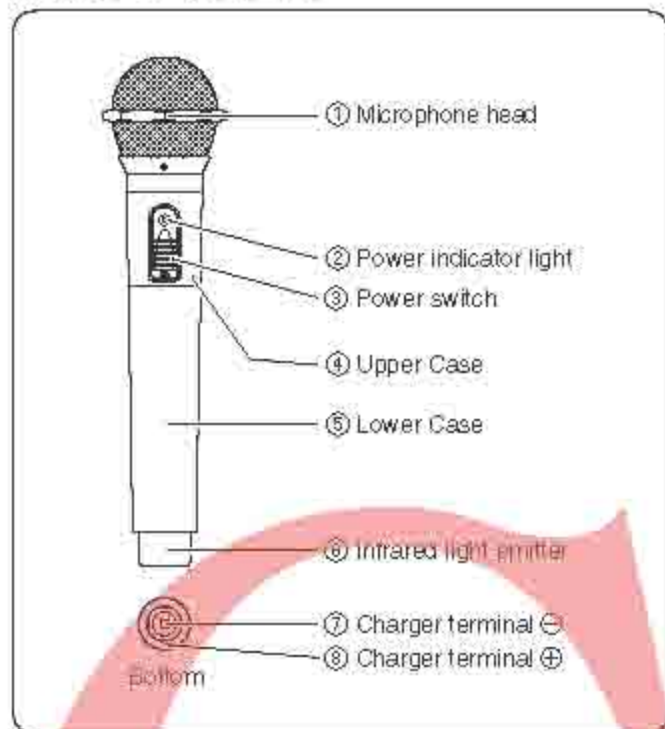


#### Usage Precautions

	<b>WARNING</b>
	<ul style="list-style-type: none"> <li>Only use the included a special Ni-MH battery (NHB-100), or storebought AA manganese batteries or AA alkaline batteries. Other types of batteries may not be used. Doing so may result in a fire or damage the equipment.</li> <li>When using a special Ni-MH battery, be sure to use the special charger (MC-100). Using a different type of charger may damage the equipment or result in an accident.</li> </ul>

- Be sure to use a special wireless receiver WT-1000. Other types of receivers may not be used.
- Note that you cannot use two microphones with the same channel at the same time.
- Do not drop the microphone on the floor or allow it to get wet. Sound quality may change, especially if the microphone head becomes misshapen or if the microphone gets wet. Also note that if the microphone is jammed severely, the internal precision components may be damaged, causing the microphone to malfunction.
- If there are any obstacles between the microphone and the sensor on the receiver, then the allowable distance between the microphone and receiver is reduced. Furthermore, static may occur and the sound may be cut off.
- Position the receiver sensor in a location with good line of sight.
- If direct sunlight or bright electric lighting shines on the receiver sensor, static may occur. In such cases, use curtains or the like to prevent direct sunlight from hitting the sensor, or position the sensor away from the electric lighting.
- Infrared light emitters are located on the bottom of the microphone. Do not grasp these emitters when using the microphone. Doing so may cut off the sound or generate static.
- Dirt or scratches on the infrared light emitters may result in sound cutoffs or static. Always clean the infrared light emitters when using the microphone.

## Names of the parts

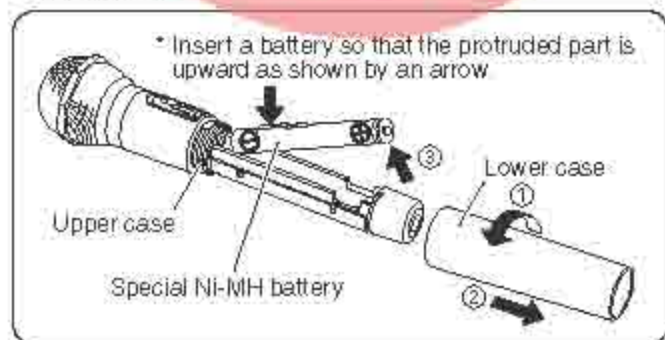


## Operating procedure

- Slide the power switch ③ upward.
- The power indicator light ② turns on, and the power turns on.
- When you are done using the microphone, slide the power switch downward.
- The power indicator light turns off, and the power turns off.
  - As the battery runs down, the power indicator light color changes from green to slowly flashing red, and then to rapidly flashing red, at this point the battery needs to be recharged or replaced.
  - During continuous use, the special Ni-MH battery will last for approximately 7 hours, while the AA manganese dry cells will last approximately 2 hours and the AA alkaline dry cells approximately 8 hours.

## Replacing the batteries

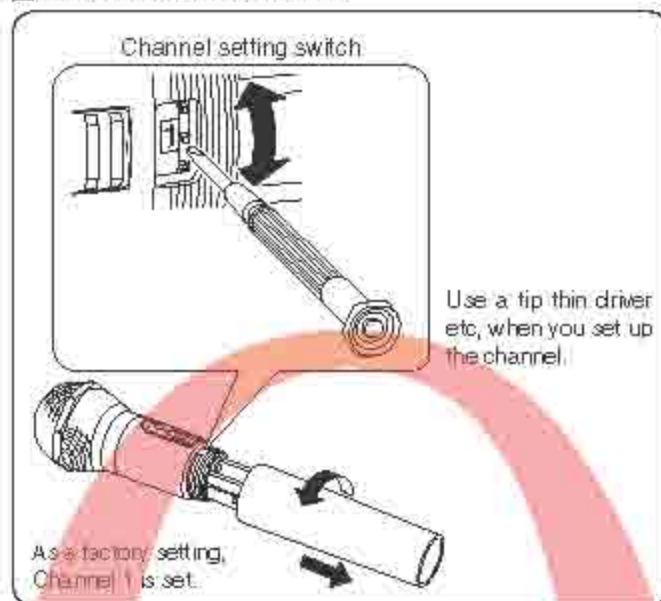
- The lower case is a screw-on cover. Turning the microphone counterclockwise will cause the battery cover to come off and the battery case to come out.
- When inserting the batteries, make sure the positive (+) and negative (-) poles are facing in the correct directions. Insert the negative end first.
  - Always turn off the power switch before replacing the batteries.
  - Use the special Ni-MH battery which is designed for this microphone.



## Setting the Channel

The channels of Microphone A and B are set as receiver's channel.

- Turn off the power switch of Microphone and unscrew the lower case to reveal the channel setting switch.
- Use a thin tip driver, etc. to set as receiver's channel.
- Screw the lower case back on.



NOTE: The numbers from 1 to 8 are used as the channel numbers of the microphone unit. Numbers 0 and 9 are not used.

Channel Setting Table (Receiver WT-1000)

Channel	B							
	1	2	3	4	5	6	7	8
A	1	×	○	○	×	○	×	○
	2	○	×	○	×	○	○	○
	3	○	○	×	○	×	×	○
	4	×	×	○	×	○	○	○
	5	○	○	×	○	×	×	○
	6	×	×	○	×	○	×	○
	7	○	○	○	×	×	×	○
	8	○	○	○	○	○	○	×

○ possible combinations / × impossible combinations

\*The recommended combination channels are Channel 1-4, Channel 3-4, and Channel 7-8.

Channel Frequencies

Channel	Frequency	Channel	Frequency
1	4.55 MHz	5	4.10 MHz
2	4.95 MHz	6	4.40 MHz
3	4.25 MHz	7	2.06 MHz
4	4.75 MHz	8	2.56 MHz

## When the Microphones are unavailable with the plasma display panel

When Channel 1 is set for Microphone A and Channel 2 is set for Microphone B, and a plasma display panel is used, noise may occur. In this case, change to the channel combination indicated by the ○ mark in the Channel Setting Table, search for a noise-free combination and change the setting.

Channel Setting Table (Receiver WT-1000)

Channel	B					
	1	2	3	4	5	6
A	1	×	○	○	×	○
	2	○	×	○	×	○
	3	○	○	×	○	×
	4	×	×	○	×	○
	5	○	○	×	○	×
	6	×	○	×	○	×

○ possible combinations / × impossible combinations

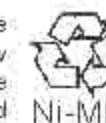
NOTE: Numbers 7 and 8 are not used with plasma display panel.

## Charging

- Use the special charger MC-100 for charging.
- Carefully insert a microphone in the charger.
- When charging starts and during charging, the charging indicator LEDs on the charger flash red. When the microphone is inserted in the charger, if the charging indicator LEDs do not flash red, insert the microphone again.
- 1.5 hours after the microphone is inserted, the three charging indicator LEDs turn red and charging is complete.
  - When charging, turn off the power switch of the microphone.
  - Do not remove the lower case of the microphone when charging; this may cause a malfunction of the charger.
  - If the charging terminals on the microphone and charger are dirty, it may not be possible to charge the battery. Always clean the charging terminals before charging the battery.
  - The special Ni-MH battery included with the microphone is the only type of battery that can be charged. The microphone will not charge if it contains other types of batteries, such as AA alkaline dry cells.
  - See the operating manual provided with the special charger (MC-100) for detailed information on battery charging.

## Special Ni-MH battery

- Be sure to charge the battery before using the microphone the first time you use it, and after not using it for an extended length of time.
- Fully use up the battery's charge before recharging it. If the battery is recharged without being fully depleted first, it may not charge up even if the charging operation is performed for a sufficient length of time. In order to prevent such problems, we recommend fully using up the battery's charge and then recharging it at least once a month.
- The battery's service life under normal use is approximately one year. If the battery's charge depletes quickly under normal use even when fully charged, it may be close to the end of its service life. In such cases, quickly replace the battery with a new one.
- In order to recycle scarce metals and protect the environment, we request that you do not throw away your used Ni-MH batteries. Instead, please take them to a store, which collaborates in Ni-Cd battery recycling efforts.



## Troubleshooting

If the microphone seems to have a problem when you are using it, perform the troubleshooting checks shown below. If you are still unable to solve the problem, or if the problem is not described below, contact your microphone dealer.

Type of problem	Check	Solution
Green power indicator light does not turn on.	Is the AC adapter power plug inserted in the outlet?	Insert the AC adapter power plug in the outlet.
	Is the AC adapter DC output plug inserted in the power jack?	Insert the AC adapter DC output plug in the power jack.
The red charging indicator light does not turn on when the microphone is inserted.	Does the microphone contain a special Ni-MH battery?	If the microphone contains manganese batteries or alkaline batteries, replace them with a special Ni-MH battery pack.
	Is the microphone fully inserted in the charger?	Slowly and fully insert the microphone in the charger.
The microphone is hot unusually.	Are the charging terminals dirty?	Clean the charging terminals with a dry clean cloth.
	Is the specified Ni-MH battery hot?	Change the specified Ni-MH battery. If this issue is not improved, contact your dealer.

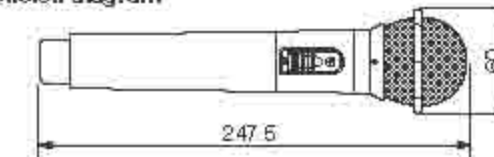
## Specifications

- Specifications**
- Power supply: DC 2.4V - 3V
  - Operating temperature range: 0°C - +50°C
  - External dimensions: 60 x 247.5 mm (maximum diameter by length)
  - Weight: 310 g (including Ni-MH battery)
- Microphone performance**
- Microphone type: Mono-directional dynamic microphone
  - Average input sound pressure level: 94 dB SPL (vocal use)
  - Frequency characteristic: 50 Hz - 15 KHz
  - Compressor characteristic: Semi-log compression
  - Distortion: 1% or less
- System specifications**
- Infrared light wavelength: 690 nm
  - Carrier wave frequency: Channel switch style: 2.06 MHz, 2.56 MHz, 4.10 MHz, 4.25 MHz, 4.40 MHz, 4.55 MHz, 4.75 MHz, 4.95 MHz
  - Modulation system: Frequency modulation
  - Tone signal: 35.7 kHz
  - Straight line reach distance of infrared rays: Approx. 10m (\*1)
- \*1: The reach distance will be shorter according to the room size or conditions.

## Standard accessories

- Operating manual: 1
- Special Ni-MH battery: 1

## Dimension diagram



\* Design and specifications subject to change without notice.