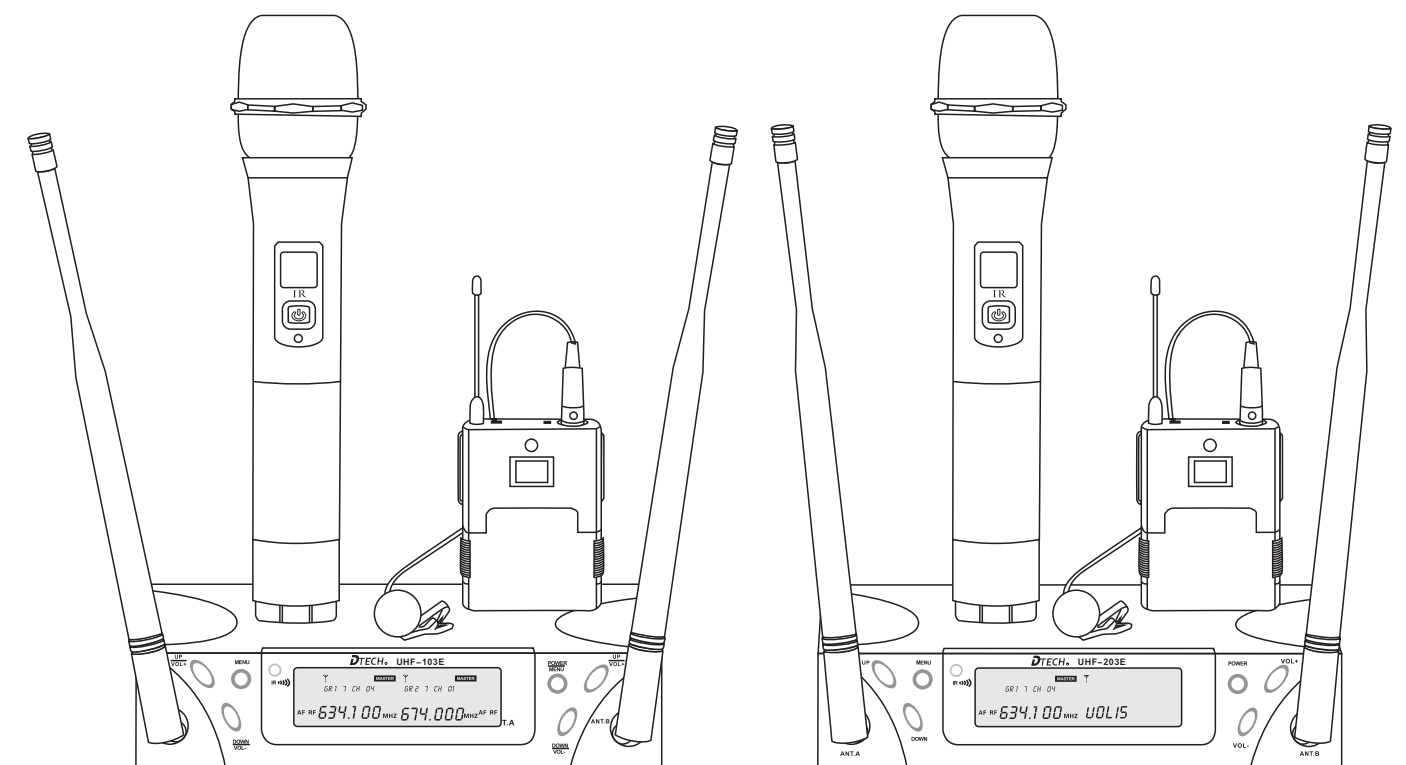


UHF PLL Wireless System **USER GUIDE** UHF-103E/203E



Single Channel Wireless System(800 frequencies selectable)
Dual Channel Wireless System(800 frequencies selectable)

UHF-PLL

Wireless
Microphone

CAUTIONS AND WARNINGS



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Only refer servicing to qualified service personnel.



The lightning flash & arrowhead symbol within an equilateral triangle is intended to alert you to the presence of danger.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.

WARNING

To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions - The safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

5. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

6. Water and Moisture - Do not use this unit near water. For example, near a bathtub or in a wet basement and the like.

7. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

7.A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause an overturn.



8. Ventilation - The appliance should be situated so its location does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation slots.

9. Heat - The appliance should be situated away from heat sources such as radiator, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. Power Sources - Precautions should be taken so that the grounding or polarization marked on the appliance.

11. Grounding or Polarization - Precautions should be taken so that the grounding or polarization means of the appliance is not defeated.

12. Power Cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

13. Cleaning - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp or dry cloth for cleaning.

14. Power Lines - An outdoor antenna should be located away from power lines.

15. Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

16. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into enclosure through openings.

17. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:

- A. The power supply cord or plug has been damaged; or
- B. Objects have fallen into the appliance; or
- C. The appliance has been exposed to rain; or
- D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
- E. The appliance has been dropped, or the enclosure damaged.

18. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

NOTE:

To CATV system installer's (U.S.A.): This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and in particular, specifies that the cable ground shall be connected as close to the point of cable entry as practical.

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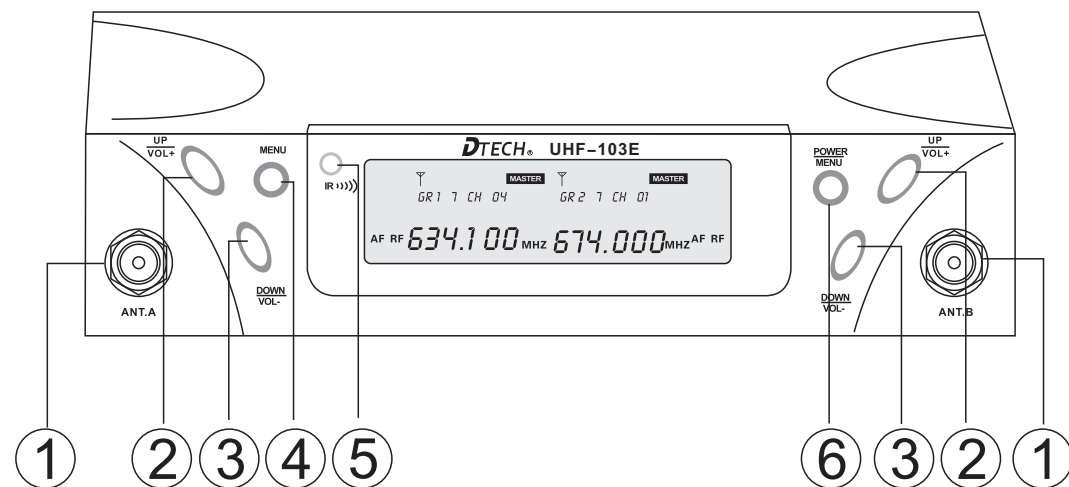
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Features Introduction:

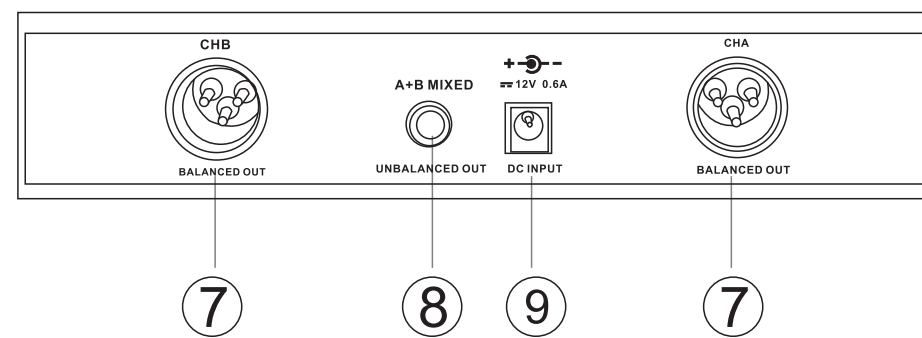
- Tone control squelch
- Working range adjustable
- LCD display
- Group and channel selectable
- Smart option (Infrared SYNC)
- Auto scan available channel
- Manual setting many frequencies in master mode

Wireless receiver (Dual channel)

Front Panel

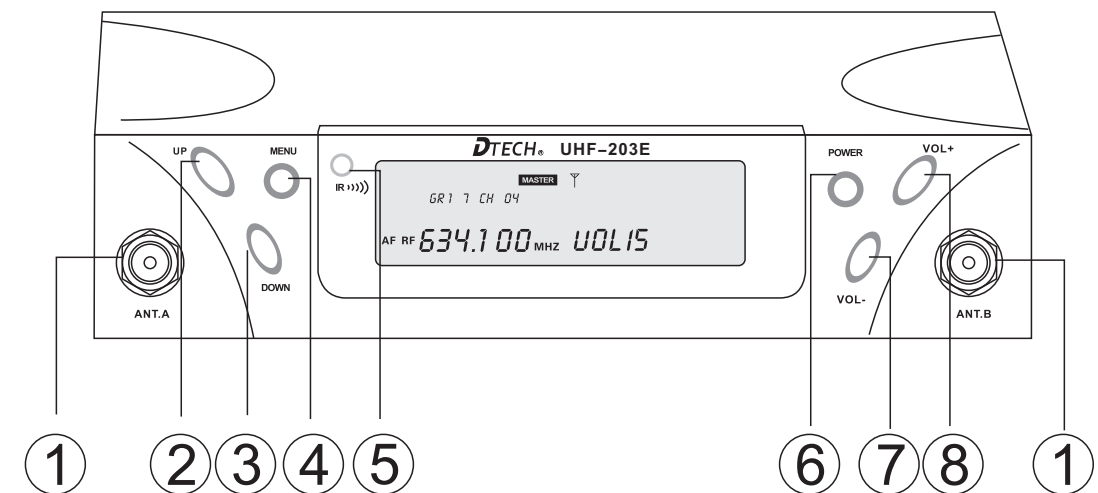


- ① ANTENNAS: to receive signals from the transmitter.
- ② UP/VOL+: Volume increase or UP in the MENU mode.
- ③ DOWN/VOL-: Volume decrease or DOWN in the MENU mode.
- ④ MENU: For user set up function.
- ⑤ IR: Infrared SYNC window.
- ⑥ POWER/MENU: push and hold to turn on.
push and hold again to turn off.
push one time to enter set up.
- ⑦ Balance-Output.
- ⑧ Unbalanced Audio and Mixed Output.
- ⑨ Power/DC Input.



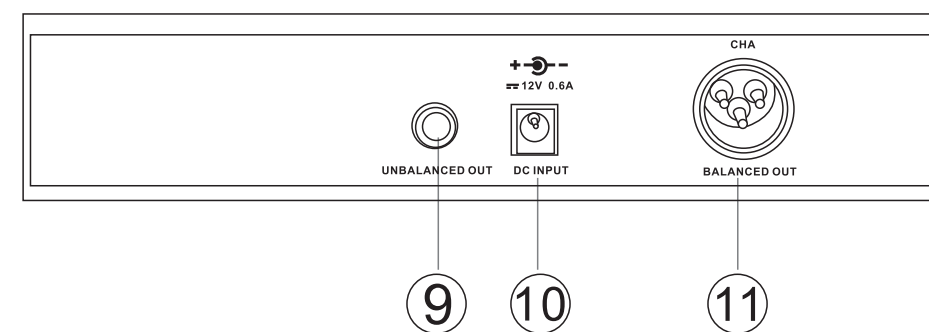
Wireless receiver (Single channel)

Front Panel

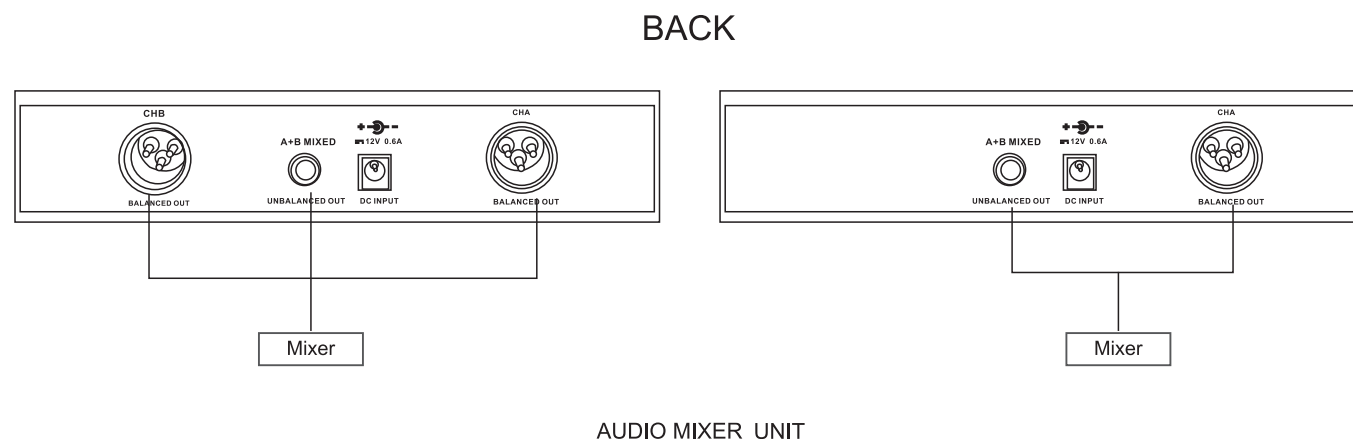


- ① ANTENNAS: To receive signals from the transmitter.
- ② UP: UP in the MENU setup.
- ③ DOWN: DOWN in the MENU setup.
- ④ MENU: Push to enter set up mode.
- ⑤ IR: Infrared SYNC window.
- ⑥ POWER: Push and hold to turn on.
Push and hold again to turn off.
- ⑦ VOL-: Decrease the volume.
- ⑧ VOL+: Increase the volume.
- ⑨ Unbalanced Audio Output.
- ⑩ DC input.
- ⑪ Balance Output.

Back Panel



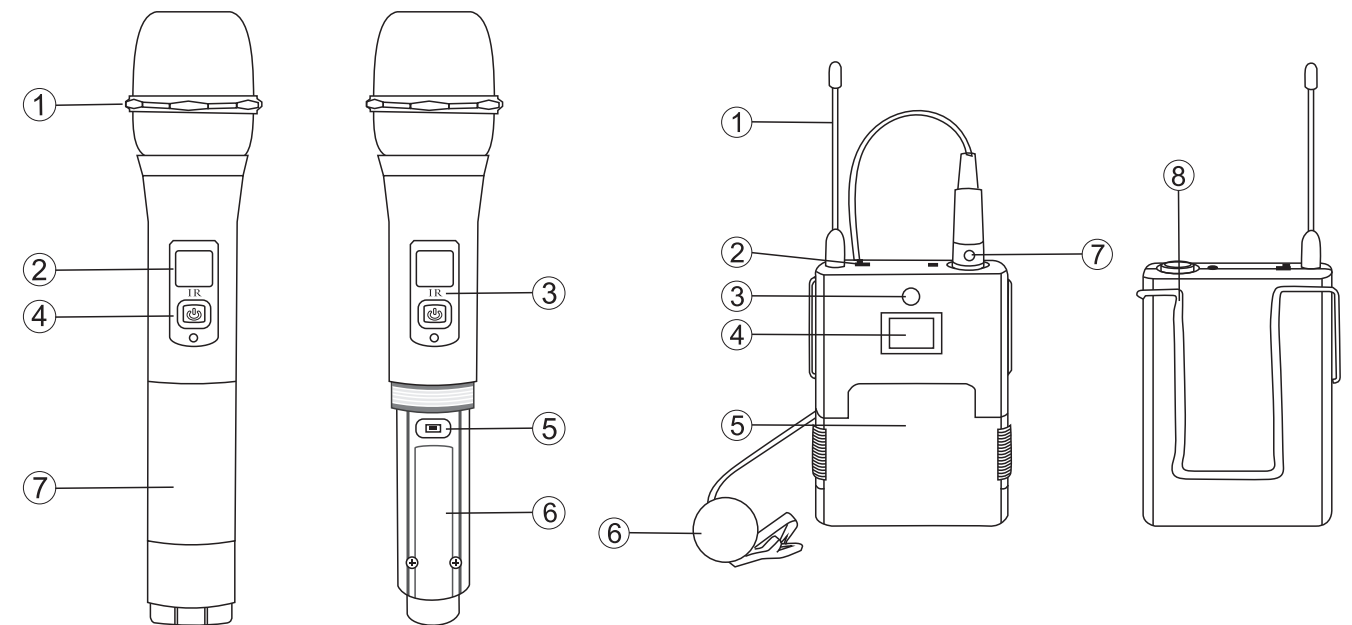
**USING THE WIRELESS RECEIVER
Connecting the Wireless Receiver**



1. Connect the receiver output to the Audio Mixer unit using unbalanced, single-conductor, shielded cables with 1/4-inch phone plugs/or balanced XLR.
2. Connect the AC adapter to the POWER jack on the rear panel of the receiver.
3. Plug the AC adapter into an appropriate power outlet.

Handheld Transmitter (FIGURE 1)

- ① Microphone head.
- ② LCD screen.
- ③ IR port Receives infrared beam to synchronize frequencies. When using multiple systems, only one transmitter IR port should be exposed at a time.
- ④ Switch: push and hold to turn on
-push and hold again to turn off
-push to mute
- ⑤ Output power selectable switch
- ⑥ 2AA Alkaline Battery
-Provide power to the microphone transmitter Typical battery life is 8 hours
- ⑦ Battery Cover
-Take off the battery cover for two 1.5V alkaline batteries



(FIGURE 1)

(FIGURE 2)

Body-Pack Transmitter (FIGURE 2)

- ① Antenna
- ② On-off button
- ③ IR port Receives infrared beam to synchronize frequencies. When using multiple systems, only one transmitter IR port should be exposed at a time.
- ④ LCD screen
- ⑤ Battery cover
- ⑥ Lavalier Microphone. Condenser lavalier microphone supplied with a mount that clips onto a tie, lapel, or acoustic instrument.
- ⑦ 4-Pin microphone input jack
- ⑧ Belt Clip

Handheld Transmitter Battery Installation (FIGURE 3)

Expected life for an Alkaline battery is approximately 8 hours. When the battery bar in LCD display is empty, the batteries should be changed immediately as shown below:

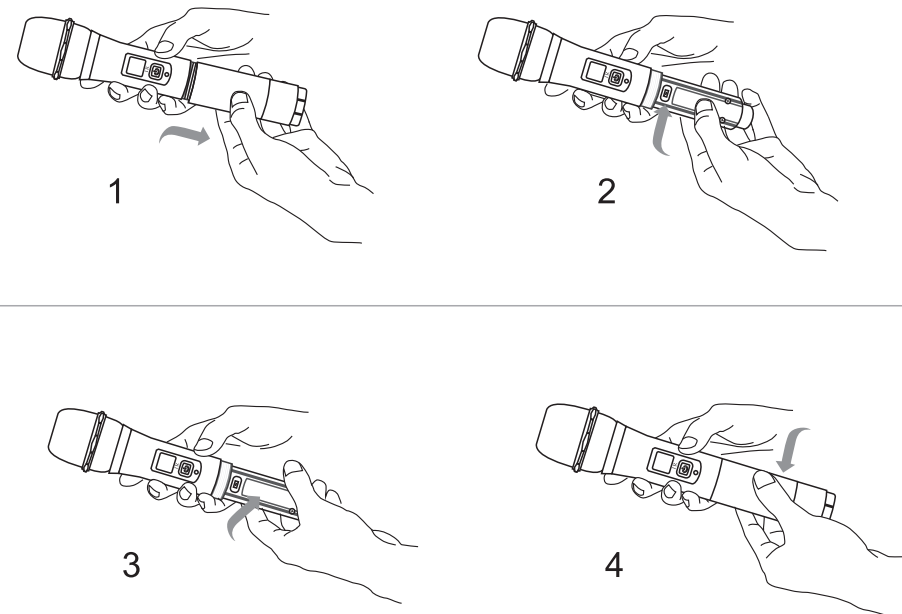


FIGURE 3

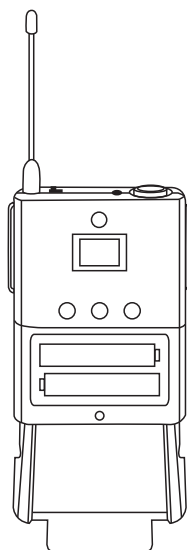


FIGURE 4

Transmitter Battery Installation (FIGURE 4)

1. Slide the transmitter Power ON/OFF switch to the OFF position.
2. Pull up on the OPEN side of the battery compartment cover, flip it open, as shown in Figure 6.
3. Insert fresh 2AA batteries into the battery compartment as shown in Figure 6. Two 1.5VAA batteries should provide 8 hours of performance time. When the red LOW BATTERY light on the transmitter glows, you have 20 minutes or less if useful battery life remaining; change the battery at your first opportunity. **IMPORTANT:** Carbon-zinc and zinc-chloride batteries will not provide adequate power and are not recommended.
4. Slide the battery cover back onto the body-pack transmitter.

Programming



Any option displayed on screen will generally time out after five seconds.

Receiver Programming

Group Selection ① menu ② UP or down

Allows manual selection of a frequency group. Pressing UP increases the group number by one. Pressing down decreases the group number by one when the correct frequency group is displayed, press MENU button to other mode, or do not pressing any button, after 5 second the receiver automatic scanning an available frequency channel, and transmitting infrared SYNC signal. For best results when operating multiple systems, set all systems to a single group; then set each system to a unique channel within that group.

Manual Channel Selection ① 3x menu ② up or down

Allows manual selection of a frequency channel. Pressing up or down to increase or decrease the channel number by one, correct frequency is displayed. Pressing MENU to IR menu mode, and press MENU again to escape set up mode.

Manual scan ① 2x menu

Allows to enter the scan menu mode. Pressing up button to scan an available channel frequency. After scanning an available channel, the channel number and frequency is displaying.

IR SYNC ① 4x MENU ② up

Either of Group selection, channel selection and scan menu mode, after setting up it will automatically enter IR SYNC mode. When "IR" is displaying, press up button to SYNC the transmitter. You can also enter IR SYNC mode by pressing MENU button

Lock or Unlock Receiver Settings menu + up

Hold down the menu key and press up to lock or unlock the receiver. When locked, the current receiver settings cannot be changed.



The Master Frequency List

Receiver

Using the Master

The Master of frequencies should be accessed only by experienced users in situations Which call for precise frequency selection. The " U " is a comprehensive index of all available frequencies in 50 kHz increments.

To access the Master, in the group selection, push and hold up button to select group number, until "U" is shown.



Under the display of frequency

Select Frequencies in the Master

While only " U " is shown, the UP button scrolls up through all available frequencies; The down button scrolls down. Press and release to change the frequency in 50 kHz increments; press and hold to scroll quickly.

When the correct frequency is displayed, wait five seconds for the screen to time out.

Using the handheld Microphone

1. Push and hold the power ON/OFF switch to turn on the receiver.
2. Push and hold the power ON/OFF switch to turn on the transmitter. Check the battery level.
If the Low Battery indicator is shown, change the batteries.
3. Scan for an available channel and set the receiver to these channel.
4. Exposed the IR port to the receiver IR window
5. When the LCD scree Light, the frequency is same as the receiver, begin to speaking or singing
6. When the performance or presentation is over, push and hold the power switch again to turn OFF the power to conserve battery power.

Using the body pack transmitter

1. Connect the lavalier microphone, headset or instrument adapter cable to the body pack transmitter.
2. Slide the power switch to ON.
3. Expose the IR port to the receiver IR window.
4. When the LCD screen light, the frequency is same as the receiver, begin to siaging or speaking.
5. When the performance or presentation is over, slide the power switch to OFF position to conserve battery power.

Tips for Improving System Performance

- Maintain a line of sight between transmitter and antenna.
- Avoid placing the receiver near metal surfaces or any digital equipment (CD players, computers, etc.)
- Secure the AC adapter cable to the receiver using the cable retainer loop
- If rack-mounting the receiver, front-mount the antennas by using the extension cables and connectors.

Troubleshooting

Issue	Indicator Status	Solution
No sound or faint sound	Transmitter power light off	<ul style="list-style-type: none"> • Turn transmitter on • Make sure the +/- indicators on battery match the transmitter terminals • Insert a fresh battery
	Receiver LCD off	<ul style="list-style-type: none"> • Make sure AC adapter is securely plugged into electrical outlet and into DC input connector on rear panel of receiver • Make sure AC electrical outlet works and is supplying proper voltage
	Receiver display indicates antenna activity	<ul style="list-style-type: none"> • Press mute switch on transmitter • Turn up receiver volume control • Increase transmitter gain switch setting • Check cable connection between receiver and amplifier or mixer
	Receiver display indicates no antenna activity; transmitter and receiver power lights glowing	<ul style="list-style-type: none"> • Extend receiver antennas vertically • Move receiver away from metal objects • Check for line of sight between transmitter and receiver • Move transmitter closer to receiver • Check that receiver and transmitter are using the same frequency
	Transmitter power light glowing or flashing red	<ul style="list-style-type: none"> • Replace transmitter batteries
Distortion or unwanted noise bursts	INCOMPATIBLE warning on transmitter	<ul style="list-style-type: none"> • The INCOMPATIBLE warning indicates that the receiver and transmitter are set to incompatible frequency bands. Contact your retailer for assistance.
	Receiver display indicates antenna activity	<ul style="list-style-type: none"> • Remove nearby sources of RF interference (CD players, computers, digital effects, in-ear monitor systems, etc.) • Change receiver and transmitter to a different frequency • Reduce transmitter gain • Replace transmitter battery • If using multiple systems, increase the frequency spread between systems
Distortion level increases gradually	Transmitter power light glowing or flashing red	<ul style="list-style-type: none"> • Replace transmitter batteries
Sound level different from cabled guitar or microphone, or when using different guitars		<ul style="list-style-type: none"> • Adjust transmitter gain and receiver volume as necessary
FULL warning displays on receiver		<ul style="list-style-type: none"> • The FULL warning indicates that all available channels in the currently selected group are in use. When this occurs, reprogram all systems to an alternate group.
Cannot turn transmitter off	Transmitter light flashing red	<ul style="list-style-type: none"> • Replace transmitter batteries

Tips for Improving System Performance

- Maintain a line of sight between transmitter and antenna.
- Avoid placing the receiver near metal surfaces or any digital equipment (CD players, computers, etc.)
- Secure the AC adapter cable to the receiver using the cable retainer loop
- If rack-mounting the receiver, front-mount the antennas by using the extension cables and connectors.

Troubleshooting

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Cannot turn transmitter off	Transmitter light flashing red	<ul style="list-style-type: none"> • Replace transmitter batteries

Specifications

System

Frequency Range and Transmitter Output Level

Band	Range	Transmitter output
U1	730-759MHz	20mW
U2	760-789MHz	20mW
U3	790-806MHz	20mW
U4	790-819MHz	10mW
U5	820-849MHz	10mW
U6	850-865MHz	10mW
U7	863-865MHz	10mW
U8	614-654MHz	10mW
U9	654-694MHz	10mW
U10	614-694MHz	10mW
U11	902-928MHz	10mW

NOTE: This Radio apparatus may be capable of operating on some frequencies not authorized in your region. Please contact your national authority to obtain information on authorized frequencies for wireless microphone products in your region.

Operating Range Under Typical Conditions

100m (300 ft.)

Note: actual range depends on RF signal absorption, reflection, and interference

Audio Frequency Response (+/- 2 dB)

Minimum: 50 Hz

Maximum: 20 kHz

(Overall system frequency depends on microphone element.)

Total Harmonic Distortion (ref. +/- 30 kHz deviation, 400Hz tone)

0.5%, typical

Dynamic Range

>105 dB A-weighted

Operating Temperature Range

-18°C (0°F) to +57°C (+135°F)

Note: battery characteristics may limit this range

Bodypack Transmitter

Gain Adjustment Range

30dB

Input Impedance

500K Ω

RF Transmitter Output

30 mW maximum (dependent on applicable country regulations)

Dimensions

90 mm H X 68mm W X 26 mmD

Weight

99.8g without batteries

Housing

Molded ABS case

Power Requirements

2"AA" size alkaline or rechargeable batteries

Battery Life

>8 hours (alkaline)

Handheld Transmitter

RF Transmitter Output

30 mW maximum (dependent on applicable country regulations)

Dimensions

230 mm x 50 mm dia.

Weight

250 g without batteries

Housing

Molded metal alloy

Power Requirements

2 "AA" size alkaline or rechargeable batteries

Battery Life

>8 hours (alkaline)

Single Channel Wireless Receiver

Dimensions

205 mmH x 130mmW x 45 mmD

Weight

480g

Dual Channel Wireless Receiver

Dimensions

205 mmH x 130mmW x 45 mmD

Weight

540g

Housing

Molded ABS case

Audio Output Level (ref. +/- 30kHz deviation with 400Hz tone)

XLR connector (into 600 Ω load): -30dBV
1/4 inch connector (into 3000 Ω load): -9dBV

Output Impedance

XLR connector: 200 Ω
1/4 inch connector: 1kΩ

XLR output

Impedance balanced
Pin 1: Ground (cable shield)
Pin 2: Audio
Pin 3: No Audio

Sensitivity

-105 dBm for 12 dB SINAD, typical

Image Rejection

>70 dB, typical

Power Requirements

12V dc at 1000mA, supplied by external power supply