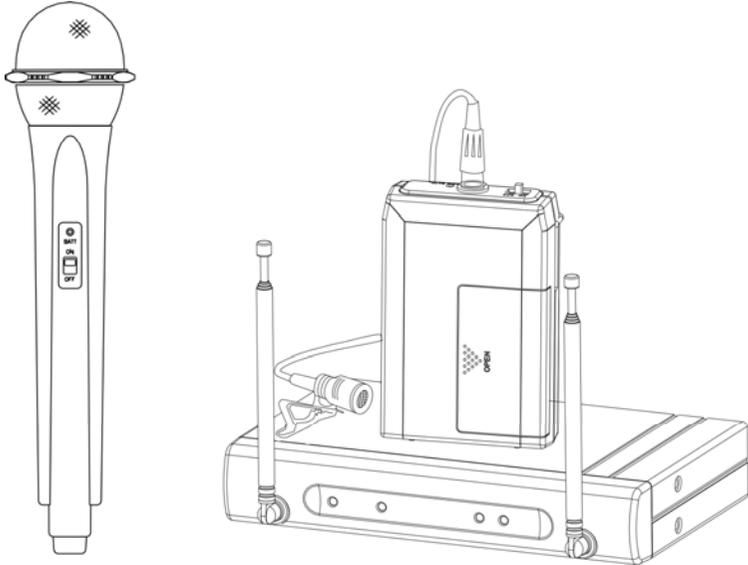


VHF HIGH BAND QUARTZ-LOCKED
WIRELESS MICROPHONE SYSTEM



WIRELESS MICROPHONE SYSTEM

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WIRELESS	WIRELESS NOTE
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FCC Statement

This device complies with part 15 of the FCC rules. 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

Notice: The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

IMPORTANT NOTE: To comply with the FCC RF exposure compliance requirements, no change to the antenna or the device is permitted. Any change to the antenna or the device could result in the device exceeding the RF exposure requirements and void user's authority to operate the device.

1. Introduction

Thank you for purchasing our product. This wireless microphone system operates in VHF band frequency with crystal controlled. Please read this instruction manual carefully before operating the system. This manual covers the function and operation of the wireless microphone system.

2. Safety

- Do not spill liquid on the appliance and do not drop it on a hard concrete floor.
- Do not place the appliance near heat sources such as radiators, amplifier, or etc. Do not expose it to direct sunlight, extremely dust, excessive moisture, or vibration.
- Take out the battery from transmitter, if the appliance has been not used for a longer period. This will avoid the damage resulting from a defective leaking battery

3. Environment

- Do not throw used batteries into a fire or garbage bin with domestic rubbish. Be sure to dispose of used batteries in accordance with local waste disposal rules.
- When disposing the equipment, remove the batteries, separate the case, circuit boards, and cables, and dispose of all components in accordance with local waste disposal rules.

4. Wireless Note

- Before setting up, make sure that the transmitter and receiver are tuned to the same frequency.
- Do not use two transmitters in the same frequency.
- Use good quality batteries to avoid the damage resulting from a defective leaking battery.
- Turn the volume control on the receiver to adjust receiver output level to match input level requirements of an audio mixer or amplifier.
- While checking sound, move the transmitter around the area where you use the system to look for dead spots. If you find any dead spot, change the receiver position. If it does not work, avoid such places.
- To avoid interference, do not put the receiver too near metal object and avoid obstructions between transmitter and receiver.
- Avoid the interference from TV, radio, other wireless appliances and etc.

FEATURES & SPECIFICATIONS	WIRELESS
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9. System Feature

- Operating in VHF band frequency with quartz-locked controlled.
- Squelch circuit design for external noise-free reception.
- High quality design: audio frequency response 80Hz ~12 KHz, S/N ratio more than 100dB and T.H.D. less than 1%.
- Effective range between receiver and microphone can reach over 30 meters (sight in line).
- Transmitter uses 2 x 1.5V AA size batteries for low operating cost.

10. System Specification

Receiver

Carrier Frequency Range	: VHF 150~260MHz
Frequency Stability	: ±0.005% with quartz-locked control
S/N Ratio	: > 94dB, at RF=1mV
Image and Spurious Rejection	: 80 dB minimum.
Receiving Sensitivity	: at 10 dB μ V over 80 dB S/N ratio.
Selectivity	: > 50dB
Dynamic Range	: > 96dB
Modulation Mode	: FM.
IF Frequency	: 10.7MHz
AF Response	: 80Hz~12KHz (±3dB)
T.H.D.	: < 1% (at 1KHz)
Audio Output	: Unbalanced output
Power Supply	: DC 12V

Handheld / Bodypack Transmitter

Carrier Frequency Range	: VHF 150~260MHz
RF Power Output	: 10mW (max.)
Frequency Stability	: ±0.005% with quartz-locked control
Maximum Deviation	: ±15KHz
T.H.D.	: < 1% (at 1KHz)
Microphone Capsule	: Handheld: uni-directional dynamic or uni-directional electret condenser unit Lavalier: uni-directional electret condenser unit
Operating voltage	: 2 x 1.5V AA size batteries
Current consumption	: 35mA ± 5mA at 2.4V

7.5 Setting up the bodypack transmitter

7.5.1 Connecting a microphone

- Use the supplied screwdriver to adjust the GAIN at appropriate position.
- Plug the 3.5 ∅ plug of the microphone cable into the audio input jack on the bodypack transmitter.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Test the microphone and adjust the levels on your audio mixer or amplifier.

7.5.2 Connecting an instrument

- Use the supplied screwdriver to adjust the GAIN at appropriate position.
- Plug the 6.3∅ phone plug of the optional guitar cable to the output jack on the instrument and the 3.5 ∅ plug into audio input connector on the bodypack transmitter.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Play the instrument for testing and adjust the levels on your audio mixer or amplifier.

8. Troubleshooting

- Before checking sound, move the transmitter around the area where you use the system to look for dead spots. If you find any dead spot, change the receiver position. If it does not work, avoid such places.
- If undesirable noise occurs, adjust the SQUELCH control on receiver in clockwise to suppress it. The higher squelch control, the lower the sensitivity of the receiver and decrease the service area of the system.

Problem

Solution

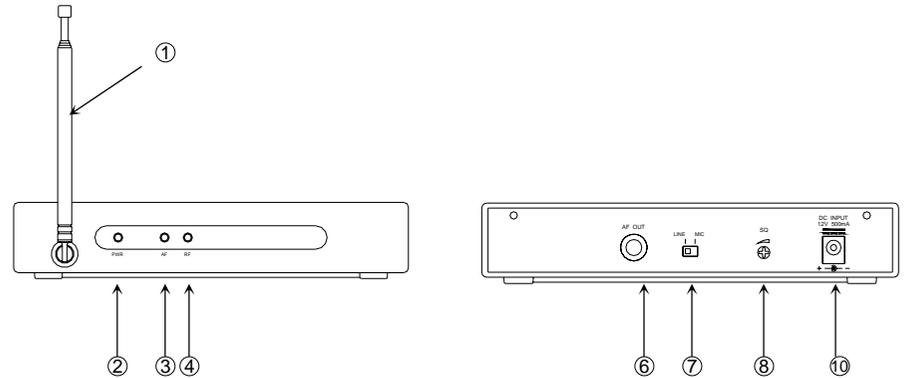
- | | |
|--------------------|--|
| No sound | <ul style="list-style-type: none"> ➤ Check the power supply of the microphone and receiver. ➤ Check that the transmitter and receiver are using same frequency. ➤ Check whether the hi-fi appliance is switched on and the receiver output is connected to audio mixer or amplifier input. ➤ Check whether transmitter is too far away from receiver or SQUELCH control set too high. ➤ Check whether receiver is located too near metal object or there are obstructions between transmitter and receiver. |
| Sound interference | <ul style="list-style-type: none"> ➤ Check the antenna location. ➤ When using 2 or above microphone sets simultaneously, make sure that the chosen frequencies are not interfered. ➤ Check whether the interference comes from other wireless microphones, TV, radio and etc. |
| Distortion | <ul style="list-style-type: none"> ➤ Check the gain control (Mic Adj.) for bodypack transmitter is set too high or too low. ➤ Check whether the interference comes from other wireless microphones, TV, radio and etc. |

5. Product Description

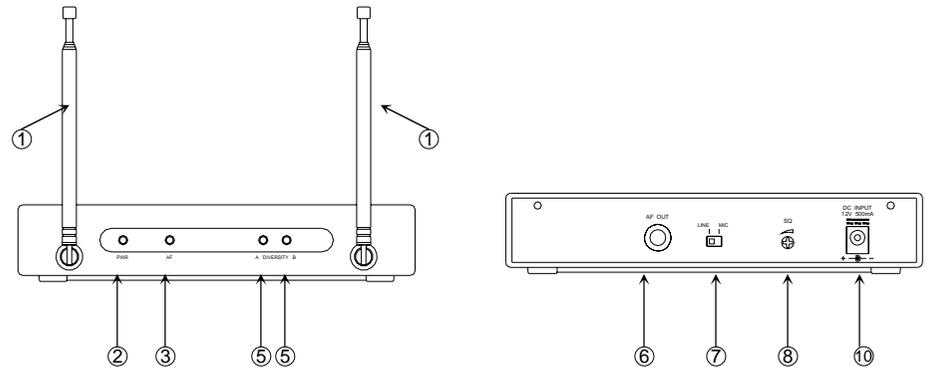
5.1 Receiver

These are the stationary receivers for use with our VHF transmitters (DC3V operating voltage). The receiver operates in VHF band frequency with quartz locked controlled. Powered by 12V DC.

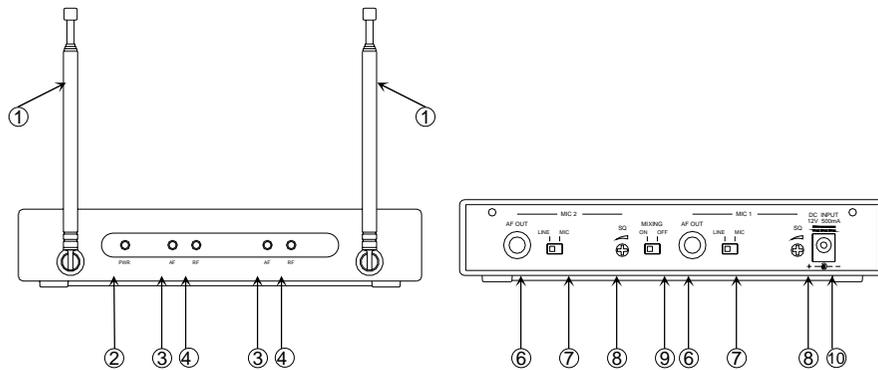
5.1.1 Single Channel, Non-Diversity



5.1.2 Single Channel, Diversity



5.1.3 Dual Channel, Non-diversity



1. **Antenna:** Fixed-length antenna permanently mounted either on the front panel..
2. **Power Indicator:** The indicator LED lights when the receiver is ready to operate.
3. **AF Indicator:** The indicator glows to indicate that audio signal has been received.
4. **RF Indicator:** This LED lights to indicate that signal is being received.
5. **Diversity A. B Indicator:** This LED lights to show that antenna has received the RF Signal.
6. **AF Output:** Unbalanced 6.3mm mono jack audio output for connecting to, e.g., a guitar amplifier.
7. **Mic/Line Switch:** Select AF output level for Mic (-20dB) or Line (0dB).
8. **Squelch Adj. :** The squelch adjusts the output level to prevent from the external noise. Setting the squelch too high will reduce the range of the system. Set the squelch to minimum before turning the receiver on.
9. **Mixing Switch:** When the MIXING switch is in the OFF position, the AF output for channels 1 and 2 are separated. When the MIXING switch is in the ON position, the AF output for channels 1 and 2 are mixed, so that both AF outputs have combined signal from both channel 1 and channel 2.
10. **DC Jack:** DC input connector for the supplied AC adapter.

7. Setting Up

NOTICE: Prior to setting up, check that the transmitter and receiver are using the same frequency. Two or above transmitters operating in the same frequency can not be used at the same time and area, so please select the different frequencies which can be used simultaneously at local area.

7.1 Connecting the receiver to power

- Point the antennas upward.
- Check that the voltage of the supplied AC adapter conforms the output DC 12V in local area. Using the wrong AC adapter may cause irreparable damage to the unit.
- Plug the feeder cable of the supplied AC adapter into DC IN socket on the receiver. Then plug the AC adapter into a power outlet.

7.2 Connecting the receiver to an audio mixer or an amplifier

In order to make sure the sound quality and avoid distortion, please adjust the MIC/LINE switch according to following instructions.

- When using a standard audio cable with XLR or 6.3φ phone plugs to plug into the MIC IN on the audio mixer or on the amplifier, please select the MIC/LINE switch to "MIC" position, the output level for unbalanced output is about at 100mV.
- When using a standard audio cable with XLR or 6.3φ phone plugs to plug into the LINE IN on the mixer, please select the MIC/LINE switch to "LINE" position, the output level for unbalanced output is about at 1V.

7.3 Inserting batteries into the handheld microphone / bodypack transmitter

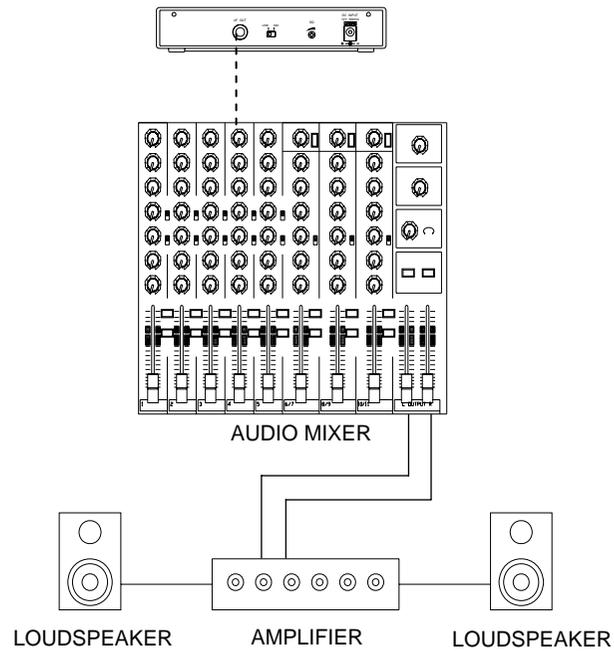
- Push to open the battery cover and insert batteries into the battery compartment conforming to the polarity (+)(-) marks. The transmitter can not work with incorrectly inserted batteries.
- When push the ON/OFF switch to "ON" to switch the power on, the LED will flash momentarily.
If the battery has sufficient power, the LED flashes once. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
- Push back the battery cover to click it shut.

7.4 Setting up the handheld microphone transmitter

- Check the transmitter and receiver are using the same frequency.
- Switch the receiver power on, select the AF output level on Mic (-20dB) or Line (0dB) position.
- Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- Test the microphone and adjust the levels on your audio mixer or amplifier.

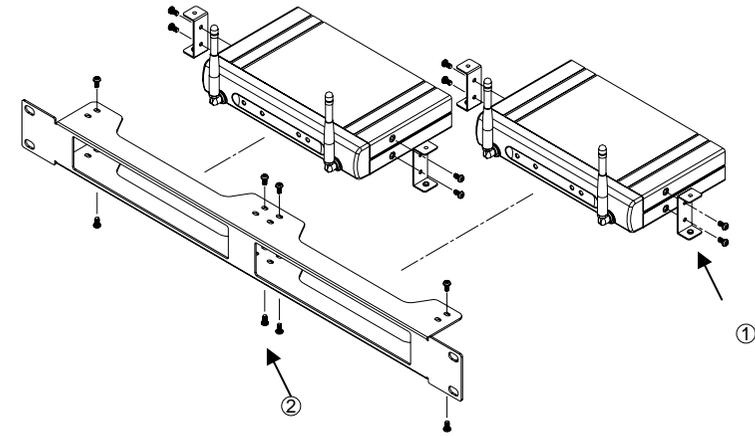
6. Basic Connections

Connect the receiver output to the mixer or amplifier input, using a standard audio cable with a 6.3φ phone plug.



Rack Mounting

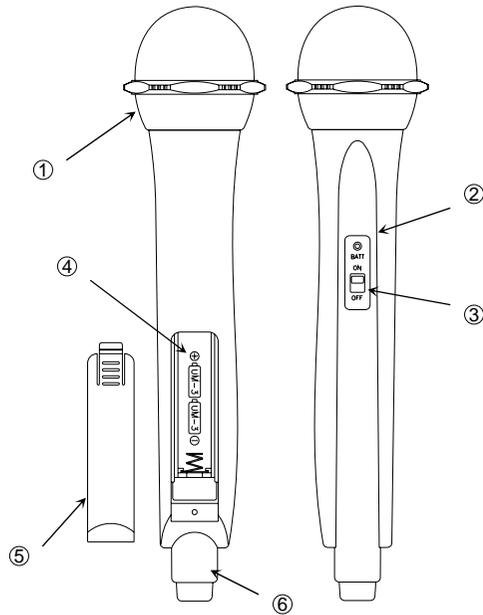
To combine two receivers in a 19" standard rack by using metal racks



1. Install 2 pieces ear short racks on both side sides of receiver.
2. Install the receiver on the 19" metal rack mount by screwing the ear short racks.

5.2 Handheld Microphone

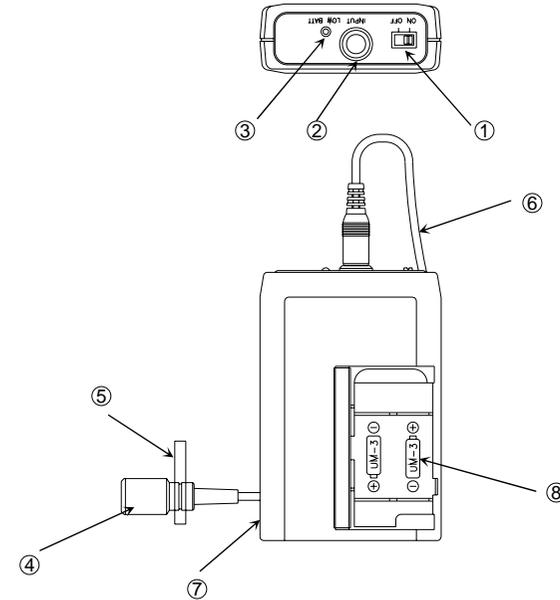
The handheld microphone operates in VHF high band frequency range 150~260MHz with quartz-locked control and integrated antenna design. Uni-directional dynamic or uni-directional electret condenser cartridge differ various characters for choices. Use 2 x 1.5V AA size batteries for low operating cost.



1. **Grille:** Protects the microphone cartridge and helps reduce breath sounds and wind noise. The grille for the various microphone cartridges different in appearance.
2. **Low Battery LED:** LED indicates battery status. Switching the power to "ON", the LED flashing once indicates that the transmitter has sufficient power. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
3. **On/off Switch:** Turns transmitter power on and off.
4. **Battery Compartment:** Insert two DC1.5V AA batteries into the compartment and make sure that the polarity of batteries is correct
5. **Battery Cover:** Push to expose battery compartment.
6. **Antenna:** Built-in high gain helical antenna.

5.3 Bodypack Transmitter

The bodypack transmitter operates in VHF high band frequency range 150~260MHz with quartz-locked control. Uni-directional condenser cartridges with different characters for various choices. Use 1.5V x 2 AA size batteries for low operating cost.



1. **On/Off Switch:** Turns transmitter power on and off.
2. **3.5φ connector:** The included electret lapel microphone is inserted into the connector on transmitter.
3. **Low Battery LED:** LED indicates battery status. Switching the power to "ON", the LED flashing once indicates that the transmitter has sufficient power. If the LED stays on, it indicates that the battery has insufficient power and should be changed soon. If the status LED fails to flash, the battery is either dead or not positioned correctly, and you should correct the positioning or change the battery.
4. **Mic Unit:** The uni-directional electret condenser unit features the wide frequency response for warm, rich bass and clear sound.
5. **Tie Clip:** To clip on the tie or lapel for free-movement.
6. **Cable:** With 3.5φ screw type plug cable to connect the transmitter. This cable is also regard as transmission antenna, so please extend it as straight as possible.
7. **Gain:** The rotary control adjusts the sensitivity of the transmitter's audio to the level of the connected lapel microphone or instrument.
8. **Battery Compartment:** Insert two AA batteries into the compartment and make sure that the polarity of batteries is correct.