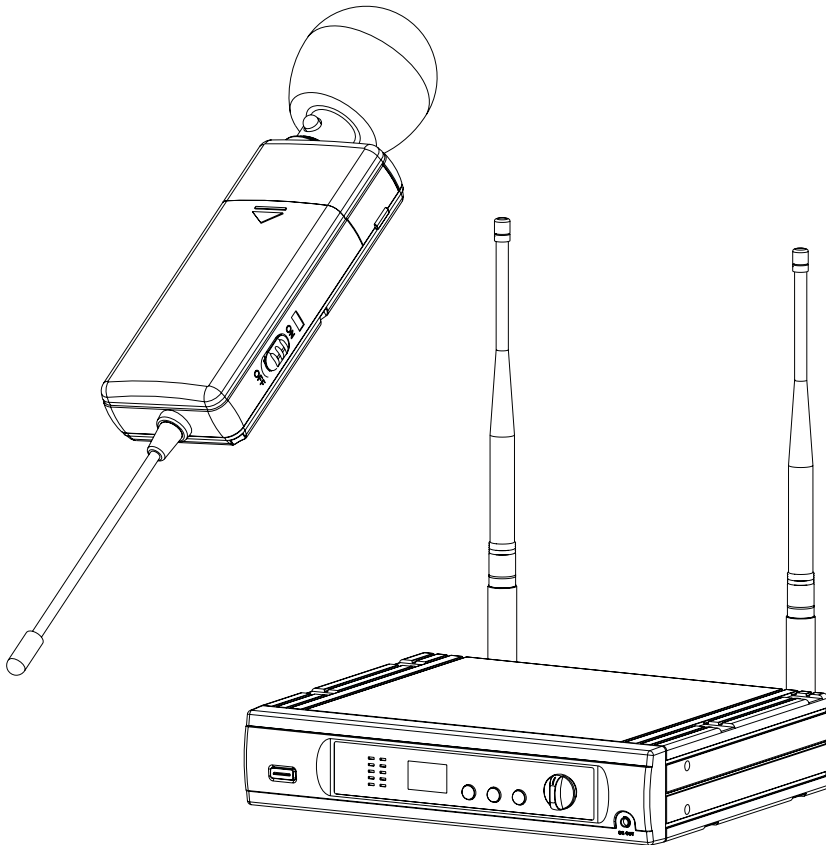


WIRELESS INSTRUMENT SYSTEM INSTRUCTION MANUAL



WIRELESS INSTRUMENT SYSTEM

Table of contents	Page
1. Introduction	1
2. Safety	2
3. Environment	2
4. Wireless Note	2
5. Product Description	4
5.1 Receivers	
5.2 Mini Transmitter	
6. Basic Connections	8
7. Setting Up	10
7.1 Connecting the receiver to power	
7.2 Connecting the receiver to an audio mixer or an amplifier	
7.3 Setting up channel on receiver	
7.4 Inserting batteries into the mini transmitter	
7.5 Setting up the mini transmitter	
8. Trouble Shooting	12
9. System Feature	12
10. System Specification	13

WIRELESS INSTRUMENT MICROPHONE

There are four steadyies of MINI-TRANSMITTER can be provided for different musical instruments, speaking or singing occasions.

- Hook and Loop fasteners steady.



- Butterfly-type steady with Hook and Loop fasteners.



- Adjustable clamp



- Spring Clip type



Optional Microphone and accessory for mini transmitter.

- Lavalier Microphone



- Lavalier / Headset Combo Microphone



- High SPL Resistant Mic



- Guitar Cable



WIRELESS | Wireless Note

Thank you for purchasing our product. This wireless microphone system operates in UHF band frequency with synthesized controlled. The system with 16 selectable frequencies via Phase Locked Loop (PLL) circuitry makes it easy to choose non-interfered channels. (The number of frequency channels depends on local regulations.) Please read this instruction manual carefully before operating the system.

1.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.

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

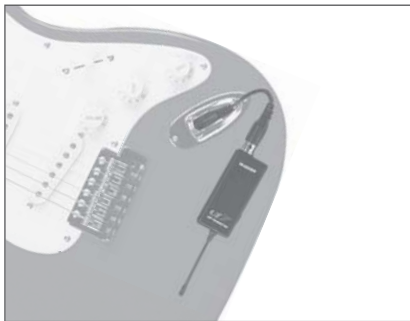
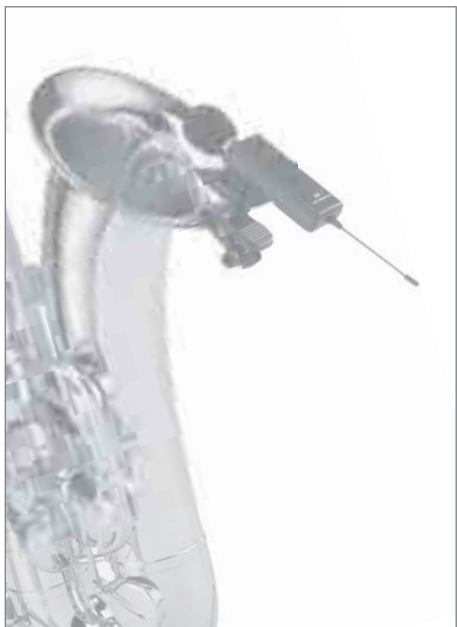
3.Environment

- ➡ 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

4.Wireless Note

- ➡ Before setting up, make sure that the transmitter and receiver are tuned to the same frequency. Do not use two or above transmitters operating 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.
- ➡ Use the gain control to adjust the sensitivity of the transmitter's audio to the level of the connected lapel microphone or instrument.
- ➡ To avoid interference, do not put the receiver too near metal object and avoid obstructions between transmitter and receiver.
- ➡ 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.
- ➡ Avoid the interference from TV, radio, other wireless appliances and etc.



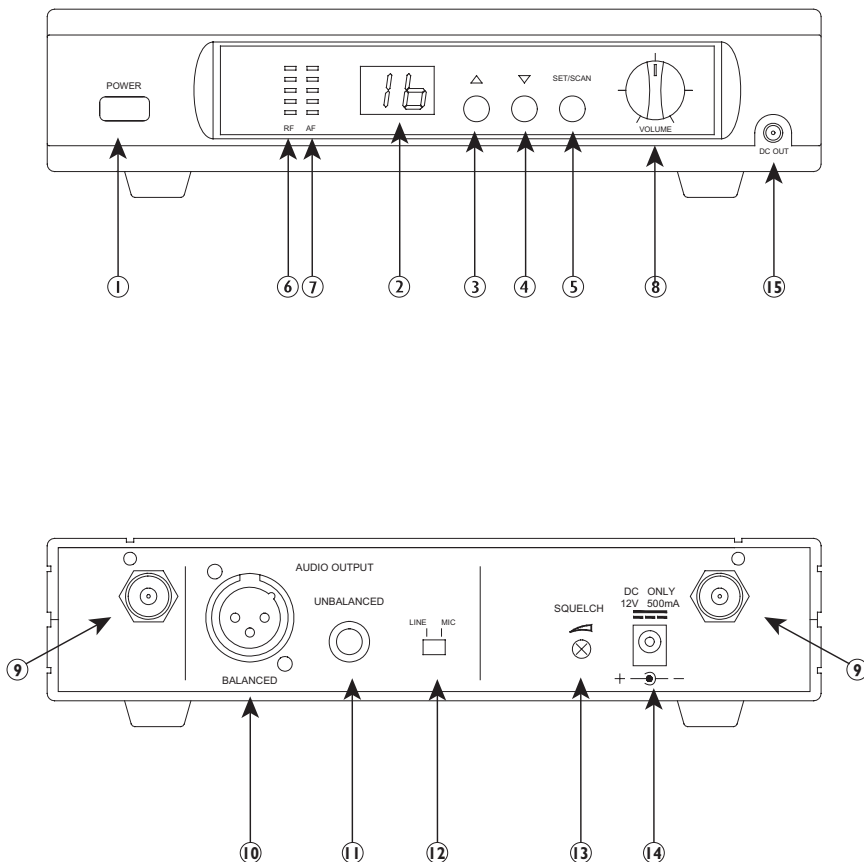
5. Product Introduction

5.1 Receivers

The receivers are used with our 16-channel selectable channels transmitters. (The number of frequency channels depends on local regulations.)

The receiver operates in UHF band frequency with PLL synthesized control. Powered by 12V DC.

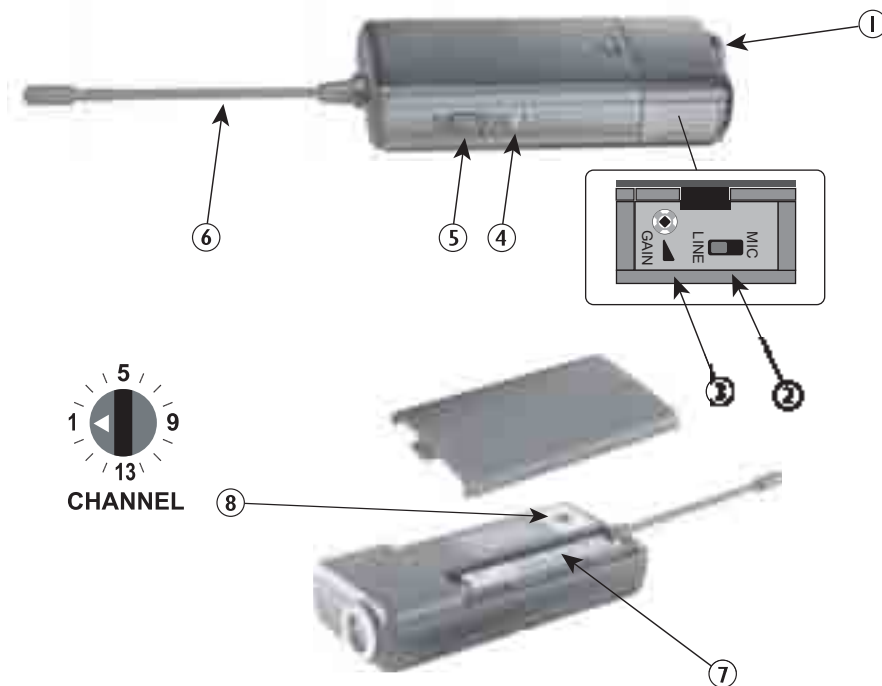
Single Channel, 1/2 Rack, Switching Diversity



- ① Power: Press for 4 seconds to power the receiver on or off.
- ② Channel Display: LED channel displays the channel number.
- ③ Button $\triangle$: When the LED display starts flashing, press this button to change the channel forward.
- ④ Button ∇ : When the LED display starts flashing, press this button to change the channel in backward.
- ⑤ Set / Scan Button:
 - ➡ Auto Scan: Press 3 seconds to search the next clean channel automatically.
 - ➡ Set Channel: Press 1 second to let LED channel display flashing, then press the channel button $\triangle$ or ∇ to change the channel. Wait LED channel display flashing five times to lock the channel or press SET button for 1 second to lock the channel.
- ⑥ RF Level Indicators: 5-segment meter glows to indicate RF signal strength. The more segment glow, the stronger the received signal. If none of these segments glow, no signal is being received.
- ⑦ AF Level Indicators: 5-segment meter glows to indicate audio signal strength. The more segment glow, the stronger the received signal. If none of these segments glow, no signal is being input.
- ⑧ Level Control: Use this rotary control to adjust the receiver output level to match the input sensitivity of an audio mixer or an amplifier.
- ⑨ Antenna Input Connector: TNC-type connectors provide connection to the supplied antennas or to coaxial cable used with an antenna divider, antenna boosters or remote antennas.
- ⑩ Balanced Output: 3-pin XLR connector provides balanced low-impedance output.
- ⑪ Unbalanced Output: Unbalanced 6.3mm mono jack audio output for connecting to, e.g., a guitar amplifier.
- ⑫ Mic/Line Switch: Select output of XLR balanced connector or 6.3 $\varnothing$ unbalanced phone jack. It can be set for microphone (-20dB) or line-level (0dB).
- ⑬ 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.
- ⑭ DC IN: DC input connector for the supplied AC adapter.
Colin Strain: For the feeder cable of the supplied AC adapter.
- ⑮ DC OUT: Connect the supplied cable to the receiver and the transmitter, and it takes around 10 hours to charge the re-chargeable batteries inside the transmitter.

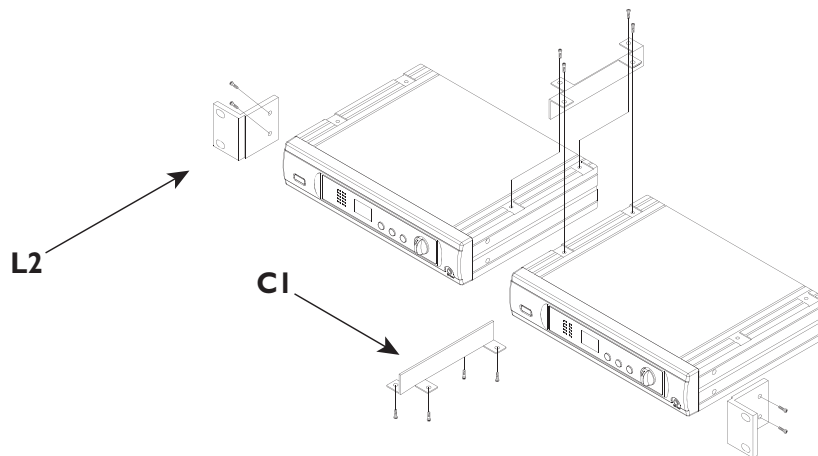
WIRELESS | Product Introduction

5.2 Mini Transmitter

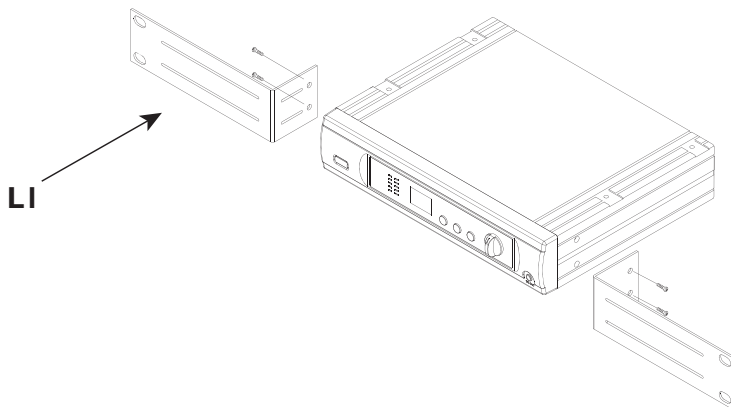


- ① Mini XLR connector: It is available for audio input with the mini XLR connector.
- ② Mic / Line Selector: The switch sets the audio input either to microphone level or line level.
- ③ Gain: The rotary control adjusts the sensitivity of the transmitter's audio to the level of the connected lapel microphone or instrument.
- ④ LED: LED indicates battery life 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.
- ⑤ ON/OFF Switch: Turns transmitter power on and off.
- ⑥ Antenna
- ⑦ Battery Compartment: Insert one AAA dry or rechargeable batteries into the compartment and make sure that the polarity of batteries is correct.
- ⑧ Channel Selector: Changes transmitter channel setting.

To combine two receivers in a 19" standard rack by using 2 short L type plastics racks (L2) and 2 metal connecting plates (C1). (Each system includes a L2 and a C1.)



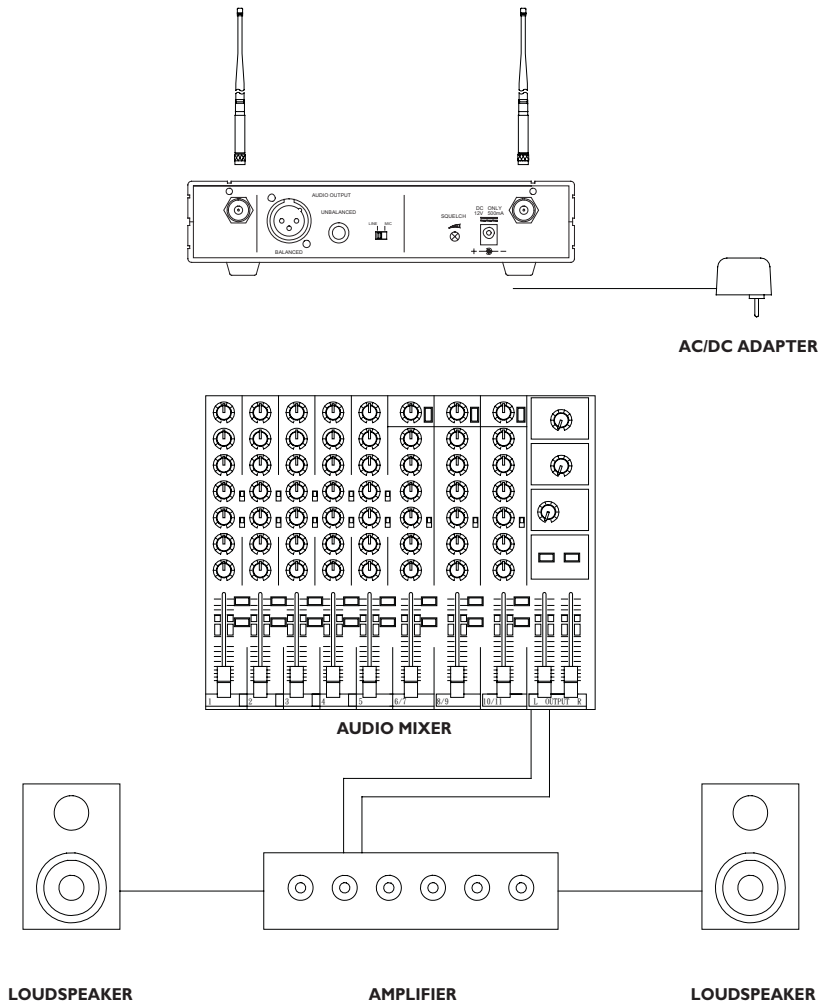
To mount a receiver in a 19" standard rack by using 2 L type long metal racks (L1). (L1 is an optional product, so please purchase extra in local shops.)



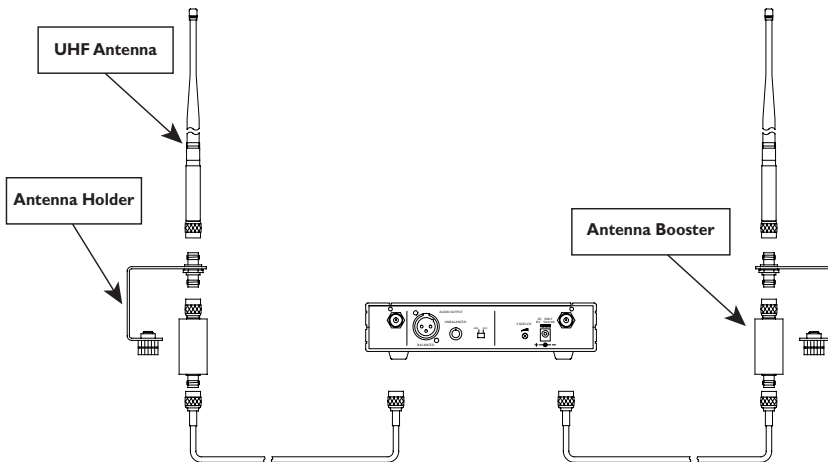
WIRELESS | Basic Connections

6. Basic Connections

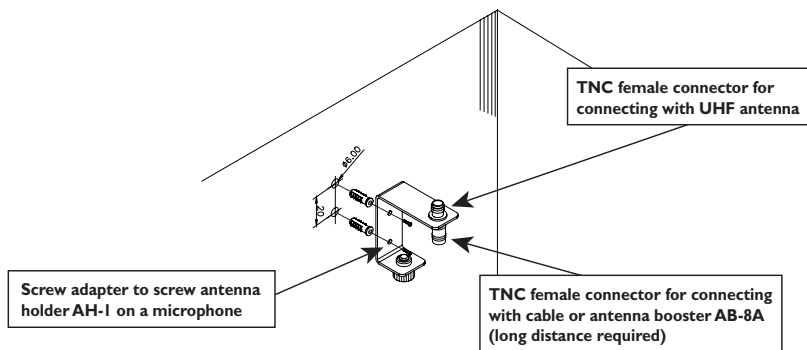
Connect the receiver output to the audio mixer or amplifier input, using a standard audio cable with 6.3Ø phone plugs. Never use the balanced and unbalanced audio outputs at the same time! This may cause signal loss or increased noise.



The antenna booster is highly recommended for long-distance purpose, such as in stadium or in auditorium. By means of antenna holder, the antenna and booster can put wherever you want. It is ideal design for multi-channel application. Antenna boosters are applied to the receivers, which have detachable antennas.



Antenna holder makes it easy to fix wherever for connection antenna and booster. It can be assembled on the mic stand or on the wall.



7.Setting Up

NOTICE :

Prior to setting up, please check that the transmitter and receiver are tuned to the same frequency. Two or more transmitters operating in the same frequency can not be used at the same time and area. So for each extra transmitter, please select a different frequency which can be used simultaneously at local area.

7.1 Connecting the receiver to power

Plug the antennas into the TNC socket on the receiver, if the antennas are detachable and point them upward.

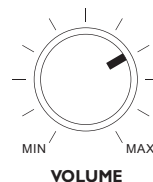
Check that the voltage of the supplied AC adapter conforms to the voltage available (AC110 or 220) in local area. Using the wrong AC adapter may cause irreparable damage to the unit.

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.

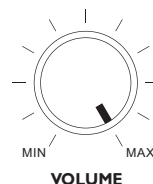
7.2Connecting the receiver to an audio mixer or an amplifier

In order to make sure the sound quality and avoid distortion, please adjust the volume level according to following instructions.

➡ When using a standard audio cable with 3-pin XLR connectors or 6.3 ϕ phone plugs to plug into the MIC IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around 1 o'clock position, the output level for balanced and unbalanced output is about at 77mV.



➡ When using a standard audio cable with 3-pin XLR connectors or 6.3 ϕ phone plugs to plug into the LINE IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around MAX. position, the output level for balanced and unbalanced output is about at 770mV.



➡ When using a standard audio cable with 3-pin XLR connectors or 6.3 ϕ phone plugs to plug into the MIC IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around 1 o'clock position, the output level for balanced and unbalanced output is about at 77mV.

➡ When using a standard audio cable with 3-pin XLR connectors or 6.3 ϕ phone plugs to plug into the LINE IN on the audio mixer or on the amplifier, please turn the Volume Level Control of the receiver to around MAX. position, the output level for balanced and unbalanced output is about at 770mV.

7.3 Setting up channel on receiver

Do not put two or more transmitters operating nearby when setting up the frequency channel. Please keep transmitter at least one meter away from receiver.

7.3.1 Manual Mode

Setting interference-free channel by manual operation.

- ➡ Press button "Set/Scan" for 1 second to let LED channel display flashing.
- ➡ Press button Δ or ∇ for 2 seconds to change the channel forward or backward.
- ➡ Stop pressing button and let LED display flashing five times to lock the setting.

7.3.2 Auto-Scan Mode

Setting interference-free channel by auto-scan programmed search.

- ➡ Press button "Set/Scan" for 3 seconds to search the next free-interference channel automatically. The auto-scan system would stop at the next free-interference channel..
- ➡ Stop pressing button and let LED display flashing five times to lock the setting.
- ➡ If user need to set up a multi-receiver system, please keep your previous receiver-microphone pair power on. Then go on to next scanning procedure.

7.4 Inserting batteries into the mini 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.

7.5 Setting up the mini transmitter

- ➡ Use the AC adaptor to connect the DC input connector for on the receiver and check the frequency.
- ➡ Switch the transmitter and hi-fi appliance (amplifier, tape deck etc.) power on.
- ➡ Adjust the channel setting of the transmitter according to receiver's channel setting.
- ➡ Test the microphone and adjust the levels on your audio mixer or amplifier.

8.Trouble Shooting

Problem	Solution
No sound	• Check the power supply of the microphone and receiver. • Check that the transmitter and receiver are tuned to the 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	• 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	• Check the receiver volume level is set too high or too low. • Check whether the interference comes from other wireless microphones, TV, radio and etc.

9.System Feature

- ➡ Operating in UHF band frequency with synthesizer controlled.
- ➡ The wireless microphone system with 16 selectable frequencies via Phase Locked Loop (PLL) circuitry makes it easy to choose non-interfered channels.
- ➡ Diversity with two antennas to ensure the reception quality.
- ➡ Super high sensitivity, extremely low noise transmission and reception.
- ➡ SMT assembled PCB module ensures the quality and stability.

10. System Specification

Receiver

Carrier Frequency Range	UHF band
Frequency Stability	0.005%
Receiving Sensitivity	At 8dB μ V over 80dB S/N ratio
Image and Spurious Rejection	80 dB minimum
Selectivity	> 50dB
Modulation Mode	FM
IF Frequency	1 st : 56MHz ; 2 nd : 10.7MHz
Tone Signal	32.768KHz
S/N ratio	> 94dB, at 48KHz deviation and 60dB μ V antenna input
AF Response	80Hz to 12KHz ($\pm$ 3dB)
T.H.D.	Less than 1.0% (at 1KHz)
Power Supply	DC 12V ~ 18V
Audio Output	Balanced and unbalanced outputs (Mic.= -20dB / Line = 0dB)
Current consumption	150mA(Max.)A

Mini Transmitter

Carrier Frequency Range	UHF band
RF Power Output	10mW (max.)
Oscillation Mode	PLL synthesized, 16Channel selectable
Frequency Stability	0.005%
Maximum Deviation	48KHz with limiting compressor
Spurious Emission	> 60dB below carrier frequency
T.H.D.	< 1% (at 1KHz)
Microphone Capsule	Handheld : uni-directional electret condenser unit Lavalier: uni-directional electret condenser unit
Tone Signal	32.768KHz
Battery	DC1.5V (1x 1.5V AAA size batteries) or DC 1.2V (1 x 1.2V AAA size rechargeable batteries)
Battery Charging	Without Charging Function
Current consumption	110mA at 1.5V

