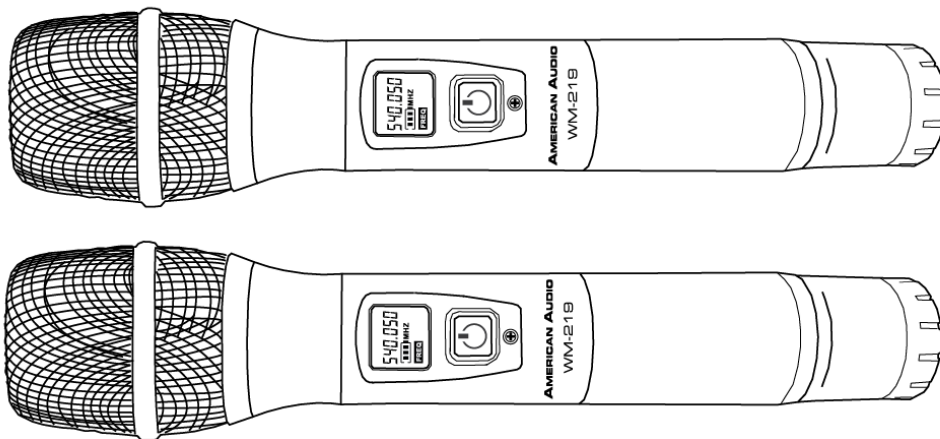
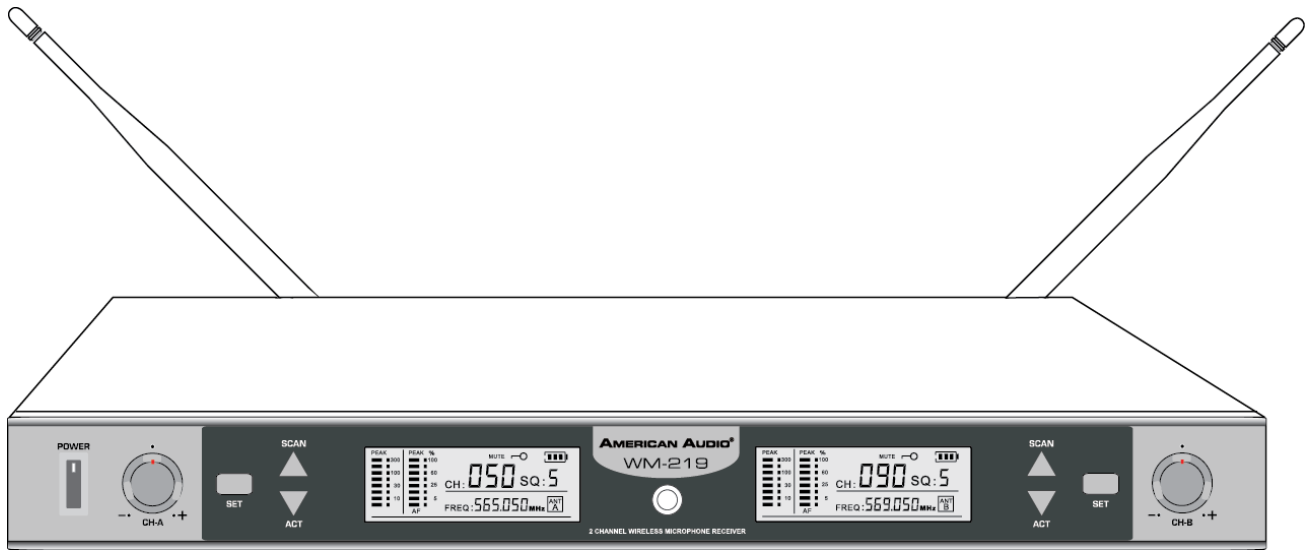


AMERICAN AUDIO



UHF SERIES | UHF 540-590MHz

PROFESSIONAL WIRELESS MICROPHONE SYSTEM

WM-219

User Manual

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DOCUMENT VERSION

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Date	Document Version	Notes
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01/31/19	1.2	Updated release.

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GENERAL INFORMATION

INTRODUCTION

This rack mountable UHF wireless microphone system has been designed to perform reliably for years when the guidelines in this booklet are followed. Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this device. These instructions contain important information regarding safety during use and maintenance.

UNPACKING

Every device has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your device for damage and be sure all accessories necessary to operate the device have arrived intact. In the event damage has been found or parts are missing, please contact our customer support team for further instructions. Please do not return this device to your dealer without first contacting customer support at the number listed below. Please do not discard the shipping carton in the trash. Please recycle whenever possible.

BOX CONTENTS

- (1) Selectable Channel UHF Wireless Receiver
- (2) Hand Held Wireless Microphones
- (4) AA batteries
- (2) UHF Antennas (length 10.5" / 267mm)
- (2) Rack Mount Ears with Antenna Mounting Holes and Screws
- (2) BNC Antenna Extension Cables (length 0.20" / 0.5m)
- (1) External 12-15VDC Power Supply
- (2) Microphone Stand Clips

CUSTOMER SUPPORT

AMERICAN AUDIO® provides a customer support line, to provide set up help and to answer any question should you encounter problems during your set up or initial operation. You may also visit us on the web at www.adj.com for any comments or suggestions. For service related issue please contact us.

AMERICAN AUDIO SERVICE USA - Monday - Friday 8:00am to 4:30pm PST**Voice: 323-582-3322****Fax: 323-725-6100****E-mail: support@americandj.com****AMERICAN AUDIO SERVICE EUROPE - Monday - Friday 08:30 to 17:00 CET****Voice: +31 45 546 85 30****Fax: +31 45 546 85 96****E-mail: service@americandj.eu****WARRANTY REGISTRATION**

Please complete and mail in the enclosed warranty card to validate your purchase. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper and included in the shipping container. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. Items returned without a R.A. number clearly marked on the outside of the package will be refused and returned at customer's expense. You may obtain a R.A. number by contacting customer support.

IMPORTANT NOTICE!

There are no user serviceable parts inside this device. Do not attempt any repairs yourself; doing so will void your manufactures warranty. Damages resulting from modifications to this fixture and/or the disregard of safety and general user instructions found in this user manual void the manufactures warranty and are not subject to any warranty claims and/or repairs.

LIMITED WARRANTY (USA ONLY)

A. American Audio® hereby warrants, to the original purchaser, American Audio® products to be free of manufacturing defects in material and workmanship for a period of 1 Year (365 days) from the date of purchase. This warranty shall be valid only if the product is purchased within the United States of America, including possessions and territories. It is the owner's responsibility to establish the date and place of purchase by acceptable evidence, at the time service is sought.

B. For warranty service, send the product only to the American Audio® factory. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, American Audio® will pay return shipping charges only to a designated point within the United States. If the entire instrument is sent, it must be shipped in its original package. No accessories should be shipped with the product. If any accessories are shipped with the product, American Audio® shall have no liability whatsoever for loss of or damage to any such accessories, nor for the safe return thereof.

C. This warranty is void if the serial number has been altered or removed; if the product is modified in any manner which American Audio® concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the American Audio® factory unless prior written authorization was issued to purchaser by American Audio®; if the product is damaged because not properly maintained as set forth in the instruction manual.

D. This is not a service contract, and this warranty does not include maintenance, cleaning or periodic check-up. During the period specified above, American Audio® will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of American Audio® under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of American Audio®. All products covered by this warranty were manufactured after January 1, 1990, and bear identifying marks to that effect.

E. American Audio® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products theretofore manufactured.

F. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with products described above. Except to the extent prohibited by applicable law, all implied warranties made by American Audio® in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty period set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said period has expired. The consumer's and or Dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall American Audio® be liable for any loss or damage, direct or consequential, arising out of the use of, or inability to use, this product.

G. This warranty is the only written warranty applicable to American Audio® products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

SAFETY GUIDELINES

To guarantee a smooth operation, it is important to follow all instructions and guidelines in this manual. The manufacturer of this device is not responsible for injury and/or damages resulting from the misuse of this device due to the disregard of the information printed in this manual. Any modifications to the device and/or the accessories included will void the original manufacturer's warranty and increase the risk of damage and/or personal injury.

NEVER OPEN THIS DEVICE WHILE IN USE!



DO NOT PLUG DEVICE INTO A DIMMER PACK!

UNPLUG POWER BEFORE CLEANING DEVICE!

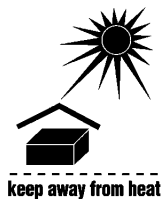
CLEAN ONLY WITH A DRY CLOTH!

KEEP FLAMMABLE MATERIALS AWAY FROM DEVICE!



INDOOR / DRY LOCATIONS USE ONLY!

DO NOT EXPOSE DEVICE TO RAIN OR MOISTURE!



DO NOT EXPOSE DEVICE TO:

HIGH TEMPERATURE OR HIGH HUMIDITY ENVIRONMENTS!

AMBIENT OPERATING TEMPERATURE: 23° to 113°F. (-5° to 45°C)



DO NOT USE DEVICE IF BATTERIES ARE DAMAGED, DEFORMED, OR HAVE AN ODOR!

DO NOT DISASSEMBLE BATTERIES!

DISPOSE OF BATTERIES ACCORDING TO LOCAL, STATE, AND COUNTRY REGULATIONS!

S A F E T Y G U I D E L I N E S

DO NOT shake device, avoid brute force when operating device.

DO NOT operate device if the power cord or power supply has become frayed, crimped and/or damaged. If the power cord or power supply is damaged, replace it immediately with a new one of similar power rating.

ONLY use accessories that are specified by the manufacturer.

The device should be serviced and repaired by authorized personnel only.

Use the original packaging and materials to transport the fixture in for service.

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.

FCC RADIO FREQUENCY INTERFERENCE WARNINGS & INSTRUCTIONS

This product has been tested and found to comply with the limits as per Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device uses and can radiate radio frequency energy and, if not installed and used in accordance with the included instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

Reorient or relocate the device.

Increase the separation between the device and the receiver.

Connect the device to an electrical outlet on a circuit different from which the radio receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Energy Saving Matters (EuP 2009/125/EC)

Saving electric energy is a key to help protecting the environment. Please turn off all electrical products when they are not in use. To avoid power consumption in idle mode, disconnect all electrical equipment from power when not in use. Thank you!

F C C C O N S U M E R A L E R T (U . S .)

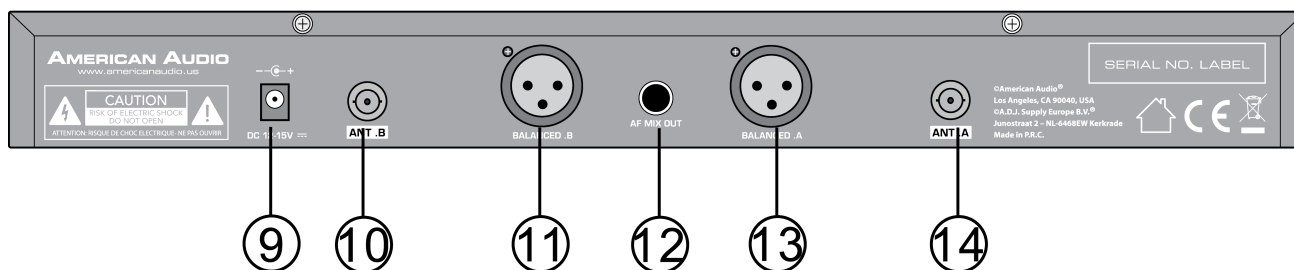
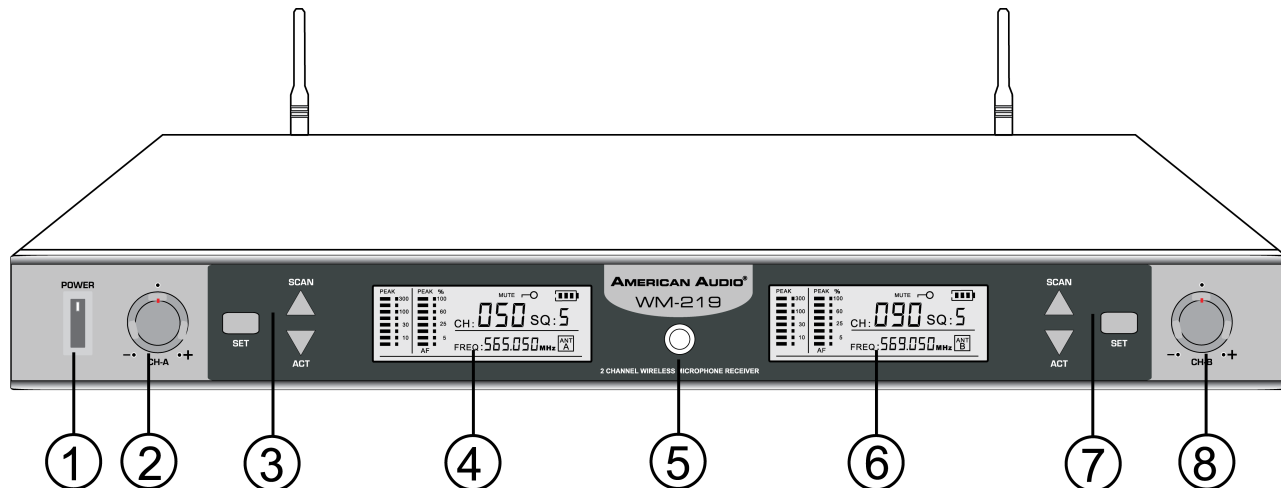
A license is not required to operate this wireless microphone system.

However, operating this microphone system is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50 milliwatts); and it has protection from interference received from any other device. Users of this wireless system should also be aware that the FCC is currently evaluating the use of wireless microphone systems, and these rules are subject to change.

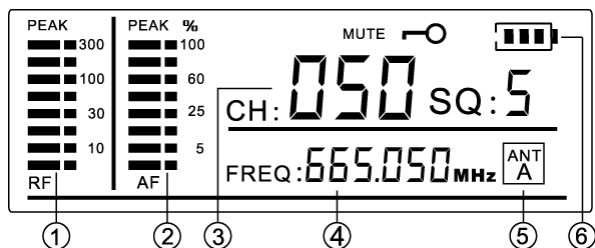
FOR MORE INFORMATION, CALL THE FCC AT 1-888-CALL-FCC (TTY: 1-888-TELL-FCC)

OR VISIT www.fcc.gov/cgb/wirelessmicrophones

OVERVIEW - WIRELESS RECEIVER

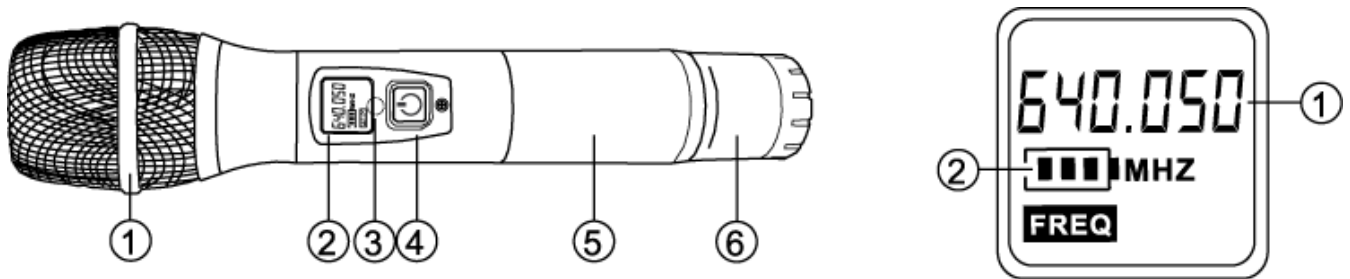


- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Power Switch 2. CH-A Volume Control Dial 3. CH-A Function Buttons 4. CH-A LED Control Display 5. Infrared Transmitter 6. CH-B LED Control Display 7. CH-B Function Buttons | <ol style="list-style-type: none"> 8. CH-B Volume Control Dial 9. DC Power Supply Input 10. CH-B Antenna Input (BNC) 11. CH-B 3pin XLR Balanced Audio Output 12. CH-A and CH-B 1/4" Audio Mix Output 13. CH-A 3pin XLR Balanced Audio Output 14. CH-A Antenna Input (BNC) |
|---|--|



1. RF Radio Intensity
2. AF Radio Intensity
3. Channel Display
4. Frequency Display
5. Signal Channel Display
6. Battery Level

OVERVIEW - HANDHELD MICROPHONE TRANSMITTERS

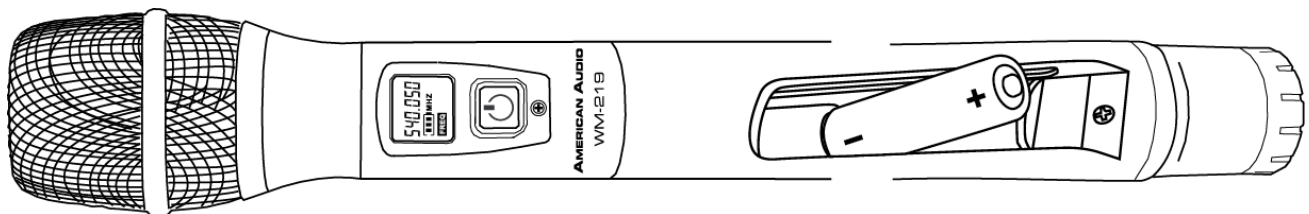


1. Grill
2. LED Control Display
3. Infrared Receiver
4. Power Switch
5. Battery Compartment Cover*
6. Internal Antenna – Colored Ring

1. Frequency
2. Battery Level

BATTERY REPLACEMENT

1. Power microphone OFF.
2. Unscrew the battery compartment cover off and Insert batteries as indicated.
3. Screw on the battery compartment cover securely.
4. Power ON microphone and check battery level on LED Control Display.



WIRELESS INSTALLATION LOCATION GUIDELINES

There are many factors that can affect and/or interrupt the wireless UHF signal. These factors can include walls, glass, metal objects and surfaces, other digital or electronic devices (CD/DVD/Media players, computers, laptops, Wi-Fi devices, cell phones, wireless phones, two-way radio communication devices, and wireless remote controls), electronic appliances, and people. It is highly recommended to position the wireless receiver away from the above-mentioned items and a minimum of **3.0 ft. (1m)** above audiences and/or above ground level. Thorough testing of the selected installation location is critical to ensure optimum and reliable wireless operation.

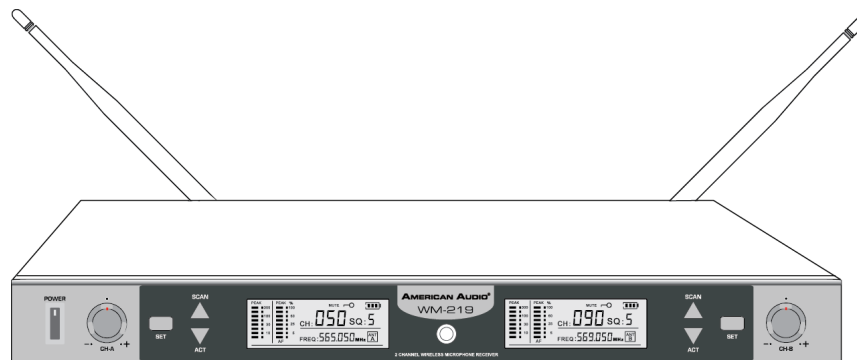


USING MULTIPLE WM-219 UNITS AT THE SAME TIME

When using multiple WM-219 units at the same time within 100 meters of each other, a different frequency must be set for each microphone to avoid inference issues.

ANTENNA POSITIONING

For the best wireless reception, position the antennas at 90 degrees from each other. (see illustration below)



INSTALLATION

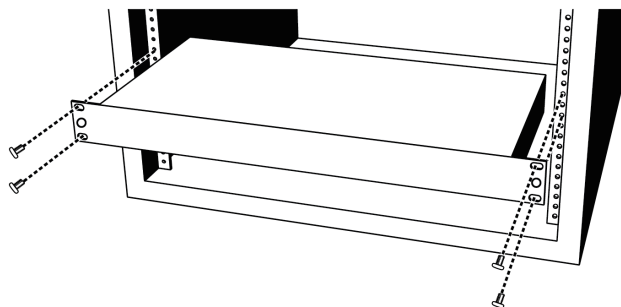
1. Place receiver on a flat non-metal surface.
2. Connect both UHF antennas to the back of the receiver.
3. Position both UHF antennas vertically and ensure they are fully extended.
4. Turn both Channel A and B Volume Control Dials counter-clockwise to (-).
5. Connect 3pin XLR audio cable to Balanced Channel A/B outputs.
6. Connect ¼" audio cable to Audio Mix Out.
7. Connect power supply to receiver and power ON receiver and microphones.
8. Check battery levels of both microphones and replace batteries if needed.

TO INSTALL RECEIVER IN A 19-INCH RACK, FOLLOW STEPS BELOW

1. Connect (2) BNC antenna extension cables to back of receiver.
2. Install (2) Rack Ears to both sides of receiver with screw kit. (see image below)



3. Route antenna BNC extension cables from back of receiver to Rack Ears.
4. Secure antenna BNC extension cables to Rack Ears.
5. Connect 3pin XLR audio cable to Balanced Channel A and B outputs.
6. Connect ¼" audio cable to Audio Mix Out.
7. Connect included power supply to back of receiver.
8. Install and secure with rack screws (not included). (see image below)



9. Connect both included UHF antennas to the Rack Ears on each side.
10. Power ON receiver and microphones.
11. Check battery levels of both microphones and replace batteries if needed.

OPERATION – MANUAL FREQUENCY SETTING

1. Select one of the microphones and power it ON.
2. On the receiver, press the **SET** button for channel A or B and **CH:** will begin flashing the current frequency set for that channel on the LED display. Immediately press the **SCAN** or **ACT** buttons for the same channel (A or B) to scroll up or down the 100 total frequency presets.
3. Press the **SET** button to select/lock a desired frequency for the channel (A or B).
4. Hold the desired microphone close to the wireless receiver so both the infrared receiver on the microphone and the infrared transmitter on the wireless receiver are in a direct unobstructed line of sight. Press the **ACT** button for the selected frequency to be transmitted to the microphone.
5. Confirm the desired frequency was set by pushing the power button on the microphone to toggle between **CH** and **MHz** on the LED display. If successful, the **CH** and **MHz** on the receiver channel and on the microphone should match.
6. Repeat this process for the other channel and microphone or repeat this process again if there are any issues.
7. Adjust the volume control dials for each channel (A&B) accordingly and test.

OPERATION – AUTO FREQUENCY SETTING

1. Select one of the microphones and power it ON.
2. On the receiver, press the **SCAN** button for channel A or B and the receiver will begin to scan for the best available frequency.
3. After the receiver completes its search and sets the frequency on the LED Control Display, hold the desired microphone close to the wireless receiver so both the infrared receiver on the microphone and the infrared transmitter on the wireless receiver are in a direct unobstructed line of sight. Press the **ACT** button for the selected frequency to be transmitted to the microphone.
4. Confirm the desired frequency was set by pushing the power button on the microphone to toggle between **CH** and **MHz** on the LED display. If successful, the **CH** and **MHz** on the receiver channel should match on the microphone.
5. Repeat this process for the other channel and microphone or repeat this process again if there are any issues.
6. Adjust the volume control dials for each channel (A&B) accordingly and test.

TROUBLE SHOOTING TIPS

PROBLEM	POSSIBLE CAUSE	REMEDY
<p>NO Sound</p>	<ol style="list-style-type: none"> 1. AC Adapter not connected to Receiver or power source. 2. Receiver and/or Microphone is OFF. 3. Receiver is not connected to mixer or amplifier. 4. Volume control on Receiver is at zero. 5. Transmitter and Receiver frequencies are not identical. 6. Transmitter ON/OFF switch is at "OFF" or "MUTE" 7. Transmitter batteries are not inserted properly or are missing. 8. Transmitter batteries are dead. 9. Receiver is invisible from Transmitter location. 10. Receiver is too close to metal objects. 	<ol style="list-style-type: none"> 1. Connect AC Adapter to Receiver and/or power source. 2. Turn power switch to ON position. 3. Connect Receiver output to mixer and/or amplifier input. 4. Turn Volume control dial clockwise. 5. Use the same frequency for the Transmitter and the Receiver. 6. Set Transmitter ON/OFF switch to "ON" 7. Insert batteries in the corresponding direction as indicated by "+" and "-". 8. Replace batteries. 9. Relocate the Receiver to a direct line of sight location to the Transmitter. 10. Keep Receiver away from metal objects that may cause interference.
<p>Noise, Crackling, Unwanted Signals</p>	<ol style="list-style-type: none"> 1. Antenna location. 2. Interference from TV, Radio, or defective electrical appliances or installations. 	<ol style="list-style-type: none"> 1. Relocate the Receiver to a direct line of sight location to the Transmitter. 2. Power off interference sources and/or defective appliances or change the frequency used by these devices.
<p>Distortion</p>	<ol style="list-style-type: none"> 1. Interference from other wireless systems, TV, Radio, or defective electrical appliances or installations. 	<ol style="list-style-type: none"> 1. Power off interference sources and/or defective appliances or change the frequency used by these devices.
<p>Momentary loss of sound at some locations within performance area</p>	<ol style="list-style-type: none"> 1. Antenna location. 	<ol style="list-style-type: none"> 1. Relocate the Receiver to a direct line of sight location to the Transmitter. If dead spots persist, mark these areas and avoid performing in or around them.

TECHNICAL SPECIFICATIONS

PERFORMANCE

Carrier Frequency: UHF 540-599MHz
 Frequency Stabilization: < ±20PPM
 Dynamic Range: >98dB
 Total Harmonic Distortion: <1%
 Frequency Response: 50Hz ~ 14Hz
 Audio Output Level: 0-300mV ¼ TRS | 0-2V XLR Balanced
 Range: 300 ft.* (980m) Unobstructed Line of Sight
 *May vary based on line of sight, UHF signal retention and/or interference.
 Ø SLA Factor

RECEIVER

Power Supply: 110V
 DC Power Supply: 12VDC
 Max Power Consumption: 3W
 Signal/Noise Ratio: >85dB
 Image and Spurious Rejection: >90dB
 Neighbor Interference Ratio: >90dB
 Receiving Sensitivity: >90dB

TRANSMITTERS (x2)

Power: +10dBm
 Modulation Type: FM
 Battery Voltage: 1.5V x2 AA Batteries (not included)
 Battery Life with Full Charge: 6-10 Hours

CONTROL / CONNECTIONS

(2) Rotary Channel Volume Dials
 (2) Channel LCD Control Displays
 (2) 3pin Balanced XLR Audio Outputs
 (2) BNC Antenna Inputs
 (1) ¼" TRS Mix Audio Patch Output
 (1) Power Switch
 (1) DC Power Supply Input

RECEIVER SIZE / WEIGHT

Length: 16.5" (420mm)
 Width: 7.09" (180mm)
 Height: 1.7" (43mm)
 Weight: 4.25 lbs. (1.9 kg)

ELECTRICAL

(Input) AC 100-240V, 50/60Hz / (Output) DC 12V, ± 0.5, 500mA Min.

Please Note: Specifications and improvements in the design of this unit and this manual are subject to change without any prior written notice.

OPTIONAL ACCESSORIES

ORDER CODE	ITEM
XL-3	3 ft. (0.9m) 3pin Microphone Cable
	Additional Cable Lengths Available

