

AMERICAN AUDIO[®]



WM-419 **Professional Wireless Microphone System** user manual

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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.

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!

Document Version: An updated version of this document may be available online. Please check www.adj.com for the latest revision/update of this document before beginning installation and use.

Date	Document Version	Notes
03/28/19	1	Initial release.

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GENERAL INFORMATION

INTRODUCTION

Please read and understand all instructions in this manual carefully and thoroughly before attempting to operate these products. These instructions contain important safety and use information.

This product is intended to be used by professionally trained personnel only and is not suitable for private use

UNPACKING

The products in this kit have been thoroughly tested and have 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 each unit included for damage and be sure all accessories necessary to operate the units 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 kit 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.

WARRANTY RETURNS

The WM-419 carries a 1 Year (365 days) limited warranty. This warranty covers parts and labor. 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.

CUSTOMER SUPPORT

Contact American Audio Service for any product related service and support needs. Please visit forums.adj.com with questions, comments or suggestions.

AMERICAN AUDIO SERVICE USA - Monday - Friday 8:00am to 4:30pm PST
323-582-3322 | Fax 323-725-6100 | support@adj.com

AMERICAN AUDIO SERVICE EUROPE - Monday - Friday 08:30 to 17:00 CET
+31 45 546 85 60 | Fax +31 45 546 85 96 | support@adj.eu

REPLACEMENT PARTS please visit parts.adj.com

1 YEAR 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 prescribed 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, you must obtain a Return Authorization number (RA#) before sending back the product-please contact American Audio® Service Department at 323-582-3322.** 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, or 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 service by anyone other than 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 with new or refurbished parts, and will absorb all expenses for warrant 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 August 15, 2012, 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 INSTRUCTIONS AND GUIDELINES

To guarantee a smooth operation, it is important to follow all instructions and guidelines in this manual. AMERICAN AUDIO® is not responsible for injury and/or damages resulting from the misuse of these devices due to the disregard of the information printed in this manual. Only qualified and/or certified personnel should perform installation of these devices and only the original rigging parts included with these devices should be used for installation. Any modifications to these devices and/or the included mounting hardware will void the original manufactures warranty and increase the risk of damage and/or personal injury.



PROTECTION CLASS 1 – DEVICES MUST BE PROPERLY GROUNDED



THERE ARE NO USER SERVICEABLE PARTS INSIDE THESE DEVICES. DO NOT ATTEMPT ANY REPAIRS YOURSELF; DOING SO WILL VOID YOUR MANUFACTURES WARRANTY. DAMAGES RESULTING FROM MODIFICATIONS TO THESE DEVICES AND/OR THE DISREGARD OF SAFETY INSTRUCTIONS AND GUIDELINES IN THIS MANUAL VOID THE MANUFACTURES WARRANTY AND ARE NOT SUBJECT TO ANY WARRANTY CLAIMS AND/OR REPAIRS.



**DO NOT PLUG THIS UNIT INTO A DIMMER PACK!
DO NOT REMOVE THE COVER UNDER ANY CONDITIONS!
UNPLUG POWER DURING LONG PERIODS OF NON-USE**



**INDOOR / DRY LOCATIONS USE ONLY!
DO NOT EXPOSE DEVICES TO RAIN AND/OR MOISTURE!
PLACE UNIT IN A WELL VENTILATED AREA.**



keep away from heat

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

SAFETY INSTRUCTIONS AND GUIDELINES

DO NOT attempt installation and/or operation of devices without knowledge how to do so.

DO NOT permit operation by persons who are not qualified to operate these types of devices.

DO NOT shake devices, avoid brute force when installing and/or operating.

DO NOT operate device if the main power cord has become frayed, crimped and/or damaged.
Replace any damaged power cords with a similar power rating.

DO NOT remove or break-off the ground plug from the device power cords.

DO NOT remove or disassemble devices or batteries, there are NO user serviceable parts inside.

ALWAYS be sure to use this device in an area that will allow proper ventilation.

ALWAYS disconnect power cord and remove batteries during long periods of non-use.

Power cords should be safely routed and secured so they are not likely pinched.

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

FCC CONSUMER ALERT (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 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 THE FCC'S WIRELESS MICROPHONE WEBSITE BELOW.**

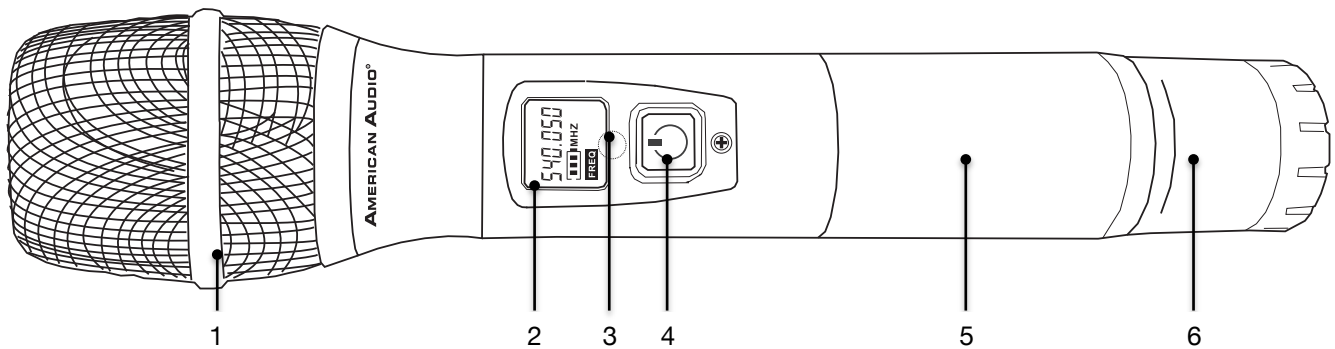
www.fcc.gov/cgb/wirelessmicrophones

OVERVIEW

Box Contents:

- (1) Receiver
- (4) Handheld Microphones
- (4) Microphone Stand Clips
- (4) UHF Antennas
- (1) Audio Cable
- (8) AA Batteries
- (1) Power Supply

HANDHELD MICROPHONE OVERVIEW



Handheld Microphone

1. Grill
2. LCD Display
3. Infrared Receiver
4. Power Button
5. Battery Compartment Cover
6. Internal Antenna – Colored Ring

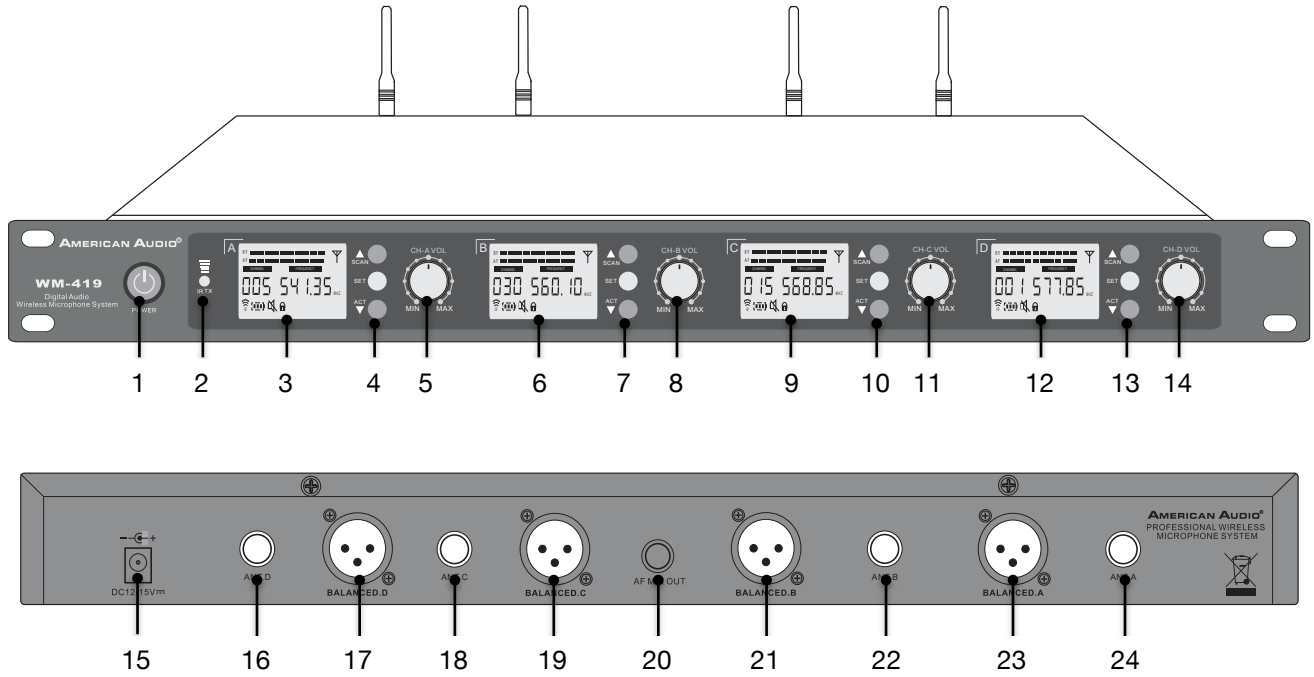


Handheld Microphone LCD Display

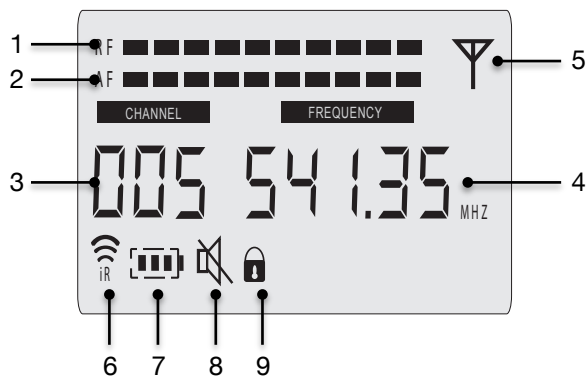
1. Frequency
2. Battery Level

OVERVIEW

RECEIVER OVERVIEW



- | | | |
|-----------------------------------|------------------------------------|---------------------------|
| 1. Power Switch | 9. CH-C LCD Display | 17. CH-D XLR Audio Output |
| 2. Infrared Transmitter | 10. CH-C Function Adjusting Button | 18. CH-C Antenna Input |
| 3. CH-A LCD Display | 11. CH-C Volume Control | 19. CH-C XLR Audio Output |
| 4. CH-A Function Adjusting Button | 12. CH-D LCD Display | 20. Audio Mix Output |
| 5. CH-A Volume Control | 13. CH-D Function Adjusting Button | 21. CH-B XLR Audio Output |
| 6. CH-B LCD Display | 14. CH-D Volume Control | 22. CH-B Antenna Input |
| 7. CH-B Function Adjusting Button | 15. DC Power Supply Input | 23. CH-A XLR Audio Output |
| 8. CH-B Volume Control | 16. CH-D Antenna Input | 24. CH-A Antenna Input |



Receiver LCD Display

1. RF Radio Intensity
2. AF Radio Intensity
3. Channel Display
4. Frequency Display
5. Signal Channel Display
6. IR Status
7. Battery Level
8. Mute Status
9. Lock

SET UP INSTRUCTIONS

SET UP

There are many factors that can affect and/or interrupt the wireless UHF signal. These factors can include walls, glass, metal objects, other solid 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. Do not install this equipment in a high temperature or high humidity environment. To ensure optimal performance of the system, the working temperature should be between 23°F (-5°C) and 113°F (45°C).

Therefore, it is 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. To allow for proper ventilation, the distances between equipment and objects around it should be no less than 8 inches (200mm). Careful planning and testing of the selected installation location is critical to ensure optimum and reliable wireless operation.

**3.0 ft (1m)
Above Ground**

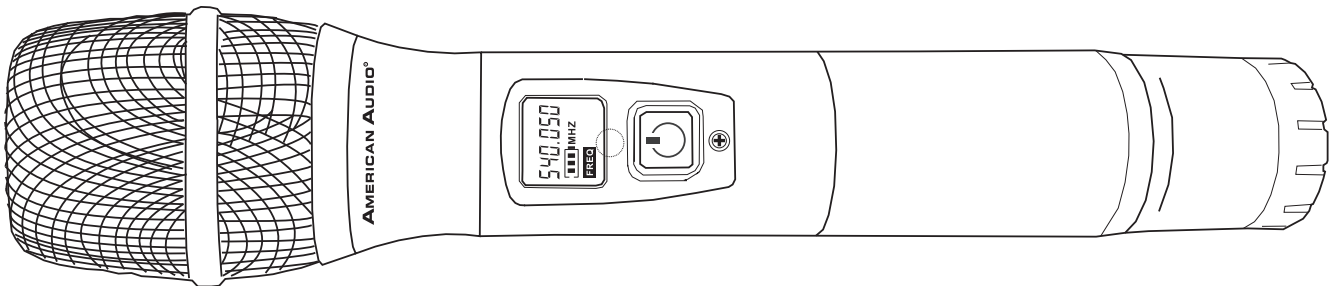


Note: In order to use two receivers (two sets of microphones) at a time, please use two different frequency models. If using multiple models with the same frequency range, please keep them at least 328 feet (100 meters) away from each other to avoid signal interference.

OPERATION

WIRELESS HANDHELD MICROPHONE

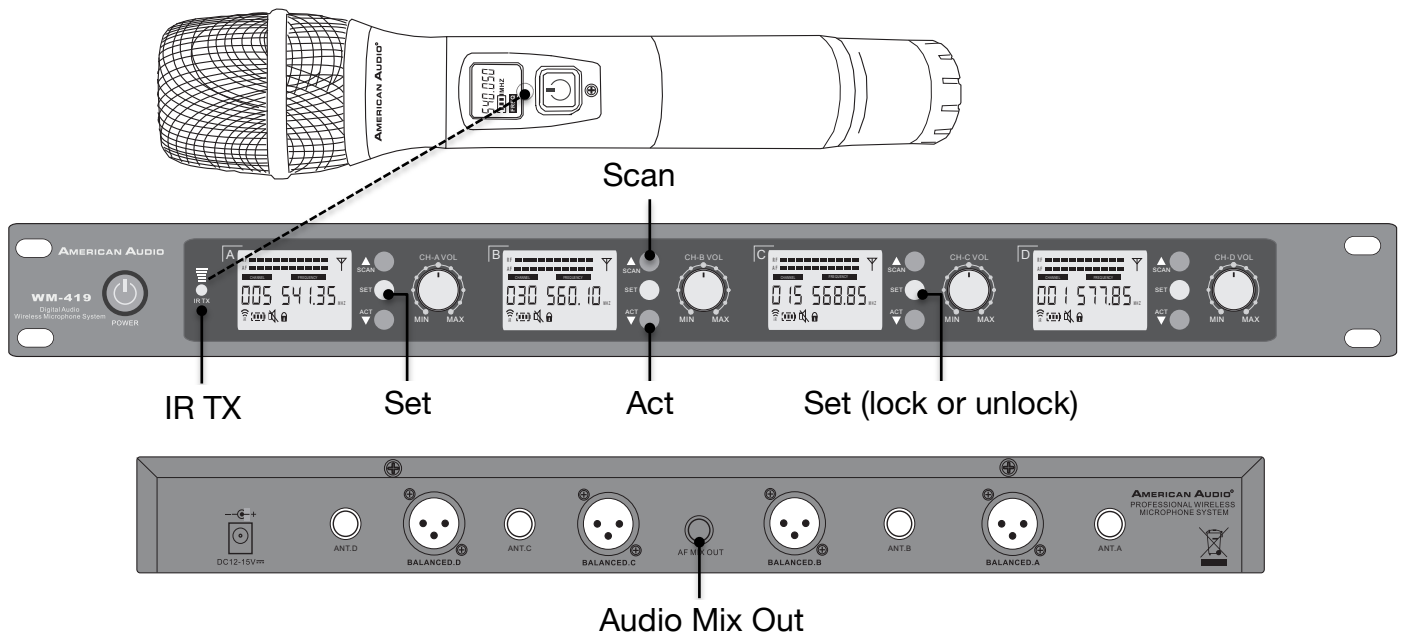
1. Open the battery cover and insert the batteries as indicated.
2. Reinstall the battery cover.
3. Power on the microphone using the **POWER** button.
 - When the battery is low, the battery level indicator will flicker.
 - When replacing batteries, replace both batteries at the same time.
4. Power off the microphone using the **POWER** button.
 - When not in use, please remove the batteries from the microphone.



OPERATION

WIRELESS RECEIVER

1. Place the receiver on a flat non-metal surface or install in an equipment rack.
2. Connect all four included UHF antennas to the receiver.
3. Position the UHF antennas vertically and ensure they are fully extended.
4. Connect the included power supply to the receiver and then plug into power outlet.
 - Connect Audio Output cable by connecting a 1/4" audio cable to Audio Mix Out.
5. Power the receiver **ON**.
6. Power **ON** microphone(s).
7. To select the channel manually press the **SET** button (the channel will begin to blink):
 - Press the **UP** or **DOWN** button(s) to scroll through optional channels.
 - Press **SET** button to confirm your selection.
 - Sync the desired frequency on the receiver to the handheld microphone by pressing and holding the **ACT** button. The IR status icon on the LED Screen will begin to flash.
 - Hold the desired microphone (with the LCD Screen facing the receiver) near the IR Transmitter to sync the receiver and microphone channel.
8. To have the receiver automatically select the best channel, hold the **SCAN** button on the receiver until the channels begin to scroll and one is chosen.
 - Sync the selected frequency on the receiver to the handheld microphone by pressing and holding the **ACT** button. The IR status icon on the LED Screen will begin to flash.
 - Hold the desired microphone (with the LCD Screen facing the receiver) near the IR Transmitter to sync the receiver and microphone channel.
9. Adjust the volume control dials for each of the 4 channels accordingly.
10. Long press **SET** button to lock or unlock the operation panel.



MAINTENANCE GUIDELINES



DISCONNECT POWER BEFORE PERFORMING ANY MAINTENANCE!

CLEANING

Frequent cleaning is recommended to insure proper function, and an extended life. The frequency of cleaning depends on the environment in which the device operates in: damp, smoky or particularly dirty environments can cause greater accumulation of dirt and or debris in the tank. Clean the external housing of the fixture at least every 20 days with a soft cloth to avoid dirt/debris accumulation.

NEVER use alcohol, solvents, or ammonia-based cleaners.

MAINTENANCE

Regular inspections are recommended to insure proper function and extended life.

There are no user serviceable parts inside these devices, please refer all other service issues to an authorized ADJ service technician. Should you need any spare parts, please order genuine parts from your local ADJ dealer or by visiting parts.adj.com.

To make sure the circuit contacts are in good condition and prevent overheating, a detailed review by an approved electrical engineer every three months is recommended.

Be sure all screws and fasteners and mounting hardware are securely tightened at all times. Loose screws may fall out during normal operation resulting in damage or injury as larger parts could fall.

Keep the unit dry. Avoid allowing moisture to enter any of the internal parts.

Electric power supply cables must not show any damage, material fatigue or sediments.

Damage could cause the device to fall and seriously injure a person(s).

TROUBLESHOOTING TIPS

Problem	Possible Cause	Remedy
No Sound	<ol style="list-style-type: none"> 1. AC adapter not connected to receiver or power source. 2. Receiver is off. 3. Receiver is not connected to mixer or amplifier. 4. Volume control on receiver is at zero. 5. Transmitter color codes are not identical. 6. Transmitter is off. 7. Transmitter batteries are not inserted properly or are missing. 8. Transmitter batteries need are dead. 9. Receiver is invisible from transmitter location. 10. Receiver is too close to objects that cause interference. 	<ol style="list-style-type: none"> 1. Connect AC adapter to receiver and/or power source. 2. Turn the receiver on. 3. Connect receiver output to mixer and/or amplifier input. 4. Turn volume control dial clockwise. 5. Use a transmitter and a receiver with matching color codes. 6. Turn transmitter on. 7. Insert batteries in the corresponding direction as indicted by the '+' 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.
Noise, crackling and unwanted signals	<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.
Distortion	<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.
Momentary loss of sound at some locations within the performance area	<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.

FREQUENTLY ASKED QUESTIONS

Listed below are a few answers to common questions users may have.

1. What is the carrier frequency?

The carrier frequency is UHF 540-590 MHz

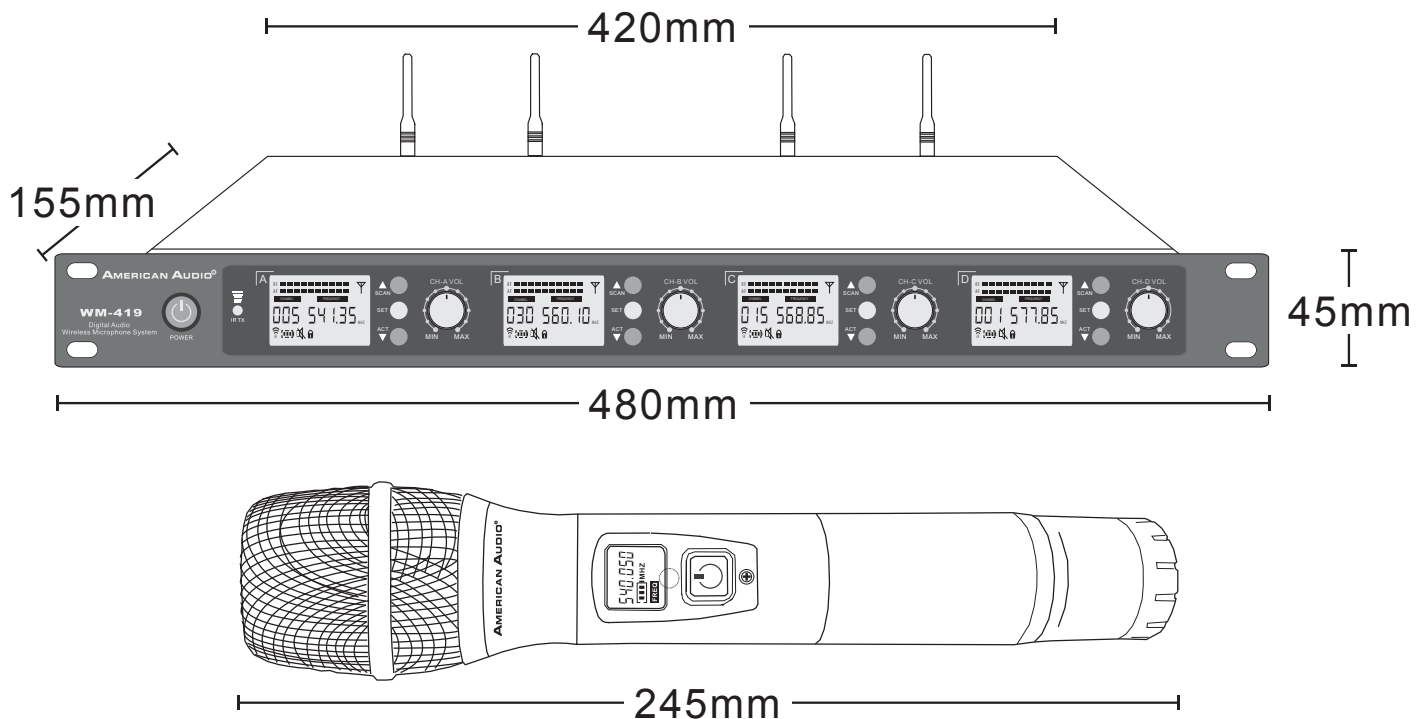
2. What kind of batteries do the microphones use?

Each microphone uses two 1.5V AA batteries.

3. Can you use two receivers (two sets of microphones) at the same time?

In order to use two receivers (two sets of microphones) at a time, different frequency models would be suggested. If using the same frequency range, please keep them at least 328 feet (100 meters) away from each other to avoid signal interference.

DIMENSIONS



SPECIFICATIONS

MODEL: WM-419	
Carrier Frequency:	UHF 540-590 MHz
Frequency Stabilization:	> ± 20 PPM
Dynamic Range:	> 98dB
Total Harmonic Distortion:	< 1%
Frequency Response:	50 Hz ~ 14 Hz
Audio Output Level:	0-300 mV $\frac{1}{4}$ TRS 0-20V XLR Balanced
Warranty:	1 Year (365 Days)
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
Dimensions (LxWxH)	18.9in (480mm) x 5.9in (150mm) x 1.7in (43mm)
Weight:	3.5lbs (1.6kg)
HANDHELD MICROPHONE	
Power:	+10dBm
Modulation Type:	FM
Battery Voltage:	1.5V x 2 AA Batteries
Battery Life with Full Charge:	6-10 Hours

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	Description
XL-3	3-foot XLR male to XLR female audio cable.*
XL-12	12-foot XLR male to XLR female audio cable.*
XL-25	25-foot XLR male to XLR female audio cable.*
XL-50	50-foot XLR male to XLR female audio cable.*
XL-100	100-foot XLR male to XLR female audio cable.*
WMC728	Replacement wireless microphone clip
WHS419	4 Channel UHF Wireless Microphone System. UHF 556.0MHz, 553.5MHz, 514.0MHz & 513.5MHz
WHS420	4 Channel UHF 510-556MHz Wireless Microphone System. UHF 555.8MHz, 551.4MHz, 511.3MHz & 510.0MHz

*Additional lengths available at www.adj.com

