

AMERICAN AUDIO

WM-16HH or WM-16LAV

16 Channel Selectable Wireless Microphone or Lavalier



User Guide

AMERICAN AUDIO

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The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER SERVICE TO YOUR AUTHORIZED AMERICAN AUDIO® SERVICE TECHNICIAN.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IMPORTANT SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the product is operated.

RETAIN INSTRUCTIONS — The safety and operating instructions should be retained for future reference.

HEED WARNINGS — All warnings on the product and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

CLEANING — The product should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

ATTACHMENTS — Do not use attachments not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE — Do not use this product near water — for example, near a bathtub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.

ACCESSORIES — Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

CART — A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.



VENTILATION — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

POWER SOURCES — This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

LOCATION — The appliance should be installed in a stable location.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

GROUNDING OR POLARIZATION

- If this product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other), it will fit into the outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- If this product is equipped with a three-wire grounding type plug, a plug having a third (grounding) pin, it will only fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.

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, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

OUTDOOR ANTENNA GROUNDING — If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.

LIGHTNING — For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

POWER LINES — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.

OVERLOADING — Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

OBJECT AND LIQUID ENTRY - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

SERVICING — Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

DAMAGE REQUIRING SERVICE - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the product.
- If the product has been exposed to rain or water.
- If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- If the product has been dropped or damaged in any way.
- When the product exhibits a distinct change in performance — this indicates a need for service.

REPLACEMENT PARTS — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

SAFETY CHECK - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

WALL OR CEILING MOUNTING — The product should not be mounted to a wall or ceiling.

HEAT — The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

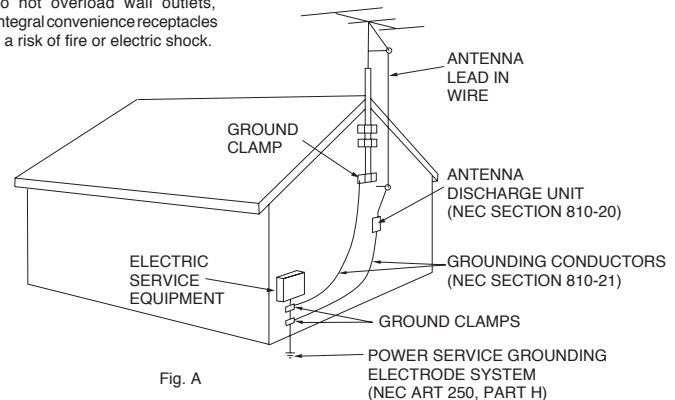


Fig. A

NEC — NATIONAL ELECTRICAL CODE

1. Heat - The receiver should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
2. Do not let insecticides, benzene, or thinner come in contact with the surface of the unit.
3. Never disassemble or modify your unit in any way, doing so will void your manufacturer's warranty.
4. Never plug this unit in to a dimmer pack
5. Do not attempt to operate this unit if it becomes damaged in any way.
6. This unit is intended for indoor use only, use of this product outdoors voids all warranties.
7. Always mount this unit in safe and stable matter.
8. Disconnect from main power before making any type of connection.

The serial and model number for this unit is located on the rear panel. Please write down the numbers here and retain for future reference.

Model No. _____

Serial No. _____

Purchase Notes:

Date of Purchase _____

Dealer Name _____

Dealer Address _____

Dealer Phone _____

Every WM-16HH™ and WM-16LAV™ 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 wireless microphone for any damage and be sure all equipment necessary to operate the wireless microphone has arrived intact. In the event damage has been found or parts are missing, please contact our toll free customer support number for further instructions. Please do not return the wireless microphone to your dealer without first contacting customer support.

WARRANTY INFORMATION

The WM-16HH™ and WM-16LAV™ carries a ONE year (365 days) limited warranty. This warranty covers parts and labor. Please fill out the enclosed warranty card to validate your purchase and warranty. All returned service items whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. Please contact American Audio® customer support at (800) 322-6337 for a R.A. number.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO WATER OR MOISTURE

NOTE: This product satisfies FCC regulations when shielded cables and connectors are used to connect the unit to other equipment. To prevent electromagnetic interference with electrical appliances such as radios and televisions, use shielded cables and connectors for connections.

Introductions: Congratulations and thank you for purchasing the American Audio® WM-16HH™ or WM-16LAV™. These wireless systems are a representation of American Audio's continuing commitment to produce the best and highest quality audio products possible at an affordable price. Please read and understand this manual completely before attempting to operate your new wireless microphone. Please carefully read and understand the instructions in this manual thoroughly before attempting to operate this unit. These instructions contain important safety information regarding the use and maintenance of this unit. Take special care to follow all warning symbols and labels both on the unit and printed in this manual. Please keep this manual with the unit, for future reference.

Customer Support:

American Audio® provides a toll free customer support line, to provide set up help and answer any question should you encounter problems during your initial set up or operation. You may also visit us on the web at www.americanaudio.com for any comments or suggestions. Service Hours are Monday through Friday 9:00 a.m. to 5:30 p.m. Pacific Standard Time.

Voice: (800) 322-6337

Fax: (323) 582-2941

E-mail: support@americandj.com

To purchase parts online visit <http://parts.americandj.com>

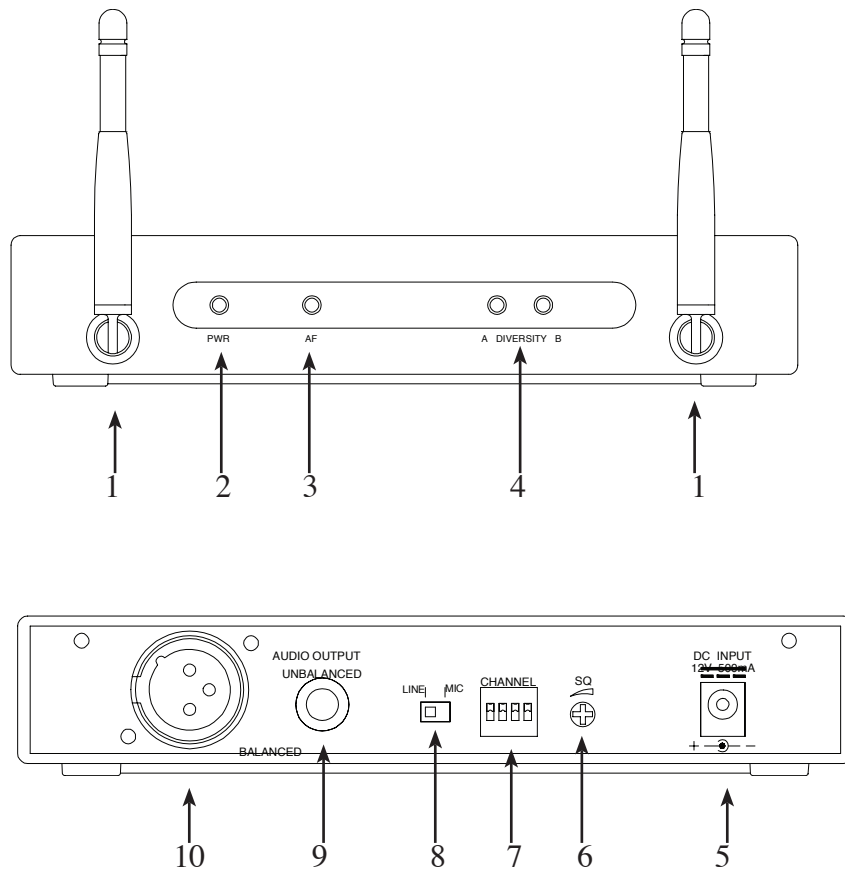
Caution! There are no user serviceable parts inside the receiver and microphone or lavalier. Do not attempt any repairs yourself, without being instructed to do so by an authorized American Audio service technician. Doing so will void your manufacturer's warranty. In the unlikely event your microphone or receiver may require service, please contact American Audio® customer support.

Do not discard the packing carton in the trash. Please recycle when ever possible.

Please be sure to make any connections before plugging the receiver in to an electrical outlet. Volume control should be set to zero or minimum position, before the receiver is switched on. If the receiver has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch on the receiver immediately. The arising condensation of water might damage your device. Leave the device switched off until it has reached room temperature.

Operating Determinations:

- When installing this unit, please make sure that the device is not exposed or will not be exposed to extreme heat, moisture or dust!
- Do not operate the unit in extremely hot (more than 30°/100°F) or extremely cold (less than 5°C/40°F) surroundings.
- Keep the unit out of direct sunlight and away from heaters.
- Operate the unit only after becoming familiar with its functions. Do not permit operation by persons not qualified for operating the unit. Most damages are the result of unprofessional operation!
- Do not attempt to operate this unit if the power cord has been frayed or damaged.
- Disconnect from main power before making any type of connection.
- Do not attempt to operate this unit, if it becomes damaged in any way.
- Never operate this unit when it's covers are removed.
- To reduce the risk of electrical shock or fire, do not expose this unit to rain or moisture.
- This unit is intended for indoor use only, use of this product outdoors voids all warranties.
- During long periods of non-use, disconnect the unit's main power.



1. **Antennas** - Receives RF signals from the transmitter.
2. **Power Indicator LED** - This LED will indicate that the power is on.
3. **AF Indicator LED** - This LED will indicate when the clearest transmitter signal has been reached.
4. **Diversity A & B Indicators** - These LED's indicate that the antennas are receiving an RF Signal.
5. **12v DC Input** - Connect the included power supply to this input, or any other 12v power adapter.
6. **Squelch Adjustment** - The squelch adjusts the output level to prevent external noise. If you set the squelch to high you will reduce the range of the system. Set the squelch to a minimum before turning the receiver on.
7. **Channel Selector** - Use these dipswitches to set your desired channel. Follow the dipswitch chart on page 6 to set your desired channel. You must also set the Mic or Lavalier to same channel as the receiver. Set the mic by unscrewing the bottom half of the mic and setting the dipswitches to the same channel. The Lavalier dipswitches are located on the side of the lavalier.
8. **Mic/Line Switch** - This switch lets you select your output source. If your connected to the line input on a mixer or amplifier set the switch to "Line". If your connected to a Mic input on a mixer or amplifier set the switch to "Mic".
9. **Unbalanced 1/4" Output** - This unbalanced output can be used to connect the receiver to the line-level input of a mixer or amplifier.
10. **Balanced XLR Output** - This balanced XLR output can be used to connect the receiver to balanced input of mixer or amplifier.

Receiver Set Up

1. Plug the included power supply into the DC input connector on the back of the receiver.
2. Plug the other end of the power supply into an power outlet.

Note: Make sure the squelch on the receiver is turned the minimum.

Microphone Set Up

1. Unscrew the bottom part of the microphone. The battery compartment is located inside of the microphone. Insert two AA batteries.
2. Screw the bottom of the microphone back into place.

Note: Make sure the squelch on the receiver is turned to the minimum before switching on the power.

Connecting the Receiver Output

1. You can connect the receiver to a output source using a cable with an 1/4" jack or 3-pin XLR female connection.
2. Connect one end of the cable to the receiver, and the other end into the mic or line input of a mixer, PA system, or amplifier. Set the Mic/Line switch accordingly on the receiver.

1. Plug the receiver in and press the power button on the mic located at the bottom of the mic for 2 seconds.

Note: Make sure the squelch on the receiver is turned the minimum before switching on the power.

2. Set the receivers channel by following the dipswitch chart below. Set the mic to the same channel as the receiver. The mic's dipswitches are located inside the mic, in the battery compartment. If the signal from the mic is being received by the receiver the Diversity LED's should light up.
3. Speak, sing, or play your instrument at a typical level. The AF LED's should flicker when receiving a signal from the microphone.
4. When finished, turn the microphone off, then unplug the receiver.

ON ↑	CH 1	CH 2	CH 3	CH 4
	CH 5	CH 6	CH 7	CH 8
	CH 9	CH 10	CH 11	CH 12
	CH 13	CH 14	CH 15	CH 16

Receiver Set Up

1. Plug the included power supply into the DC input connector on the back of the receiver.
2. Plug the other end of the power supply into an power outlet.

Note: Make sure the squelch on the receiver is turned the minimum.

Lavalier Set Up

1. Insert two AA batteries into the back battery compartment of the lavalier bodypack.
2. Connect the headset to the bodypack via the attached mini XLR cable. Make sure the Gain control located on the bottom right side of the bodypack is set to a minimum level.

Connecting the Receiver Output

1. You can connect the receiver to a output source using a cable with an 1/4" jack or 3-pin XLR female connection.
2. Connect one end of the cable to the receiver, and the other end into the mic or line input of a mixer, PA system, or amplifier. Set the Mic/Line switch accordingly on both the receiver and lavalier.

1. Plug the receiver in and then switch the power to "On" on the top of the lavalier bodypack.

Note: Make sure the squelch on the receiver is turned the minimum before switching on the power.

2. Set the receivers channel by following the dipswitch chart below. Set the lavalier to the same channel as the receiver. The lavalier's dipswitches are located on the side of the lavalier. If the signal from the mic is being received by the receiver the Diversity LED's should light up.
3. Speak, sing, or play your instrument at a typical level. The AF LED's should flicker when receiving a signal from the lavalier.
4. When finished, press the power to turn OFF the lavalier. Then unplug the power to the receiver.

Trouble Shooting: Listed below are common problems you may encounter, and their solutions.

There is no power to the unit:

1. Make sure you have connected the power cord to a 120v wall outlet.

There is little or no sound:

1. Make sure the battery is inserted properly (+/- battery terminals must match transmitter terminals).
2. Move transmitter closer to the receiver.
3. Check the batteries make sure they aren't low? If so replace the battery.
5. Make sure the receiver volume is not turned all the way down.
6. Check the cable connection between receiver and amplifier or mixer.

There is a momentary loss of sound when the transmitter is moved around the area:

1. Move the receiver around and perform walk-through tests. If audio dropouts continue, mark the "dead" areas and avoid them during performance.

Radio signals are interrupting performance:

1. Change the frequency channels on both the transmitter and receiver.

WARRANTY

1-YEAR LIMITED WARRANTY

- 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.

SPECIFICATIONS

GENERAL

System:	Model: American Audio® WM-16HH & WM-16LAV 16 Channel UHF Wireless Microphone or Lavalier System
Dimensions:	Receiver: 6.7" (L) x 4.17" (W) x 1.26" (H)
Installation:	Place on flat surface or mount in flat case
Weight:	Mic & Receiver: 0.95 Lbs./.43 kgs Bodypack, Lavalier, & Receiver: .73Lbs./.33Kgs.
Power supply:	DC 12V - 18V / For Receiver
Environmental conditions:	Operational temperature: 5 to 35°C (41 to 95°F) Operational humidity: 25 to 85% RH (non-condensation) Storage temperature: -20 to 60°C (4 to 140°F)

Accessories:

RECEIVER:

Frequency Stability:	± 0.005%
Receiving sensitivity:	At 5 μ V over 80dB S/N ratio
Image & Spurious:	80dB minimum
Selectivity:	> 50dB
Tone Signal:	32.768KHz
S/N ratio:	> 94dB, at 48KHz deviation and 60dB μ V antenna input
AF Response:	50Hz to 15KHz
T.H.D. Rate:	Less than 1.0% (at 1KHz)
Audio Output:	Balanced and unbalanced audio outputs
Power supply:	DC 12V - 18V
Current Consumption:	80mA ± 10mA

Mic/Bodypack Transmitter:

RF Power Output:	10mW (max)
Frequency stability:	±0.005%
T.H.D. rate:	< 1% (at 1KHz)
Oscillation mode:	PLL synthesized, 16 Channel selectable
Spurious Emission:	> 60dB below carrier frequency
Maximum Deviation:	± 48KHz with limiting compressor
Current consumption:	110mA at 3V
Battery:	DC3V (2 x 1.5V AA batteries) or DC2.4V (2 x 1.2V AA rechargeable batteries)
Tone Signal:	32.768KHz

NOTES:

*The specifications are subject to change to any improvement by negotiations in advance.
The parts are subject to change to any improvement within the range of the specifications.*