

CARVIN

9000
WIRELESS SYSTEMS



OPERATION MANUAL

HELPLINE

1-800-854-2235

8:30 To 4:30 Monday-Friday
Pacific Standard Time
USA

CARVIN

12340 World Trade Dr.
San Diego, CA. 92128
800-854-2235

CARVIN
800-854-2235

Record the serial number of your Wireless Mic in the space provided below:

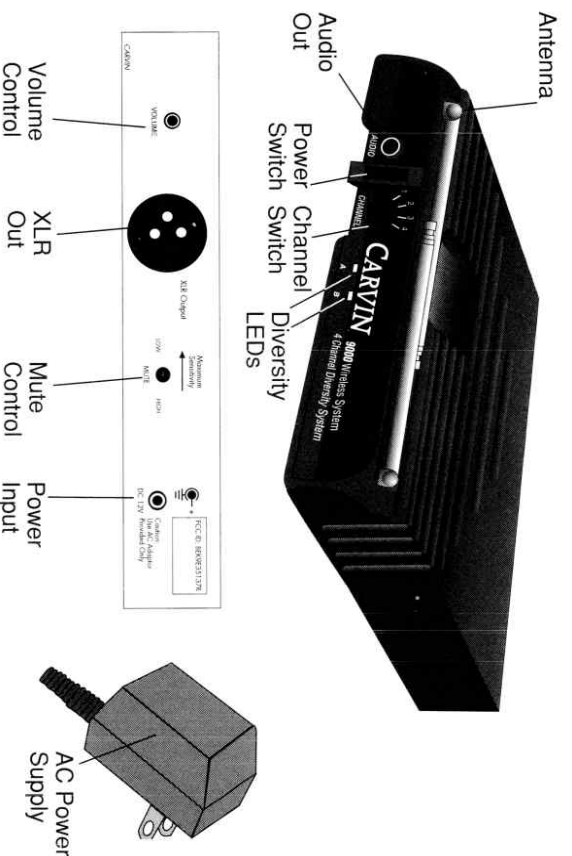
Serial No. _____ Date Received _____

CARVIN 4 CHANNEL WIRELESS SYSTEM

Thank you for purchasing Carvin's 9000 Four Channel VHF Diversity Wireless System, and congratulations on your choice. The 9000 is by far the best performance and price value available in VHF wireless systems. It offers flawless professional performance and sound. Operation on 4 user switchable frequencies assures enhanced versatility and clear channel selection in any application and locale. Carvin's companding circuitry delivers an industry best 120 dB dynamic range for the clearest, most natural sound available. And with Carvin's True Diversity, the 9000 delivers maximum range and audio dropout free performance.

Using this Manual

This booklet gives instructions for the operation of Carvin Wireless Systems, including Handheld, Lavalier and Guitar/Instrument systems. The Carvin Wireless System is comprised of a Wireless Receiver with power supply, and a Wireless Transmitter, depending on the system purchased. This manual will cover the operation of the Receiver, Transmitter and Power Supply.



9000 4 CHANNEL VHF RECEIVER OPERATING INSTRUCTIONS

The Carvin 9000 4 channel Wireless systems are crystal-controlled true diversity receivers. The 9000 series provides a greater degree of assurance against drop-outs from a "dual receiver" design. If the 1st antenna (receiver) fails to pick up the signal, the 2nd antenna (receiver) is available. The dual LED's on the 9000 indicate which receiver is picking up the signal (Transmit A or B). Special features on all include:

- 4 selectable Channels on the Transmitter and Receiver.
- Single overlay front panel with recessed Transmit LED indicators and power ON/OFF switch.
- Fold-down retractable Antennas
- Audio Outputs adjustable with Volume Control
- Externally powered by AC/DC Power Adapter provided
- Adjustable Mute Level

Step One—Powering the Receiver

Plug the AC/DC power supply provided into 12V input jack on back of receiver. Then plug the power supply into an AC outlet. Turn volume control counterclockwise to a minimum and slide POWER switch. POWER ON LED will now light, and receiver is operational. Sliding POWER switch back will turn the receiver off.

Step Two—Antennas

Extend antennas fully to obtain maximum range. Optimal antenna position is 45 degrees from the receiver (at 90 degrees from each other).

Step Three—Mute Adjustment

Select Channel 1 using the Channel Selector Switch. In normal operation, the mute control should be set fully clockwise to the factory preset RF level. However, in areas of high RF activity, the mute may need to be adjusted to compensate for the adverse conditions in a particular location. If with transmitter off, the receiver's A and/or B LEDs flicker or stay on, the mute control

Carvin's Limited One Year Warranty

Carvin warrants to the original purchaser that your unit is free from any defects in material or workmanship for a period of one year from the date of purchase. If any such defect is discovered within the warranty period, Carvin will repair or replace the unit free of charge, subject to verification of the defect or malfunction upon delivery.

Important:

Please do not return the product to the store where it was purchased, unless it was purchased at the Carvin Factory Showroom in San Diego. All items for service must be return to Carvin (shipped prepaid), 12340 World Trade Dr., San Diego CA. 92128

This warranty does not apply to microphone capsules, nor to defects or physical damage from abuse, neglect, accident, or improper repair, alteration, or unreasonable use of the unit resulting in cracked or broken cases or parts, or units damaged by excessive heat, and does not apply to batteries or damage caused by leaking batteries. This warranty does not cover finish or appearance items nor items damaged during shipping en route to Carvin for repair.

If factory service is required you must first contact our service department at 800-854-2235 to obtain a return authorization number (RA). Make sure the RA number is clearly marked on the outside of your package. If possible, please use your original packaging. You must include the Receiver, Transmitter and Power Supply. You must also include a photocopy of your proof of purchase or we cannot be responsible for repairs or replacements. Carvin will not replace nor be responsible for any units sent incomplete, without proper identification and return address or RA number clearly marked on the package.

Any applicable implied warranties including warranties of merchantability and fitness are hereby limited to one year from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable express or implied warranties are hereby excluded. This warranty is in lieu of all other agreements and warranties, general or special, express or implied and no representative or person is authorized to assume for us any other liability in connection with the sale or use of this Carvin Wireless System.

Some states do not allow limitations on how long implied warranties last and do not allow exclusion of incidental or consequential damages so the above limitations and exclusions may not apply to you. This warranty gives you specific and legal rights and you may also have other rights which may vary from state to state.

Service for your Carvin Wireless System

Should your Carvin Wireless System require service, you must contact the Carvin Service Department at 1-800-854-2235 for a Return Authorization (RA) Number. Make sure the RA Number is clearly marked on the outside of packages, and ship the unit prepaid to: Carvin Corp., Service Department, 12340 World Trade Drive, San Diego CA 92128. Include a brief description of the problems you are experiencing.

9000 System SPECIFICATIONS

- Overall System Performance
- Frequency Response: 25-20,000 Hz \pm 3 dB
- Dynamic Range: 120 dB
- Harmonic Distortion: < 0.3%
- RF Carrier Frequencies: Selected groups of four frequencies between 170 and 216 MHz
- Frequency Stability: \pm .005%, crystal-controlled
- Modulation: FM \pm 15 KHz
- Operating Range : 250 feet typical—up to 500+ feet line-of-sight
- Carvin 9000 VHF Transmitters**
- Audio Input Impedance: Optimally matched to Carvin's dynamic mic element
- MC (Handheld Mic): 1 M Ohm. Attached audio cord with 1/4" phone plug
- GT (Instrument): 600 ohm Carvin's electret condenser microphone
- LP (Lavalier): permanently attached
- Controls: OFF/STANDBY/ON, Channel, and Input Audio Level Adjust.
- Indicators: Low battery LED
- RF Power Out: 50 mW (maximum allowed by FCC)
- Harmonic and Spurious Emissions: <-40 dBc
- Battery: 9V alkaline
- Battery Life: 16-20 hours typical
- Carvin's 9000 VHF Receiver**
- Controls: Power ON/OFF, Volume Control,
- Mute Adjust, Channel Selector
- Audio Output: Nominal microphone level fixed XLR output, variable line level 1/4" output
- Connectors: Audio Output: 1/4" mono phone jack and XLR
DC Input: 3.5 mm mini jack
- Indicators: Power "ON", Channel A "ON" and Channel B "ON"
- Mute: Externally adjustable; 7 μ V preset minimum (Typical)
- Image Rejection: 60 dB image and spurious
- Power Requirements: 12V DC @ 100 mA, tip positive

should be turned counterclockwise until the A and/or B LEDs extinguish. When the mute is properly adjusted the A and/or B LEDs will only light when the system transmitter is turned on. Turning the mute control too far clockwise will reduce range but yield a quieter mute function.

During operation, especially at ranges greater than 75 feet, one or the other of the A or B LEDs may extinguish briefly. This is normal—the unit's DigiTRU Diversity™ reception ensures that received audio will not be interrupted. When both LEDs extinguish, the transmitter is out of range for that given location, and the user should move closer to the receiver to re-establish the radio link.

Step Four—Connecting Audio Output

The 9000 VHF output stage provides both fixed mic level XLR and adjustable line level 1/4" connector outputs.

Instrument Connection—GT Instrument Users

As when making any connection, make sure amplifier or mixing board volume is at the minimum level before plugging in the receiver to avoid sound system damage.

Insert an audio cord with a 1/4" mono plug into the audio out jack on the receiver face. Plug the other end of the cord into amplifier, effects, or mixing board.

Adjust the volume control of the 9000 receiver to near 3/4 full, until the volume level is comfortable for your application. This setting is roughly equivalent to a direct instrument cord connection. Turning the volume up to full will provide 4dB gain over a cord.

Microphone Connection—MC, & LP Microphone Users

For microphone use, either the microphone level XLR or line level 1/4" plug can be used. As when making any connection, make sure amplifier or mixing board volume is at the minimum level before plugging in the receiver to avoid sound system damage.

The XLR output is set at a non-adjustable microphone level, similar to hardwired mic levels. Insert an XLR plug into the XLR output socket on the rear of the unit and plug the other end into your amplifier or mixing board. Make sure the phantom power on your mixing board is turned off and the volume is turned down when making connections. For your convenience, the XLR output level for microphones is pre-set at the factory and is not adjustable with the receiver volume control.

To use the 1/4" line level (nominal) output jack, follow the instructions for Instrument Connection except volume control adjustment. Start with the receiver volume at 1/2 full and adjust until the volume level is optimal. If the volume control is set too high, you may overload your mixer or amp.

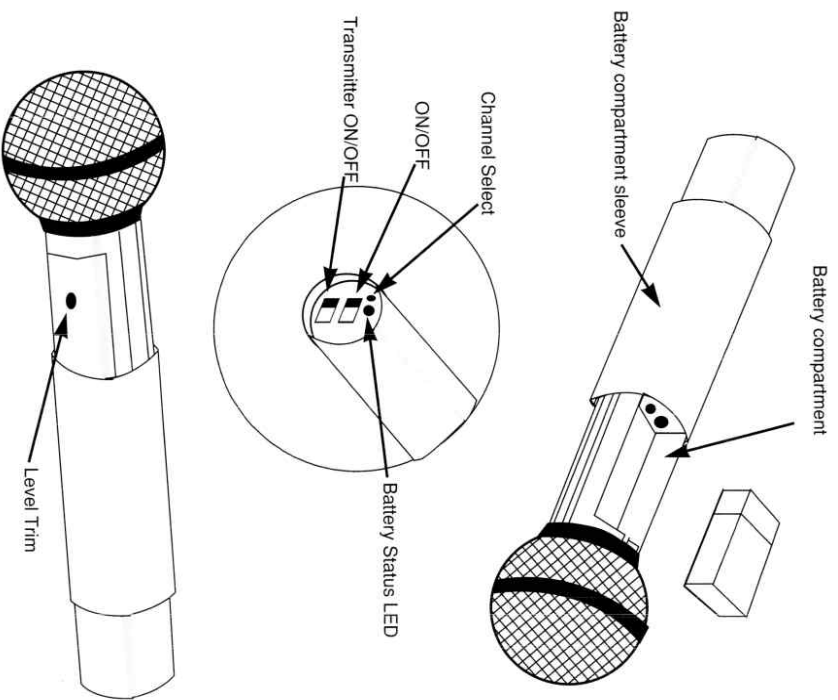
NOTE: This receiver is equipped with a mic level XLR output that has been designed to be compatible with the XLR balanced input of most mixers.

- If your mixer input is a differential input amplifier or a balanced transformer with the center tap grounded, the XLR output is compatible as provided.
- If your mixer input is a transformer with no center tap and neither side of the transformer is grounded or if you do not know what type of mixer input you have and are experiencing no or very low audio XLR output (even though the variable audio output at the receiver's 1/4" jack is normal), short out pin 1 and 2 in the connector plug that is mating with the receiver XLR. This will ensure compatibility.

Step Five—Channel Selection

If you encounter interference on Channel 1, switch both the receiver and transmitter to the next channel and repeat Step 3 until you get a clear signal.

NOTE: The receiver should not be live in the PA system or amplifier while selecting channels as spurious noises and signals may be heard during the switching, or if the receiver and transmitter are not locked to the same channel.



CARVIN 9000 SERIES HANDHELD MICROPHONES

The Carvin 9000 handheld microphones are a compact, durable design with these special features:

- Dynamic Element designed to deliver treble clarity with smooth deep bass
- Built-in pop filters for breath & wind noise rejection
- Compact, all metal housing with integral antenna—no dangling wires
- Input level control for optimum adjustment
- Low battery LED indicator
- Unique screw-on battery compartment for quick pop-in battery replacement.
- Uses standard 9V alkaline battery.
- Transmitter ON/OFF (mute) switch

Operating Instructions

Transmitter Set-Up

Unscrew the battery compartment cover tube. Slide the tube down along the microphone, exposing the battery compartment. Insert a fresh 9V alkaline battery, observing correct polarity. A fresh alkaline battery can last up to 16-20 hours in use, but in order to ensure optimum performance, it is recommended to replace the battery after every 10 hours of use. Slide the tube back up the microphone and screw it on to the mic handle.

Channel Selections

The receiver and transmitter must be on the same frequency for proper operation. Make sure the transmitter channel selector switch is the same channel number as the channel selector on the front of the receiver. To change channels on the transmitter, use a small slotted screwdriver to gently click to the desired change (1-4).

Transmitter Operations:

Turn on the Transmitter by switching the OFF/STANDBY/ON switch to the ON position. The battery indicator will give a single quick flash. This indicates usable battery strength. In the case of a dead or low battery, the indicator will either not go on at all or will stay on continuously, indicating a battery voltage below 7V. If this occurs, replace with a fresh 9V battery. To preserve battery strength, turn the Transmitter off when not in use. The Transmitter (receive) LED indicator on the Receiver should now be lit. Clip the Transmitter to belt or place in pocket. The instrument cable is the antenna so keep fully extended for maximum range. Attach the instrument to the 1/4" connector.

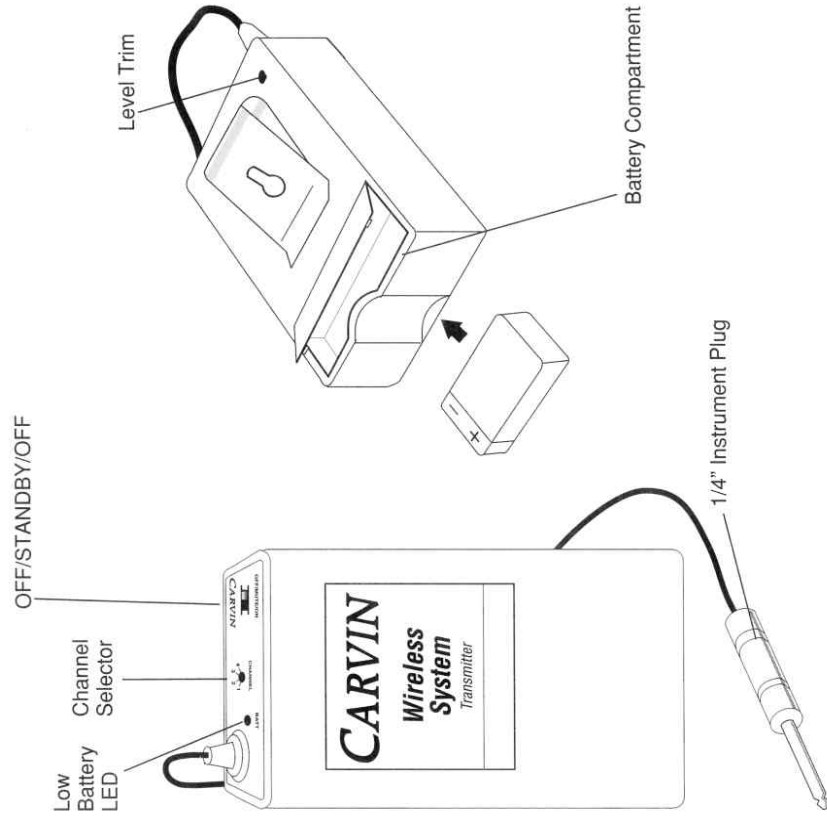
Receiver Volume Control Adjust with 1/4" Line Level Output

Turn volume control on 9000 VHF receiver clockwise to near full gain. Adjust the volume up or down so that no audio distortion is present when amp or mixer are set to their usual levels. Receiver volume set at 3/4 of full approximates a standard instrument-to-amp connection with a cord. At full gain, the system gain is approximately 4db higher than a direct instrument-to-amp connection.

Level Trim Adjust

For optimum performance, a level trim control is provided. Adjust the microphone gain by inserting a small slot-headed screwdriver through the adjustment hole, located on the backside of the battery compartment, under the compartment cover. Factory preset level is at maximum or fully clockwise for GT instrument applications. For high gain instrument pickups such as bass guitars or extra hot guitar pickups, turning the level down slightly will create a cleaner sound. Excessive turning down can compromise the signal-to-noise ratio. Set for maximum possible headroom and gain without noticeable distortion of the high level peaks. Turning Trim Control clockwise increases audio level; turning counterclockwise decreases level.

Scratchy Noises: Scratchy noises can happen when any electric guitar is used with any wireless system. Therefore, all Carvin transmitters have a factory installed capacitor inside the 1/4" plug. This capacitor provides first order filtering of RF signal from the GT cord into the guitar, and eliminates virtually all scratchy noises. Should your equipment still give you scratchy noises, we suggest these steps to eliminate them: Make sure that all guitar volume and tone pots are clean and all contacts are solid. This is very important. Should the problem continue, please contact the Carvin's Helpline at 1-800-854-2235 for further assistance.



CARVIN INSTRUMENT BODYPACK TRANSMITTER WITH 1/4" PHONE CONNECTOR

The 9000 is available with a rugged compact bodypack for instrument use.

Special features include:

- Transmitter OFF/STANDBY/ON for ease of use
- Input Level Control for optimum adjustment
- Low Battery LED Indicator
- Battery Compartment with recessed sliding door for quick battery replacement
- Uses standard 9V alkaline battery.
- Adjustable transmitter modulation level (Trim).
- Metal belt clip for strong attachment to clothing, or instrument straps.

Operating Instructions

Transmitter Set-Up:

Place a fresh 9V battery into the transmitter's battery compartment, observing the correct polarity. Although a fresh alkaline battery can last up to 16-20 hours in use, in order to ensure optimum performance, it is recommended that the battery be replaced after 10 hours of use.

Channel Selections

The receiver and transmitter must be on the same frequency for proper operation. Make sure the transmitter channel selector switch is the same channel number as the channel selector on the front of the receiver. Use a small slotted screwdriver to change channels on the microphone transmitter.

Microphone Operation

Turn the microphone transmitter switch at the base of the microphone. The battery indicator LED will give a single quick flash; this indicates usable battery strength. In the case of a dead or low battery, the indicator will either not go on at all or will stay on continuously, indicating a battery voltage below 7V. If this occurs, replace with a fresh 9V battery. To preserve battery life, turn transmitter off when not in use. Move Audio switch at the base of the microphone to the ON position. The microphone is now ready to use. The Transmit (receive) LED indicator on the Receiver should now be lit.

Microphone Level XLR Outputs

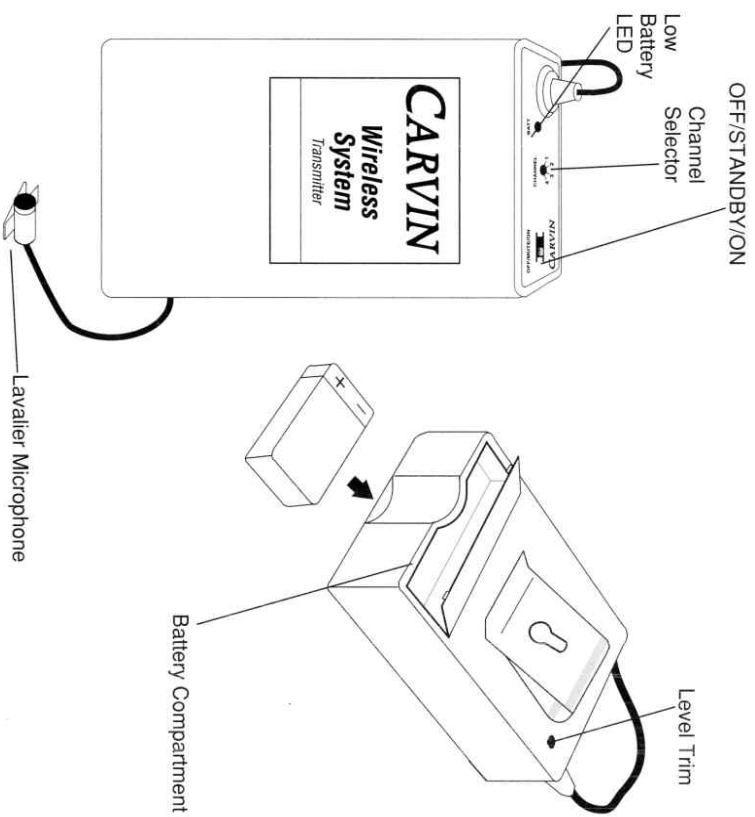
With XLR output, the receiver output volume is preset by the factory at microphone level to match a hardwired microphone. The receiver volume control will not affect XLR output volume.

Receiver Volume Control Adjust with 1/4" Line Level Output

If you use the 1/4" line level output jacks for microphones, set the volume control at 1/2 for best results and adjusting up or down as necessary.

Level Trim Adjust

For optimum performance, a level trim control is provided. Adjust the microphone gain by inserting a small slot-headed screwdriver through the adjustment hole, located on the backside of the battery compartment, under the compartment cover. The factory setting is approximately 2/3 full. This is a setting to be used in most typical close microphone applications. Depending on your average distance between vocalist's mouth and microphone, you can adjust the level for your own applications. Set for maximum possible headroom and gain without noticeable distortion of the high level peaks. Turning Trim Control clockwise increases audio level; turning counterclockwise decreases level.



CARVIN LAVALIER BODYPACK TRANSMITTER

The Carvin 9000 is available with a rugged compact bodypack with attached Lavalier Microphone, and includes these special features:

- Audio OFF/STANDBY/MUTE for ease of use
- A miniature lapel microphone with clip and foam windscreen
- Audio Cord acts as Antenna—no extra antenna needed
- Input Level Control for optimum adjustment
- Low Battery LED Indicator
- Hinged Battery Compartment for quick pop-in battery replacement
- Uses standard 9V alkaline battery.
- Metal belt clip for strong attachment to clothing or instrument straps.

Operating Instructions

Transmitter Set-Up:

Place a fresh 9V battery into the transmitter's snap-open battery compartment, observing the correct polarity. Although a fresh alkaline battery can last up to 16-20 hours in use, in order to ensure optimum performance, it is recommended that the battery be replaced after 10 hours of use.

Channel Selections

The receiver and transmitter must be on the same frequency for proper operation. Make sure the transmitter channel selector switch is the same channel number as the channel selector on the front of the receiver. Use a small slotted screwdriver to change channels on the microphone transmitter.

Lavalier Mic /Transmitter Operation:

Turn on the Transmitter by pushing the Transmitter OFF/STANDBY/ON switch to the ON position. The battery indicator will give a single quick flash. This indicates usable battery strength. In the case of a dead or low battery, the indicator will either not go on at all or will stay on continuously, indicating a battery voltage below 7V. If this occurs, replace with a fresh 9V battery. To preserve battery strength, turn the Transmitter off when not in use. The Transmit (receive) LED indicator on the Receiver should now be lit. Clip the Transmitter to belt or place in pocket. Attach the Lavalier Microphone at chest level. Do not place too close to mouth—a distance of six inches usually works best. The Lavalier mic wire is the transmit antenna, and rolling up or shortening wire may reduce effective range. Extend wire fully during use, and keep it as straight as possible. When ready to speak into microphone, turn on microphone by pushing the OFF/STANDBY/MUTE Switch to the ON position.

Microphone Level XLR Outputs

With XLR output, the receiver output volume is preset by the factory at microphone level to match a hardwired microphone. The receiver volume control will not affect XLR output volume.

Receiver Volume Control Adjust with 1/4" Line Level Output

If you use the 1/4" line level output jacks for microphones, set the volume control at 1/2 for best results and adjusting up or down as necessary.

Level Trim Adjust

For optimum performance, a level trim control is provided. Adjust the microphone gain by inserting a small slot-headed screwdriver through the adjustment hole, located on the backside of the battery compartment, under the compartment cover. The factory setting is approximately 1/2 full. This is a setting to be used in most typical close microphone applications. Depending on your average distance between vocalist's mouth and microphone, you can adjust the level for your own applications. Set for maximum possible headroom and gain without noticeable distortion of the high level peaks. Turning Trim Control clockwise increases audio level; turning counterclockwise decreases level.