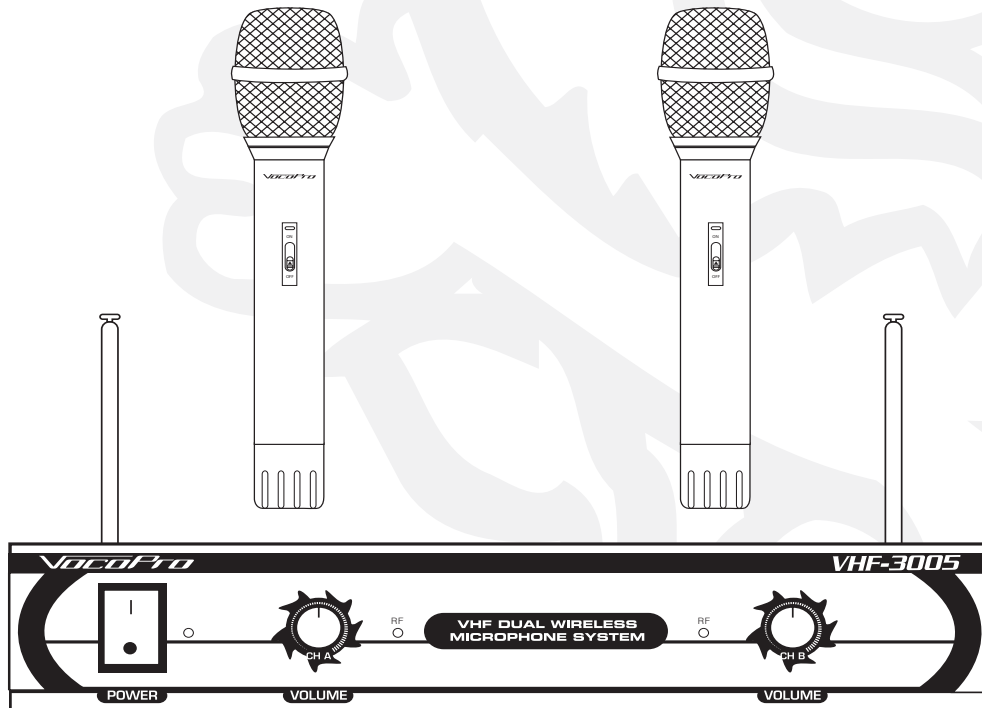


VocoPro®

THE SINGER'S ULTIMATE CHOICE™

FEATURES:

- Dual Antenna Receiver Design
- Squelch Circuitry Eliminates Background and RF Noise Bursts
- VHF Band (180 MHz - 270 MHz) Quartz Lock for Drift-free Operation
- Audio-Mute circuitry Provides Noiseless On/Off Switching
- Dual Front Panel Volume Controls
- Two 1/4" Outputs for a Separate or Mixed Signal Output
- Excellent Operating Range to 150 ft.
- Low-Battery Indicators
- Dual Front Panel RF Indicator LED's



VHF-3005

Dual-Channel VHF Dual Wireless Microphone System

o w n e r ' s m a n u a l

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THE SINGERS ULTIMATE CHOICE[™]

Safety Instructions



CAUTION RISK OF SHOCK



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Only refer servicing to qualified service personnel.

Explanation of Graphical Symbols



The lightning flash & arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of danger.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.

WARNING

To reduce the risk of fire or electric shock, do not expose this unit to rain or moisture.

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.

2. Retain Instructions - The safety and operating instructions should be retained for future reference.

3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.

4. Follow Instructions - All operating and use instructions should be followed.

5. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.

6. Water and Moisture - Do not use this unit near water. For example, near a bathtub or in a wet basement and the like.

7. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

7 A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause an overturn.



8. Ventilation - The appliance should be situated so its location does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation slots.

9. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

10. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11. Grounding or Polarization - Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

12. 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 appliance.

13. Cleaning - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

14. Power lines - An outdoor antenna should be located away from power lines.

15. Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

16. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

17. Damage Requiring Service - The appliance should be serviced by qualified service personnel when:

- A. The power supply cord or plug has been damaged; or
- B. Objects have fallen into the appliance; or
- C. The appliance has been exposed to rain; or
- D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
- E. The appliance has been dropped, or the enclosure damaged.

18. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Note:

To CATV system installer's (U.S.A.): This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected as close to the point of cable entry as practical.

FCC Information (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS

UNIT!: This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Vocopro may void your authority, granted by the FCC, to use this product.

2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable(s) supplied with this product **MUST** be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the U.S.A.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurances that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the owner's manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "Off" and "On", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Use power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300-ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact your local retailer authorized to distribute Vocopro products. If you can not locate the appropriate retailer, please contact Vocopro, 1728 Curtiss Court, La Verne, CA 91750.

CAUTION

The apparatus is not disconnected from the AC power source so long as it is connected to the wall outlet, even if the apparatus itself is turned off. To fully insure that the apparatus is indeed fully void of residual power, leave unit disconnected from the AC outlet for at least fifteen seconds.

CAUTION:

READ THIS BEFORE OPERATING YOUR UNIT

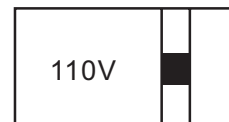
1. To ensure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
2. Install your unit in a cool, dry, clean place - away from windows, heat sources, and too much vibration, dust, moisture or cold. Avoid sources of hum (transformers, v motors). To prevent fire or electrical shock, do not expose to rain and water.
3. Do not operate the unit upside-down.
4. Never open the cabinet. If a foreign object drops into the set, contact your dealer.
5. Place the unit in a location with adequate air circulation. Do not interfere with its proper ventilation; this will cause the internal temperature to rise and may result in a failure.
6. Do not use force on switches, knobs or cords. When moving the unit, first turn the unit off. Then gently disconnect the power plug and the cords connecting to other equipment. Never pull the cord itself.
7. Do not attempt to clean the unit with chemical solvents: this might damage the finish. Use a clean, dry cloth.
8. Be sure to read the "Troubleshooting" section on common operating errors before concluding that your unit is faulty.
9. This unit consumes a fair amount of power even when the power switch is turned off. We recommend that you unplug the power cord from the wall outlet if the unit is not going to be used for a long time. This will save electricity and help prevent fire hazards. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
10. To prevent lightning damage, pull out the power cord and remove the antenna cable during an electrical storm.
11. The general digital signals may interfere with other equipment such as tuners or receivers. Move the system farther away from such equipment if interference is observed.

NOTE:

Please check the copyright laws in your country before recording from records, compact discs, radio, etc. Recording of copyrighted material may infringe copyright laws.

Voltage Selector (General Model Only)

Be sure to position the voltage selector to match the voltage of your local power lines before installing the unit.



Caution: Read this before operating your unit

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10. To prevent lightning damages, pull out the power cord and remove the antenna cable during an electrical storm.
11. The general digital signals may interfere with other equipment such as tuners or receivers. Move the system farther away from such equipment if interference is observed.
12. When positioning your equipment, especially regarding speakers or other accessories, avoid positioning them over areas where they can fall and cause injury to yourself and others.

Note:

Please check the copyright laws in your country before recording from records, compact discs, radio, etc. Recording of copyright material may infringe copyright laws.



Welcome



Thank you for purchasing the **VHF-3005** from VocoPro, your ultimate choice in Karaoke entertainment! With years of experience in the music entertainment business, VocoPro is a leading manufacturer of Karaoke equipment, and has been providing patrons of bars, churches, schools, clubs and individual consumers the opportunity to sound like a star with full-scale club models, in-home systems and mobile units. All our products offer solid performance and sound reliability, and to further strengthen our commitment to customer satisfaction, we have customer service and technical support professionals ready to assist you with your needs. We have provided some contact information for you below.

VocoPro

1728 Curtiss Court
La Verne, CA 91750

Toll Free: 800-678-5348

TEL: 909-593-8893
FAX: 909-593-8890

VocoPro Company E-mail Directory

Customer Service & General Information

info@vocopro.com

Tech Support

techsupport@vocopro.com

Remember Our Website

Be sure to visit the VocoPro website www.vocopro.com for the latest information on new products, packages and promo's. And while you're there don't forget to check out our Club VocoPro for Karaoke news and events, chat rooms, club directories and even a Service directory!

We look forward to hearing you sound like a PRO, with VocoPro, your ultimate choice in Karaoke entertainment.

FOR YOUR RECORDS

Please record the model number and serial number below, for easy reference, in case of loss or theft. These numbers are located on the rear panel of the unit. Space is also provided for other relevant information.

Model Number _____

Serial Number _____

Date of Purchase _____

Place of Purchase _____

Listening For a Lifetime

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. VocoPro and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion and, most importantly, without affecting your sensitive hearing.

Sound can be deceiving. Over time your hearing "comfort level" adapts to a higher volume of sound. So what sounds "normal" can actually be loud and harmful to your hearing. Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.

To establish a safe level:

- Start your volume control at a low setting.
- Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

Once you have established a comfortable sound level:

- Set the dial and leave it there.
- Pay attention to the different levels in various recordings.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Some common decibel ranges:

Level	Example
30	Quiet library, Soft whispers
40	Living room, Refrigerator, Bedroom away from traffic
50	Light traffic, Normal Conversation
60	Air Conditioner at 20 ft., Sewing machine
70	Vacuum cleaner, Hair dryer, Noisy Restaurant
80	Average city traffic, Garbage disposals, Alarm clock at 2 ft.

The following noises can be dangerous under constant exposure:

Level	Example
90	Subway, Motorcycle, Truck traffic, Lawn Mower
100	Garbage truck, Chainsaw, Pneumatics drill
120	Rock band concert in front of speakers
140	Gunshot blast, Jet plane
180	Rocket launching pad

-Information courtesy of the Deafness Research Foundation

Before Getting Started: Things to Consider

It is very important to read the following instructions prior to starting any installation procedures. Doing so will ensure a correct installation and may save you some time as well.

Protect Against Power Surges

- Connect all external components before you plug any of their power cords into the wall outlet.
- Turn off the VHF-3005 before you connect or disconnect any cables.
- Make sure all cables are properly grounded.

Protect Components from Overheating

- Don't block ventilation holes. Arrange any components so that air can circulate freely.
- Don't stack components.
- If you place the VHF-3005 on a stand, make sure you allow adequate ventilation.

Position Cables Properly to Avoid Audio Interference

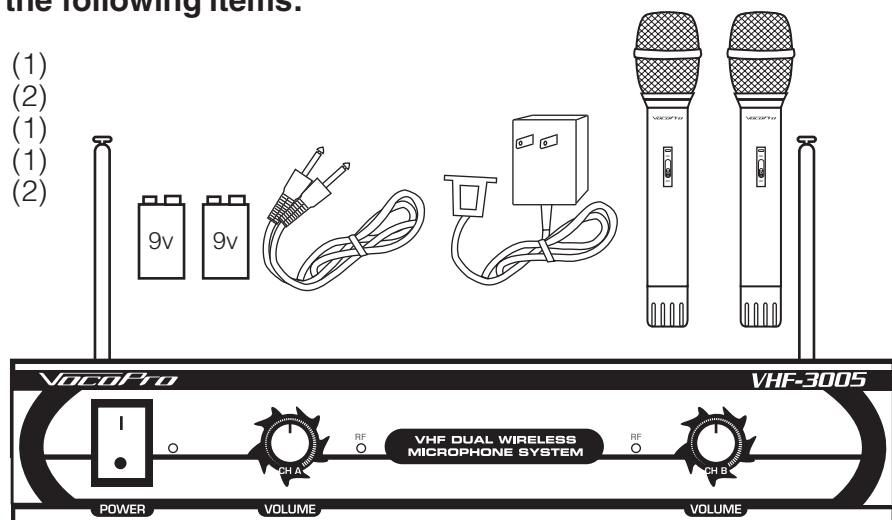
- Insert each cable firmly into the designated jack.
- If you place components above the VHF-3005, route all cables down the side of the back of the VHF-3005 instead of straight down the middle of the back of the VHF-3005.

Important Stand and Base Safety Information

Choose the location for your VHF-3005 carefully. If the VHF-3005 is placed on a stand or base, ensure that it is of adequate size and strength to prevent it from being accidentally tipped over, pushed off, or pulled off. This could cause personal injury and/or damage to the VHF-3005.

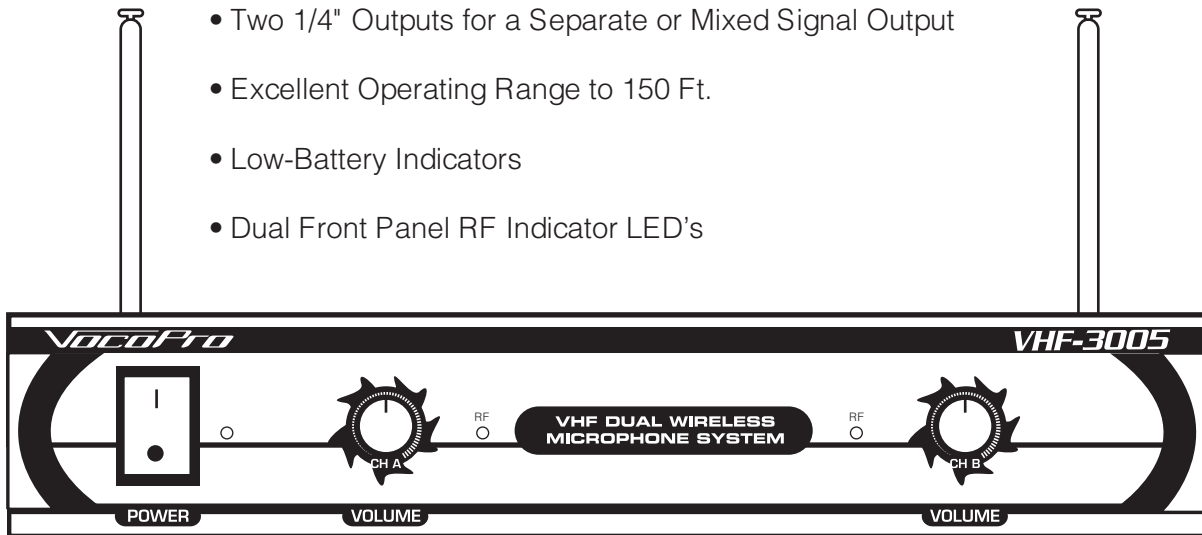
You should have received the following items:

- VHF Base Receiver (1)
- Wireless Microphones (2)
- AC/DC Adapter (1)
- 9V Hi-Watt Batteries (1)
- 1/4" Microphone Output Cable (2)



Features

- Dual Antenna Receiver Design
- Squelch Circuitry Eliminates Background and RF Noise Bursts
- VHF Band (180 MHz – 270 MHz) Quartz Lock for Drift-free Operation
- Audio-Mute Circuitry Provides Noiseless On/Off Switching
- Dual Front Panel Volume Controls
- Two 1/4" Outputs for a Separate or Mixed Signal Output
- Excellent Operating Range to 150 Ft.
- Low-Battery Indicators
- Dual Front Panel RF Indicator LED's



Specifications

Receiver

Power Supply: AC 110V / 50 Hz
Power Consumption: 1W
S/N Ratio: >90 dB
Image & Spurious Rejection: >80 dB
Border Upon Channel Rejection: >80 dB
Receiver Sensitivity: >12 dBu (S/N=20dB)

Microphone

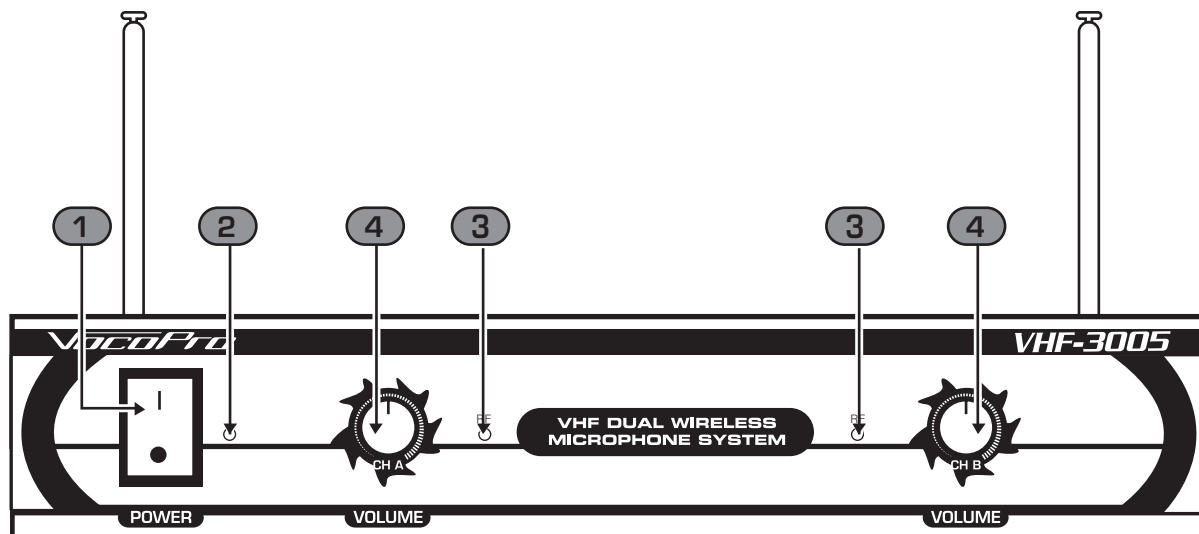
Microphone Power: 13 dBm
Modulation Type: FM, F3F
Maximum Deviation: ± 30 kHz
Spurious Emission: >60 dB (with carrier)
Battery Voltage: 9V Battery
Continual Use Rating: 8 Hours
Noise Control: Auto-Mute Circuitry

Technical Data

Carrier Frequency: VHF 220~270 MHz
Frequency Stabilization: $< \pm 30$ PPM
Dynamic Range: > 90 dB
Total Harmonic Distortion: < 0.5%
Frequency Response: 40 Hz~18 kHz
Audio Output Level: 0 ~ ± 400 mV (mixed output), 0~200mV (separate output)
Temperature Range: -10~50* C
Sensitivity Range: 164' Radius

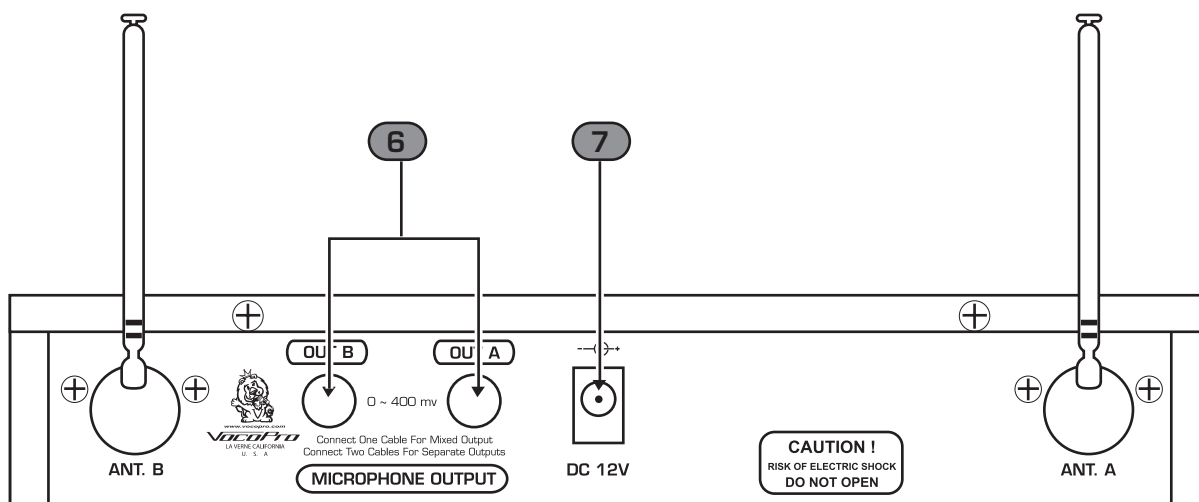
Front and Rear Panel Descriptions

- 1. POWER BUTTON:** Turns the VHF-3005 ON/OFF.
- 2. POWER ON (LED):** Glows RED when the receiver is powered ON.
- 3. RF SIGNAL (LED):** Light GREEN when RF signals are received by antenna A or B.
- 4. VOLUME CONTROLS:** Adjusts the OUTPUT volume or the receiver's mic channel.
- 5. TELESCOPING ANTENNA (S):** Receives the SIGNALS sent from the microphone.
- 6. OUT A & B:** These are 1/4" PHONE jacks, providing mic level signals for connection to amplifiers or mixing consoles.
- 7. POWER INPUT:** Accepts POWER from supplied AC adapter.



Receiver Volume Adjustment

The volume controls on the front panel of the VHF-3005 receiver can be adjusted to set the wireless system output levels as you desire. After making any musical balancing adjustments, adjust the receiver volume control until the output reaches the desired level. Rotate the volume control clockwise to increase output. Rotate it counter-clockwise to decrease output.



VHF-3005 & Stage Monitor/P.A. Loudspeakers

If you will be using the VHF-3005 with stage monitor and/or P. A. system, try the following:

- Place the stage monitor directly behind the microphone.
- Locate the P. A. loudspeakers so that they point away from the rear of the microphone. (With the speakers located in these positions, the possibility of feedback is greatly reduced).
- Always check the stage setup before a performance to ensure optimum placement of microphone and monitors.

IMPORTANT: Every wireless microphone installation is a unique situation, and can present a variety of problems. Never attempt a live performance without first conducting a "walkthrough" test of the system in the performing area. If major changes (additional wireless systems or intercoms, relocation of scenery, etc.) have been made since the last walk-through test, check the wireless system again - as close to performance time as possible.

Microphone Basics

Microphone Position

The VHF-3005 is ideal for close-up vocals and can be held in the hand or mounted on a mic stand. The most common applications and placement techniques are listed below. Keep in mind that microphone technique is largely a matter of personal taste - there is no one "correct" microphone position.

Proximity Effect

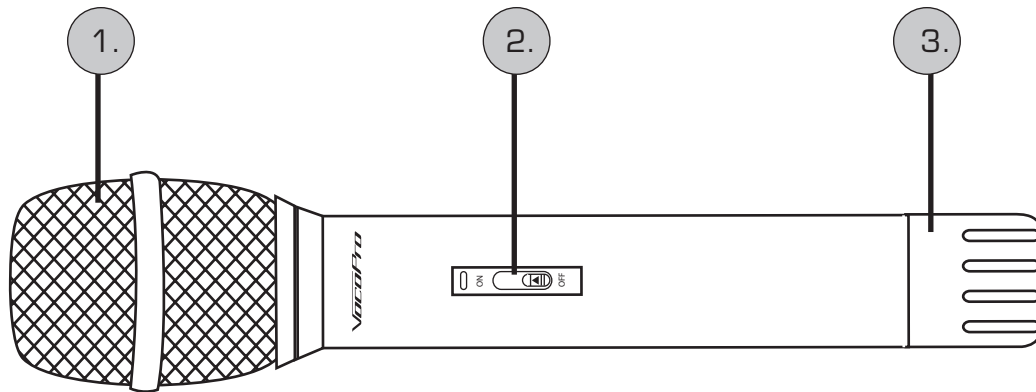
When the sound source is less than 1/4 in. from the microphone, the microphone boosts bass frequencies (by 6 to 10 dB at 100 Hz), creating a warmer and richer bass sound than when farther away. This effect, known as proximity effect, happens only in unidirectional dynamic microphones like the VHF-3005.

Feedback

Feedback occurs when the amplified sound from any loudspeaker reenters the sound system through any open microphone and is amplified again and again and again. Most commonly, feedback is caused by the following conditions: placing loudspeakers too close to microphones, having too many open active microphones, boosting tone controls indiscriminately (mainly treble) and performing in areas with high ratios of room surfaces that have hard and reflective surfaces such as glass, marble and wood. What to do if feedback occurs before the sound system is loud enough?

- Request that the talker speak louder into the microphone.
- Reduce the distance from the talker to the microphone. Each time this distance is halved, the sound system output will increase by 6dB.
- Reduce the number of open microphones. Each time this number is halved, the sound system output can be increased by 3dB.
- Move the loudspeaker farther away from the microphone. Each time this distance is doubled, the sound system output can be increased by 6dB.
- Move the loudspeaker closer to the listener. Each time this distance is halved, the sound system output will increase by 6dB.
- z Use an equalizer/feedback reducer to cut the frequency bands in which the feedback occurs. The sound system output will typically increase 3 to 9dB.

Microphone Descriptions and Functions



- 1. GRILL:** Protects the microphone cartridge and helps reduce breath sounds and wind noise.
- 2. POWER BUTTON:** Used to turn the microphone ON/OFF or put it in STANDBY mode.
- 3. BATTERY COVER:** Removable cup hides and protects the microphone battery.

Auto-Noise Squelch Feature

Squelch circuits analyze RF signal strength. When a wireless system is used in a noisy RF environment, conventional circuits may “open” unexpectedly, sending loud bursts of noise through the receiver when the transmitter’s signal is weak or turned off. The VHF-3005 uses a noise squelch circuit that analyzes signal quality with the signal strength. When the transmitter signal is strong, the system’s noise level is low and the receiver sends the audio through. When the transmitter signal is weak or absent, the system’s noise level is high and the squelch circuit will mute the receiver. This virtually eliminates the possibility of annoying bursts of noise coming through your receiver.

Microphone Placement & Tone Quality

Lead & Backup Vocals

Lips should be less than 3” from or even touching the windscreen on an axis to the microphone. Doing this creates a robust sound, emphasizes bass and provides maximum isolation from other sources.

Speech

When giving a speech or simply speaking, place the microphone 4” to 10” away from the mouth, just above nose height for a natural sound with reduced bass. You can also place the microphone 8” to 16” away from the mouth, slightly off to one side, for more “distant” sound with highly reduced bass and minimal “s” sounds.

Getting Connected

To get your system up and running in just a few minutes, follow the simple instructions on this page.

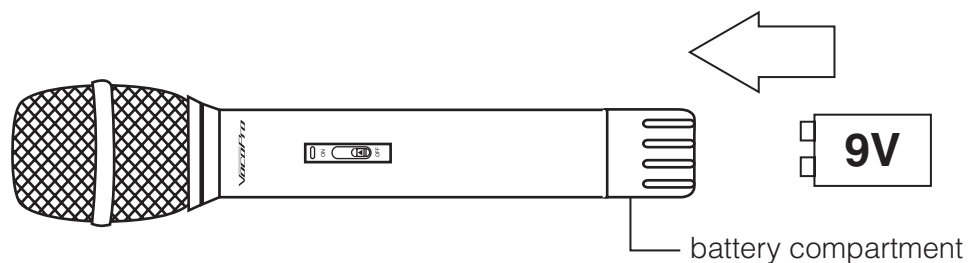
Receiver Connections

1. Connect the AC power adapter to the receiver power connector; then plug it into an AC electrical outlet.
2. Connect the receiver to a sound system with either one 1/4" output jack for a mixed channel output, or both 1/4" output jacks for separate channel outputs.

	Pros	Cons
Mixed Channel Output	Uses only 1 mic input on an external Mixer/Amplifier.	External mic adjustments cannot be applied to just one mic channel.
Separate Channel Output	External mic adjustments can be applied to one or both mic channels.	Uses 2 mic inputs on an external Mixer/Amplifier.

Microphone Battery Installation

1. Unscrew the microphone battery compartment caps and insert fresh 9-volt alkaline batteries. Be sure to observe proper battery polarity (+/-). Tighten the battery compartment lid.



Operating the System

1. Press the receiver POWER switch. The RED power LED on the receiver will glow.
2. Switch the microphone's power button to ON.
3. Talk or sing into the microphones. During normal operation the RF signal LED's will light GREEN when a microphone is being used.
4. Adjust the receiver LEVEL controls until the output levels are compatible with the mixer/amplifier input. In most cases, this control should be set fully clockwise.

Tips for Achieving Optimum Performance

- Maintain a line-of-sight between the microphone and receiver antennas, if possible.
- Avoid placing transmitter and receiver where metal or other dense materials may be present.
- Avoid placing the receiver near computers or other RF generating equipment.
- Avoid placing the receiver in the bottom of an equipment rack.
- Extend telescopic antennas completely and as far apart from each other as possible.
- If multiple wireless systems are used, maintain a distance of at least 3 meters (10 ft) between the transmitter and the closets receiving antenna.
- Keep the distance between the microphones and the receiver antennas short.
- Locate the microphone 1" to 1 1/2" from the mouth or as close as practical to the desired sound source.
- Work close to the microphone for extra bass response.
- Use only one microphone per person or sound source.
- Place microphones far from sound-reflecting surfaces.
- Add a windscreen when using the microphone outdoors, for close-up speech, or vocals.
- Avoid excessive handling to minimize mechanical noise.

Troubleshooting

PROBLEMS	SOLUTIONS
<p>No sound; receiver RF light(s) and AUDIO lights not glowing.</p>	<p>Make sure POWER switches on transmitter and receiver are set to the ON position.</p> <p>Check microphone batteries to ensure that they are providing power.</p> <p>Replace battery if necessary.</p> <p>Check receiver's AC power connection.</p> <p>Make sure antennas are in the microphones line of sight.</p> <p>If necessary, reduce the distance between the microphones and receiver.</p>
<p>No receiver sound; RF and Audio Level meter lights glowing.</p>	<p>Turn up the receiver's VOLUME level controls.</p> <p>Check for proper connection between receiver and external amplifier/mixer.</p> <p>Talk into the microphone and observe the receiver's RF signal LEDs. If they glow, the problem is elsewhere in the sound system.</p>
<p>Received signal is noisy or contains extraneous sounds with transmitter on.</p>	<p>Check microphone batteries and replace if power is low.</p> <p>Remove local sources of RF interference, such as lighting equipment.</p> <p>Two transmitters may be operating too close together or on the same frequency. If so, turn one off.</p> <p>Signal may be too weak. If so, reposition antennas. (If possible, move them closer to the transmitter).</p>
<p>Noise coming from the receiver with the microphones turned OFF.</p>	<p>Remove local sources of RF interference, such as lighting equipment.</p> <p>Reposition the receiver or antennas.</p>
<p>Momentary loss of sound as transmitter is moved around performing area.</p>	<p>Reposition receiver and perform a "walkthrough" test and observe the signal strengths.</p> <p>If audio dropouts persist, mark these "dead spots" in the performing area and avoid them during the performance.</p>

VocoPro[®]

THE SINGER'S ULTIMATE CHOICE[™]

