

# VocoPro®

THE SINGER'S ULTIMATE CHOICE™



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

## VHF-3000

DUAL-CHANNEL VHF WIRELESS MICROPHONE SYSTEM

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# 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

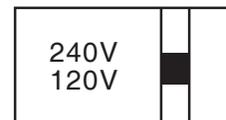
1. To ensure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.
2. Install your unit in a cool, dry, clean place - away from windows, heat sources, and too much vibration, dust, moisture or cold. Avoid sources of hum (transformers, v motors). To prevent 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.





**Welcome...**

**VocoPro**  
ULTIMATE CHOICE OF KARAOKE ENTERTAINMENT

And Thank you for purchasing the **VHF-3000** 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 reinforce 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 Email 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 promos. 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 KJ 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
<b>30</b>	Quiet library, Soft whispers
<b>40</b>	Living room, Refrigerator, Bedroom away from traffic
<b>50</b>	Light traffic, Normal Conversation
<b>60</b>	Air Conditioner at 20 ft., Sewing machine
<b>70</b>	Vacuum cleaner, Hair dryer, Noisy Restaurant
<b>80</b>	Average city traffic, Garbage disposals, Alarm clock at 2 ft.

### The following noises can be dangerous under constant exposure:

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

-Information courtesy of the Deafness Research Foundation

# Specifications and Features

## SPECIFICATIONS

TX Frequency:	170~260MHz
RF Output Power:	10mW
RF Spur Emission:	-30dBC
Normal Deviation:	±15KHz
Current Drain:	25mA
T.H.D.:	1%
Sensitivity:	15uV For 30dB S/N
Mute Sen:	-80dBm
Audio Output Level:	0~300mV
Audio Frequency Responses:	100~10KHz±3dB
S/N Ratio:	60dB
T.H.D.:	1%
Battery:	9V Layers Style
Power:	AC110V or 220V

## FEATURES

- 2 wireless handheld mics included
- 2 mic outputs
- Individual Volume controls for precise vocal balancing
- Dual antennas provide clear RF reception
- VHF Band (180 MHz-250MHz) Quartz Lock for drift-free operation
- Rugged 1 RU metal receiver chassis
- Rack-mountable with included mounting brackets
- Battery life: Approx: 12 hours
- Receiver Dimensions: 10.25" (W) x 6.25" (D) x 2" (H)

# Getting Started

Before starting any installation procedures, it is recommend that you completely unpack all the package contents. The original packaging should be kept in the event that re-shipping is needed. Upon unpacking the VHF-3000, you should have received the following items:

VHF-3000 receiver (1)  
Handheld microphones (2)  
Mounting brackets (1 pair)  
AC power adapter (1)

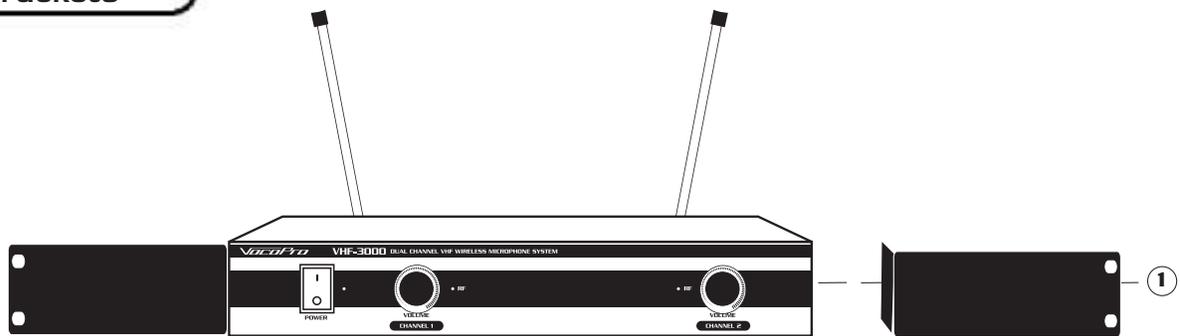
3 ft. male/male 1/4" cable (1)  
9 volt alkaline batteries (2)

## Mounting the VHF-3000

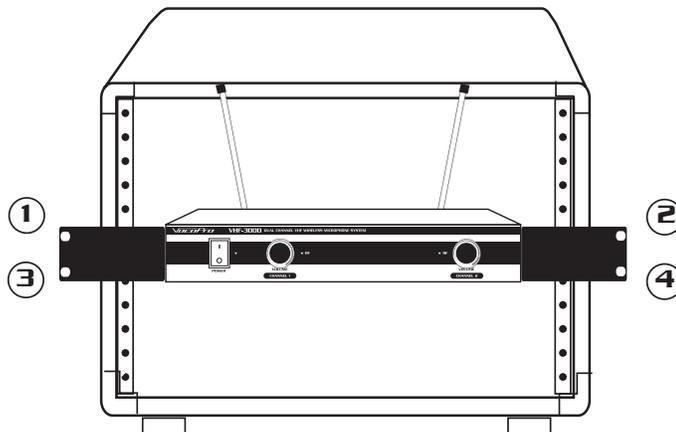
The included mounting brackets enable the VHF-3000 to be securley mounted into a 19" rackcase.

1. Attach mounting brackets to the VHF-3000 via the supplied mounting screws.

### Brackets



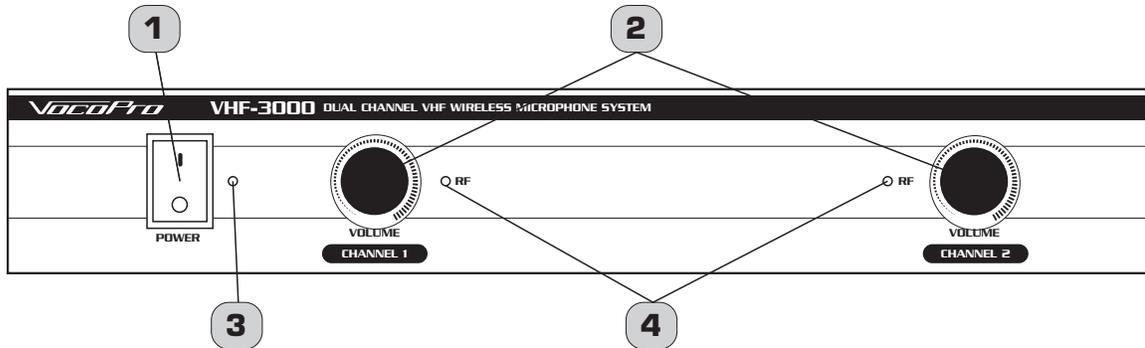
### Mounting



2. Align the VHF-3000 with the desired space in the rack and slowly slide in, rear panel first.  
**NOTE:** Depending on your rack case design, it may be necessary to allow for sufficient space for the antennas.
3. While aligned, use rack case screws (not included) in the order shown below to stabilize the VHF-3000 in its space, using the "X" rotation (numbered below) will ensure even tension and push alignment.  
**NOTE:** Do not tighten screws firmly until all screws are in place.

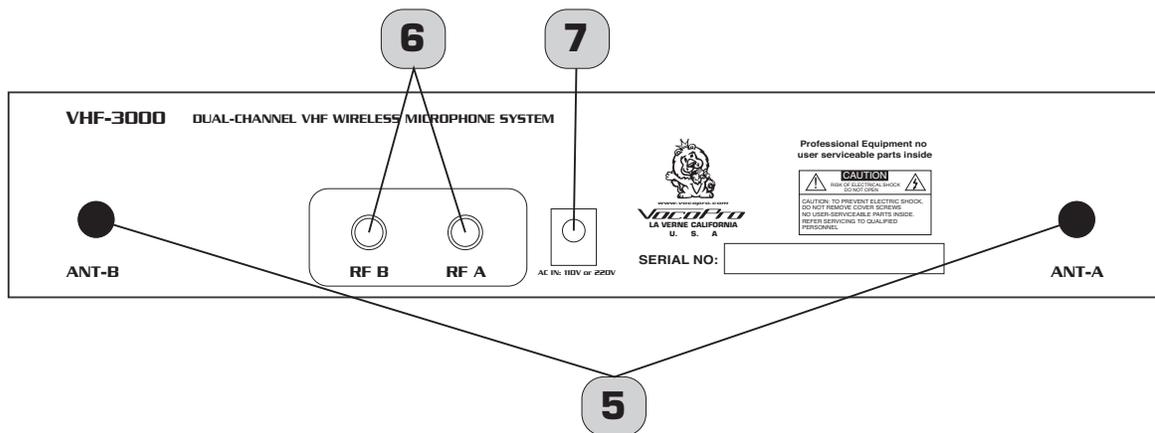
# Front and Rear Panel Descriptions

## Front Panel



1. POWER button - Turns the VHF-3000 On and Off.
2. VOLUME controls - Adjusts the individual VOLUME of the receiver's 2 microphone channels.
3. POWER (LED) - Indicates whether the VHF-3000 is ON or OFF. When it is lit, the power is ON.
4. RF (LEDs) - Lights when RF signals are received from the microphone channels.

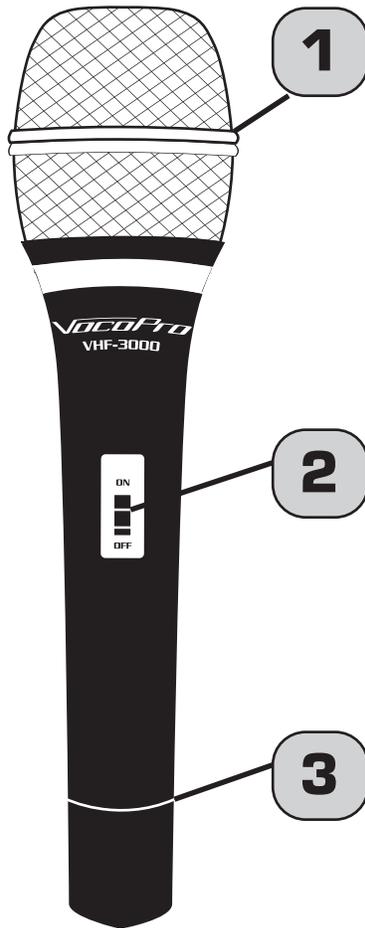
## Rear Panel



5. ANTENNAS - Provide the RF signal.
6. MIC CHANNEL OUTPUTS - These 1/4" outputs are for connection to amplifiers, effects devices or mixers. OUT A corresponds to CHANNEL 1 and OUT B corresponds to CHANNEL 2.
7. AC POWER connection - Main power jack for connection to an AC electrical outlet or power strip/surge protector.

# Microphone Descriptions

## Microphone



1. GRILL - Protects the microphone cartridge and helps reduce "breathy" and wind noise pick-up.
2. POWER switch - Used to turn the microphone power ON and OFF. The mic power is ON when the switch is in the ON position and the power is OFF when the switch is in the OFF position.
3. BATTERY COMPARTMENT - Removable lid hides and protects the microphone battery.

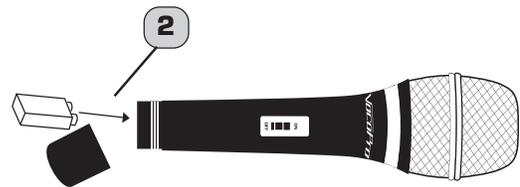
## MAINTENANCE PROCEDURES

### Handheld Microphone Battery Installation

1. To remove the cap, twist counter-clockwise until it comes off.



2. Insert 1 fresh 9-Volt battery. Make sure the battery is facing the correct direction with the +/- end facing towards the grill of the mic.



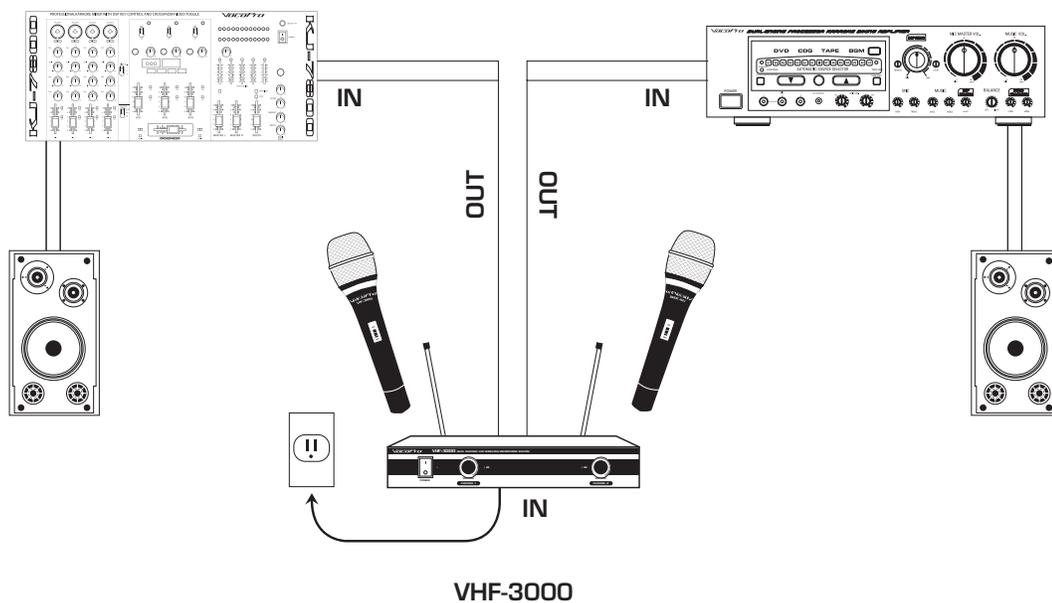
3. Close the BATTERY COMPARTMENT lid by twisting it clockwise until it is secure.



## Getting Connected

1. Connect the AC POWER ADAPTER to the VHF-3000 receiver's POWER INPUT connector, then plug the ADAPTER into a compatible AC electrical outlet.
2. Connect the VHF-3000's receiver to a sound system, mixer or amplifier's microphone input(s) with ¼" output jacks. When using a mixer, connect each mic line into a separate channel. This gives you complete control when mixing the vocals.

### Connecting



# Microphone Basics

## Microphone Position

The VHF-3000 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, and there is no one "correct" microphone position.

## Proximity Effect

When the sound source is less than ¼" 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-3000.

## Feedback

Feedback occurs when the amplified sound from any loudspeaker reenters the sound system through any open microphone and is repeatedly amplified. 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.
- 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.
- Use an equalizer/feedback reducer to cut the frequency bands in which the feedback occurs.

## 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

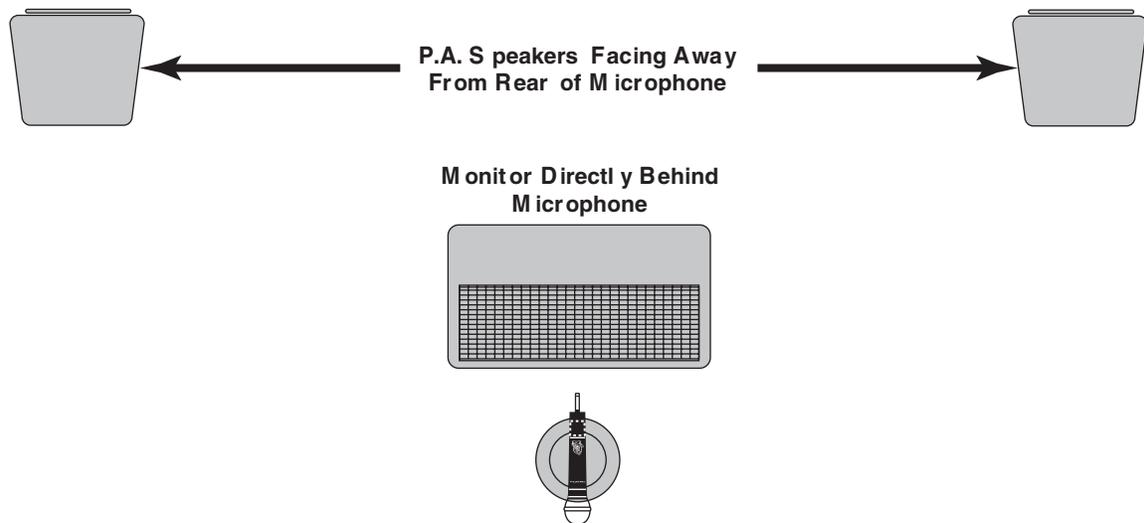
When giving a speech or simply speaking, place the microphone 4" to 10" away from the mouth, just above nose height for a natural sound with reduced bass. You can also place the microphone 8" to 16" away from the mouth, slightly off to one side, for a more "distant" sound with highly reduced bass and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

# Operations

If you will be using the VHF-3000 with stage monitors 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.



## OPERATIONS

1. Press the POWER button on the VHF-3000 receiver's front panel. The power LED on the receiver will be BLUE.
2. Adjust the receiver's VOLUME controls to approximately 50%.
3. Switch the microphone's POWER BUTTONS to the ON positions.
4. Talk or sing into the microphones. During normal operation, the RF/AF signal LED's will light RED when a microphone is being used.
5. Adjust the receiver's VOLUME controls until the output levels are balanced with each other and other possible source output i.e. CD+G tracks.

# Troubleshooting

PROBLEMS	SOLUTIONS
No sound; receiver RF light(s) and mic(s) not lit.	<p>Make sure POWER switches on transmitters and receiver are set to ON positions.</p> <p>Check microphone batteries to ensure they are providing power.</p> <p>Replace or charge batteries 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>
No receiver sound but the RF lights are glowing.	<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 mic and observe the receiver's RF signal LEDs. If they glow, the problem is elsewhere in the sound system.</p>
Received signal is noisy or contains interference with transmitter on.	<p>Check microphone batteries and charge or replace if power is low.</p> <p>Remove local sources of RF interference, such as lighting equipment. Two transmitters may be operating at the same frequencies or frequencies which are too close in proximity. Turn one off or exchange for one with a different frequency. Signal may be too weak. If so, reposition antenna (If possible, move them close to the transmitter).</p>
Noise coming from the receiver with the mics turned OFF.	<p>Remove local sources of RF interference, such as lighting equipment.</p> <p>Reposition the receiver or antennae.</p>
Momentary loss of sound as transmitter is moved around performing area.	<p>Reposition receiver and perform a "walkthrough" test and observe the signal strengths. If audio droppouts persist, mark these "dead spots" in the performing areas and avoid them during the performance.</p>
Battery running low even after recharging.	<p>Replace rechargeable batteries (rechargeable batteries have a life of 500 hours of charging and recharging).</p>

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