VocoPro

ULTIMATE CHOICE OF KARAOKE ENTERTAINMENT

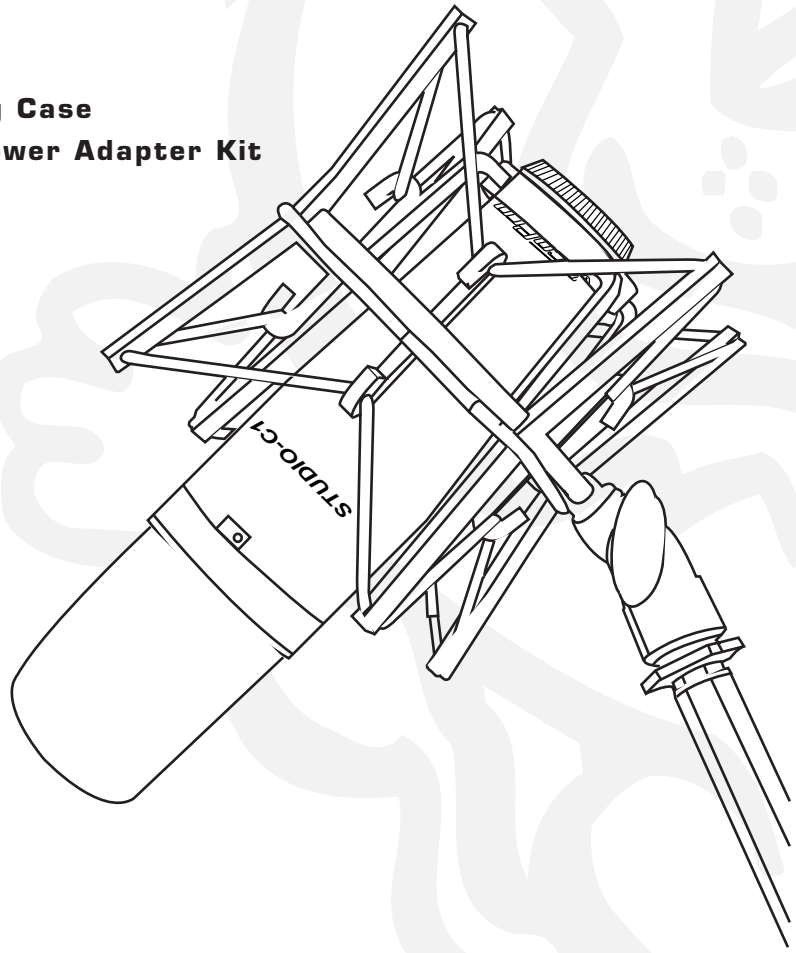
owner's manual

Features:

- Large Diaphragm Condenser Design for Exceptional Sound Pick-up
- Pressure Gradient Transducer Element
- Hardened Steel Protective Grill
- Uni-directional Polar Pattern
- Sensitivity: -33dB±2dB
- Operational Frequency Response Range of 20Hz~20kHz
- Load Impedance of ≥10000Ω
- Maximum Input SPL of 135dB at 1kHz =1% THD
- S/N Ratio of 78dB
- Self Noise = 16dB A

Includes

- Custom Carrying Case
- 48V Phantom Power Adapter Kit
- Shock-Mount Kit



STUDIO-C1

Professional Condenser Microphone

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.

Welcome...

ULTIMATE CHOICE OF KARAOKE ENTERTAINMENT

And Thank you for purchasing the **STUDIO-C1** 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 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 _____

Contents

VocoPro
ULTIMATE CHOICE OF KARAOKE ENTERTAINMENT

Specifications

ELEMENT:

PRESSURE GRADIENT TRANSDUCER

POLAR PATTERN:

UNI-DIRECTIONAL

FREQUENCY:

20HZ~20KHZ

SENSITIVITY:

-33dB±2dB(0dB=1V/PA AT 1KHZ)

OUTPUT IMPEDANCE:

200Ω±30%(AT 1KHZ)

LOAD IMPEDANCE:

≥1000Ω

SELF NOISE:

16dB A

MAX INPUT S.P.L:

135dB(AT 1KHZ ≤1% THD)

S/N RATIO:

78dB

OPERATING VOLTAGE:

DC 48V PHANTOM(±5V)

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

Thank you for purchasing the STUDIO-C1 Professional Condenser Microphone. At VocoPro we care about product quality and customer satisfaction. We know the STUDIO-C1 will provide years of high-quality enjoyment and reliable music entertainment for you when used properly.

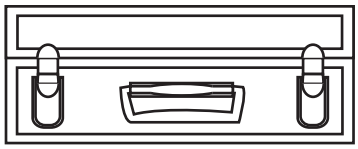
Unpacking the STUDIO-C1

Before you start your installation procedure, please make sure that you have all of the box contents located and ready. It is also recommended to keep the original packaging material in the case that re-shipping is necessary.

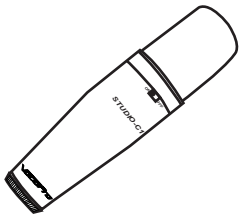
You should have received the following accessories with your new STUDIO-C1:

Parts

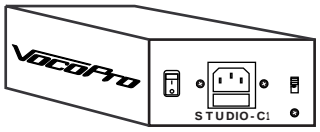
1- Custom Aluminum Road Case



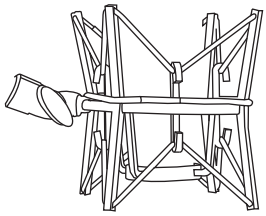
1- STUDIO-C1 Condenser Microphone



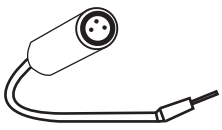
1- 48V Phantom Power Adapter



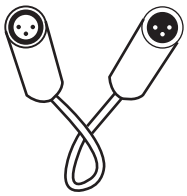
1- Shock-Mount



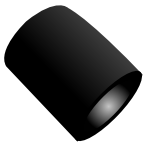
1- XLR to 1/4" Microphone Cable



1- XLR-M to XLR-F Cable

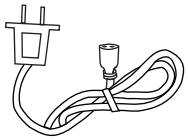


1- Windscreen



2- Elastic Tension Bands

1- AC Power Cable



(The shock mount with the elastic tension bands may already be assembled)

Getting Connected

Connecting the STUDIO-C1 to the Shock Mount Assembly

The included microphone shock-mount is not only designed to protect the sensitive microphone diaphragm, but it is also designed to protect the integrity of the output signal by suspending it from handling, cable and stand noise. While it is not required to connect the shock mount assembly to the STUDIO-C1, it is *highly recommended* to get the most out of your STUDIO-C1 for the longest amount of time.

Follow these instructions below for connecting to the shock mount assembly:

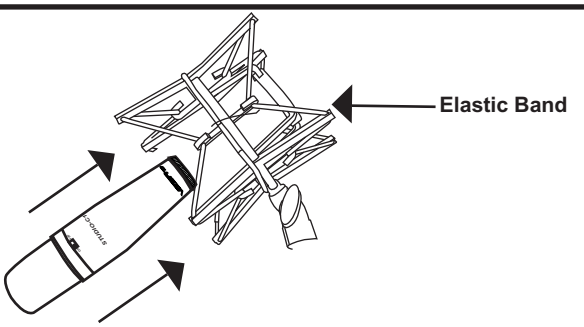
1. Hold the shock mount upside down, being careful not to unattach either of the elastic tension bands from any of the tension hooks.

2. Place the STUDIO-C1 upside down in the interior of the shock mount and align the threading of the STUDIO-C1's exterior with the threading of the shock mount's fastener, allowing the weight of the shock mount to keep it aligned with the STUDIO-C1.

3. Grasping the STUDIO-C1 as close to below the capsule as possible, twist the shock mounts fastener so it fully threads onto the STUDIO-C1, securing it tightly.

   NOTE: Never use the shock mount when the elastic tension bands are loose. Before and after handling the shock mount with the STUDIO-C1 attached, ensure that the elastic tension bands are attached to all the shock mount's hook locations to ensure proper suspension. Once one of the elastic tension bands detaches from just one hook, not only does shock mount become imbalanced, but it also increases the likelihood that other hook attachments are soon to detach.

Shock Mount



Connecting the 48V Phantom Power Adapter

All condenser microphones utilize a capacitor that requires an external power feed to function. While some condenser mics utilize a battery powered cartridge which can sometimes be costly, most condenser mics rely on an external power feed called *phantom power*. This means that unless your mic mixer has a 48V phantom power feed, (which is typically only found on professional grade studio boards) you would not be able to use the STUDIO-C1.

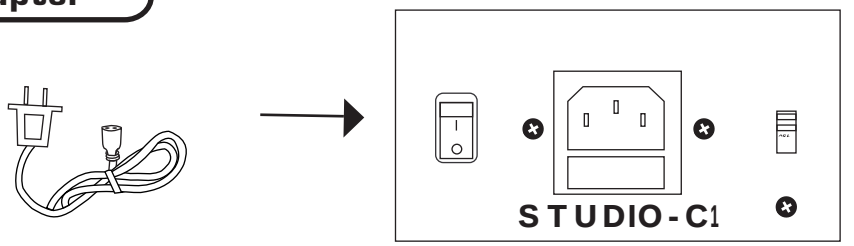
So you can start using your STUDIO-C1 right out of the box (no matter what kind of mic mixer you may have), we include an external AC power 48V phantom power adapter that conveniently connects between your STUDIO-C1 and your mixer.

Connecting the 48V phantom power supply:

1. Connect the supplied AC power cable from the 48V adapter to an available AC outlet, ensuring both ends are secure. You can check if it is properly connected by turning on the power switch. If the power switch illuminates, it is firmly connected, if is does not illuminate or flickers, turn off the adapter and reconnect the AC cable ends firmly.

   NOTE: Attempting to use the STUDIO-C1 with non-phantom powered mixers without the supplied phantom power adapter will result in no sound pickup/output.

Power Adapter



Getting Connected cont...

Connecting the STUDIO-C1 to a Mixer/P.A/Amplifier

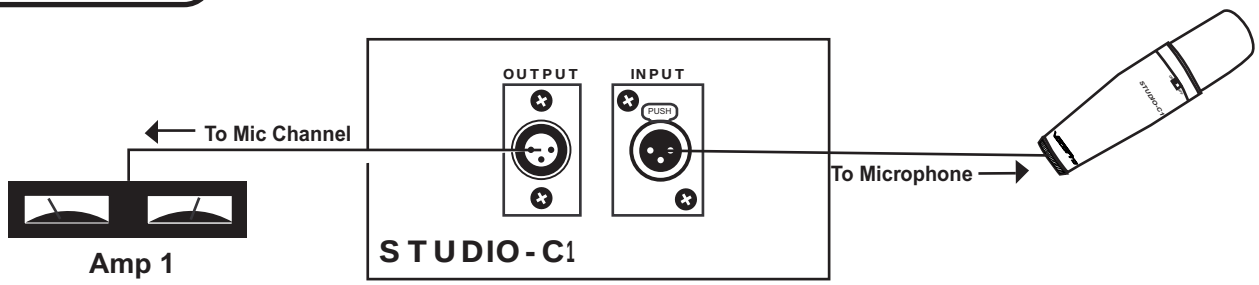
To connect the STUDIO-C1 to your mixer, P.A. or other amplifier device, you will need to have the two supplied mic cables handy (XLR-M to XLR-F Cable and XLR-F to ¼" Microphone Cable).

To connect the STUDIO-C1 to you mixer, P.A. or amplifier:

1. Using the XLR-M to XLR-F cable, connect the 3-pinned XLR-M plug into the INPUT jack on the phantom power adapter applying moderate pressure until it clicks into place, and connect the XLR-F plug to the XLR jack on the bottom of the STUDIO-C1 and apply moderate pressure until it clicks into place.

2. Using the XLR-F to ¼" microphone cable, connect the XLR-F plug to the OUTPUT jack on the phantom power adapter applying moderate pressure until it clicks into place, and connect the ¼" plug into an available mic channel on your mixer, P.A. or amplifier.

Mixer/P.A./Amp



Connecting and Positioning the Shock Mounted STUDIO-C1

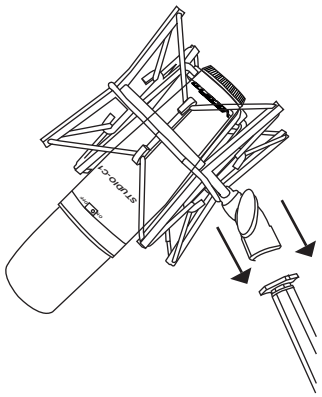
When connecting the shock mount to a microphone stand we recommend following the tips below:

- If your standard or boom style mic stand has an adjustable upper tube, loosen that tubes tension device and while aligned with the mic connector, turn the tube instead of the shock mount to thread the two together to minimize movement to the shock mount.
- When feasible, always extend a stands support legs (if present) to their widest range for optimal stability, especially with a boom style mic stand, as the weight of STUDIO-C1 paired with an extended and steep boom angle can cause the stand to topple over.
- When adjusting the STUDIO-C1's position and angle, do not adjust without first loosening the tension knob, as that can severely compromise the mechanism's ability to retain optimal tension for future use.

To connect to a standard or boom style microphone stand:

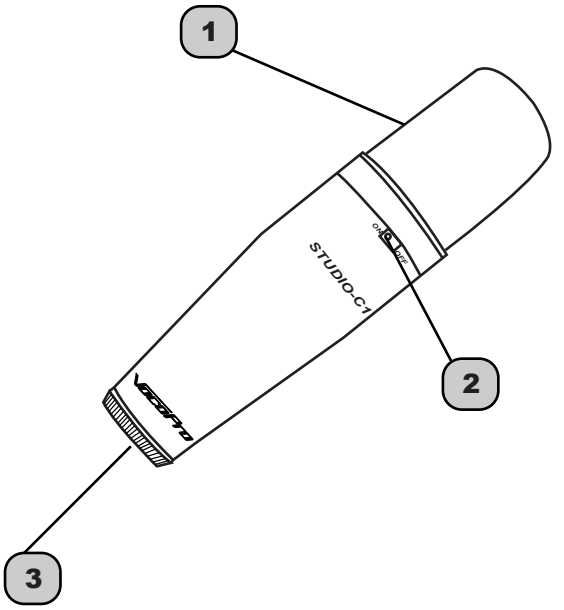
1. Thread the shock mount's mic connector to the microphone stand until it is firmly secured. If to much pressure is applied, it is possible to strip the threading, so use moderate pressure at first and increase until the STUDIO-C1 doesn't move or loosen when moved.

Mic Stand



Microphone Descriptions and Controls

Microphone



1. GRILL: This reinforced metal grill protects the internal condenser assembly and is the location where sound sources should be directed for pickup.

NOTE: The STUDIO-C1's polar pattern allows for a stronger signal pickup when the side of the grill with the ON/OFF button is pointed to the sound source.

2. ON/OFF switch: This switch turns the STUDIO-C1 ON and OFF.

3. XLR jack: This is where the XLR plug from a microphone cable connects to STUDIO-C1. The exterior of this XLR jack is threaded for connection to the supplied shock mount.

Microphone Basics

The STUDIO-C1's ability to pick-up extremely high and low frequencies makes it an excellent choice for use in the recording studio as well as on-stage. In either case, we have provided a few tips to help get the best performance out of your STUDIO-C1.

Understanding the Proximity Effect and How It Is Used

The *Proximity Effect* is a resulting boost to the low-frequency range of sounds that occur with the close-up use of microphones designed with a uni-directional polar pattern as with the STUDIO-C1. Occurring when the sound source is less than a ¼" from the microphone capsule, the boost is generated mostly in the 100Hz range by 6dB to 10dB. Simply out, when a sound source is less than a ¼" from the microphone, the sound will be boosted with a stronger and richer bass tone than if the sound source was farther away from the microphone.

While the proximity effect can intentionally be used as an advantage to enhance ones voice, it can also unintentionally be used as a disadvantage by mudding up ones voice. To avoid a lessened sound quality when using the proximity effect, keep these tips in mind:

- Always try to use available EQ or tone controls on external equipment to enhance a sound first.
- If trying it for the first time, try it in a small room with moderately low volume and no tone or effects adjustments. If it doesn't good to you, it most likely won't to others as well.
- Do not try to enhance a sound source without performing a sound check at the location prior.
- Do not rely on the proximity effect to "change" a persons voice. Rather use it to enhance one's voice.
- Avoid the proximity effect in environments with excessive reverb, (cathedrals, school gymnasiums, large dancehalls etc).
- Try to avoid the proximity effect when connected to high-output amplifiers and loudspeakers.
- Remember that when speaking into a microphone, plosive words can generate loud pops which will also be boosted by the proximity effect leading to a possible threat to external sound equipment.

Microphone Basics cont...

Feedback

Feedback is the phenomenon that occurs when an amplified sound from any loudspeaker reenters the sound system through any open microphone and is amplified over and over again. The resulting sound is an annoying howl that (when loud enough) poses a serious threat to not only your speakers, but your ears ability to hear as well. Most commonly, feedback is caused by the following conditions:

- Placing loudspeakers too close to the microphones.
- Having too many open active microphones.
- Boosting high-frequency tone controls in an indiscriminant fashion.
- Performing in environments with high ratios of hard and reflective room surfaces.
- Overuse of effects that generate multiple harmonic repetitions (reverbs, echoes, delays)

What to do if feedback occurs before the sound system is loud enough?

- Request that the talker to speak louder into the microphone allowing for a lower master volume.
- Reduce the distance from the talker to the microphone. Each time this distance is halved, the sound system output will increase by 6dB, mainly in the low-frequency range.
- Reduce the number of open microphones.
- Move the loudspeaker farther away from the microphone.
- Move the loudspeaker closer to the listener.
- Use an equalizer/feedback reducer to cut the frequency bands in which the feedback occurs.

Microphone Placement and Tone Quality

Lead and Backup Vocals
When singing lead or backup vocals, it is recommended for the lips to be less than 3" from the microphone. It is also common to be very close to, even touching a microphone's windscreen on an axis. Doing this creates a robust sound, emphasizes bass and provides maximum isolation from other sources.

General Public Address and 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 a minimal need for "de-essing".

The STUDIO-C1 & Stage Monitor/P.A. Loudspeakers

Due to the fact that live shows utilize many loudspeakers and often implement stage monitors with sound traveling in many directions, there can be times when using a sensitive condenser microphone presents some challenges. When using the STUDIO-C1 in a live situation with.
stage monitors and loudspeakers, try the following:

- Place the stage monitor(s) directly behind the microphones.
- Locate the 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.

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