



ISOMAX II-H

CHOIR MICROPHONES

Ultra-miniature microphone for critical sound reinforcement.



Description:

The ISOMAX Choir Microphone is a very small, wide response hyper-cardioid condenser microphone designed for hanging over choirs, orchestras or stage productions. It comes equipped with a steel wire hanger that can be bent to allow the mic to point in any direction and 50 feet of specially constructed, high-stability cable that keeps the mike in position with time and changes in temperature.

The ISOMAX Choir Microphone employs the latest microphone technology, from ultra low mass diaphragm to back plate polarization, yielding outstanding transient response and a frequency-independent directional pattern. These features make possible innovative placement techniques that use fewer microphones and produce more uniform pickup of the entire choir or orchestra.

Features:

Unobtrusiveness

Available in black or white, the ISOMAX choir microphone with its built-in wire hanger is much more compact than other choir microphones.

Uniform Pickup

More uniform coverage with fewer microphones.

Stable Positioning

Special cable keeps the mic from turning.

Wide Frequency Response

Smooth and warm. Sounds like a large diaphragm mic.

Reduced Feedback

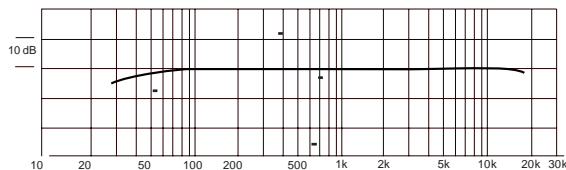
Nearly perfect polar patterns and smooth response reduce feedback.

Low Noise

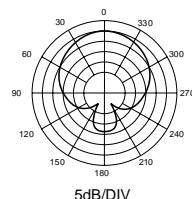
The ISOMAX choir microphone has lower noise than other small microphones in the critical 3kHz frequency range where the human ear is most sensitive.

Frequency Response

Measured at 6 inches



1 kHz Polar Response



Specifications:

Frequency Response :	40 to 18,000 Hz (figure 1)
Polar Pattern :	-40dBV/Pa (10.0 mV) 1kHz open circuit
Output Impedance :	350 Ohms
Sensitivity :	-40 dBV /Pa (10.0 mV) open circuit
Maximum SPL :	130 dB @ 1%THD 1kHz
Equivalent Input Noise :	29 dB SPL (A-Weighted)
Signal to Noise Ratio :	65 dB referred to 94 dB SPL
Dynamic Range :	101 dB
Polarity :	Positive sound pressure = +V on pin 2
Power Requirements :	Phantom 9V @ 1 mA to 55 V @ 8 mA

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Application Guide For Church Installations

Practically every church could benefit from proper installation of high-quality microphones. This application guide details simple, proven techniques that you can implement.

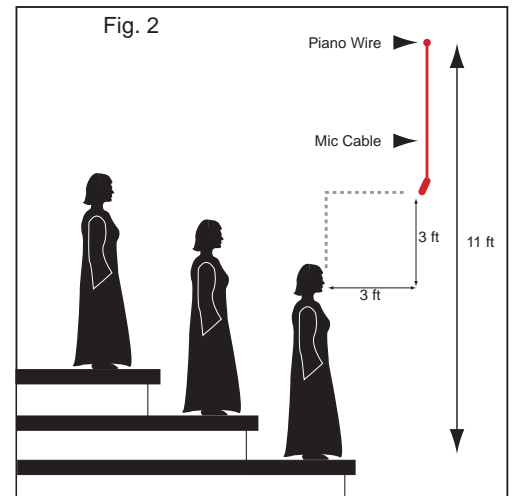
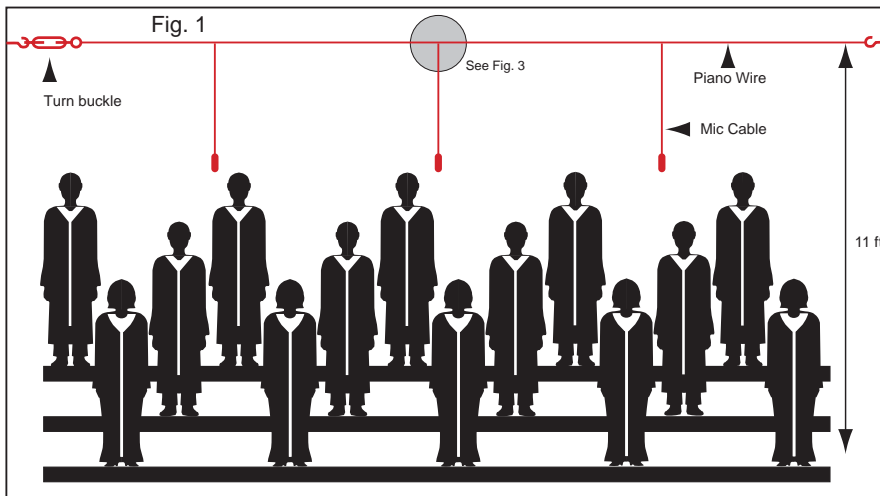
Choir Microphones

Successfully installing a microphone system for the choir can be difficult and expensive. Now, Countryman Associates has developed a simple, sure-fire approach - using the Countryman ISOMAX II-H hypercardioid choir microphone - that does not require access to the ceiling and results in truly superior performance using the fewest possible microphones.

The secret to this installation is twofold:

- 1)The Countryman ISOMAX II-H hypercardioid microphone, which weighs only 1/25 ounce, is light enough to hang safely from a stretched horizontal wire instead of from the ceiling.
- 2)The directional pattern of the ISOMAX II-H is so uniform that it allows balance between the front and back of the choir to be achieved simply by adjusting the angle at which the mics are secured.

Best of all, every item needed to complete the Countryman choir mic installation can be purchased from the local hardware store. One person following the guidelines below can easily complete this installation in half a day.

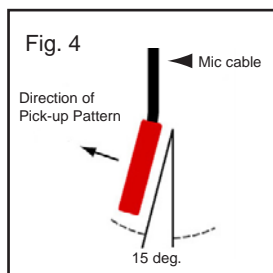
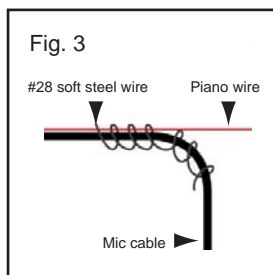


Note: Figures not to scale

Installation

Here's how to do a choir installation using the Countryman choir mic method.

- Begin by rigging a piece of .010" Dia. piano wire horizontally across the choir's front row and 11 feet above the feet of the front row. Rig the wire between two screw hooks with a turn buckle to tension the wire on one end. (See Figures 1 and 2.) Tighten piano wire until all slack is taken up and the wire makes a "ping" sound when plucked. Do not over-tighten! This placement should allow banners, flags and other tall items to pass safely under the piano wire.
- Tie the cable of each ISOMAX II-H microphone to the piano wire spaced 6 feet apart with each mic hanging 2 feet below the piano wire. The microphone will be 3 feet in front of and 3 feet above the heads of the front row singers. (See Figures 1, 2 and 3.)



- Placing the microphones in front of the choir provides a good stereo response, but the front rows are picked up more strongly because they are closer to the mics. The cable of each microphone is wrapped with soft steel wire that allows you to adjust the direction of the mics. Tilt the mics up approximately 15 degrees from vertical (see Figure 4). This will reduce the pickup of the front rows by putting them farther around the side of the pickup pattern until they balance with the back rows.

- After completing the mic cable run, conduct a rehearsal to fine-tune the balance of the choir's various sections. If you need less gain for the front rows, then increase the angle of the microphones from 15 degrees to 20 degrees. If you wish to raise the level of the front rows, relative to the rest of the choir, then reduce the angle of the mics from 15 degrees to 10 degrees. All you need is a step stool to adjust the angle and fine-tune the balance from front to back.

This installation has worked successfully for a wide variety of churches and it can work for you.

If you have any questions, please don't hesitate to call Countryman Associates at (650) 364-9988. Specification sheets for these microphones and other Countryman products are available online at www.countryman.com.