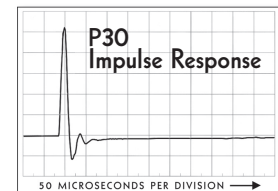
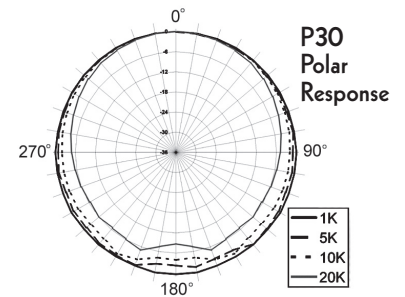


- 40kHz High Definition, Random Incidence Microphones for Outstanding Performance Within the Sound Field of a Piano
- Invisible from the Outside the Piano.
- Incredible Gain before Feedback
- Sounds great with Piano lid up or down
- Virtually No Leakage from Surrounding Instruments
- Quick, Simple and Easy Setup



Architectural & Engineering Specifications

30kHz Omni

The microphone shall be a back-electret condenser type with a wide-range uniform frequency response of 9 Hz to 30 kHz, +1/-3 dB. The microphone shall have an output level of 30 mV/Pa. The microphone shall be of a single capsule, single membrane design. The microphone shall have an impulse response with the rise time no longer than 25 microseconds, and total settling time, including the rise time, no longer than 120 microseconds. The microphone shall have omnidirectional polar characteristics uniform in all planes. The microphone shall accept sound pressure levels up to 142 dB producing no more than 3% THD. Dimensions shall be 275 mm (10.75 in) long by 22 mm (.860 in) diameter. The maximum head diameter shall be 10 mm (.4 in). The microphone shall be terminated with a professional gold-plated 3 pin XLR connector. The microphone shall require 48 V phantom power. The microphone shall be made of metal with black or white finish. The microphone shall have its entire flexible portion encased in black or white vinyl. The Earthworks P30 is specified.

Conventional Methods of Piano Miking

To date, the numerous methods of miking a piano have all been less than ideal. Such conventional methods include a microphone inside the piano on a pillow, or mounting microphones on mic booms and placing them inside the piano. Other approaches involve pressure zone microphones and mounted inside the piano, or mounting conventional microphones inside the piano with clamps on the piano frame or suction cups stuck on the piano lid. Regardless of these less than ideal mouting methods, there are even more important issues that affect the sound. When miking pianos for sound reinforcement systems, a cardioid microphone is usually chosen in an effort to provide ample gain before feedback. However, the proximity effect of cardioid mics placed inside the piano cause a boost of low frequencies. Electronic contact pickup devices typically sound muddy and have no real detail or transparency in the sound. In addition to the gain before feedback problem is that of leakage from instruments into the piano microphones.

What Contractors and Studios Really Want

Many sound contractors have expressed the need for a better way to mike pianos in churches, performance art centers and recording studios. They have tried all the various types of microphones and microphone pickup systems for pianos. No matter what they have tried, they either didn't like the sound they were getting, didn't like the mounting system or microphone stands in front of the piano, couldn't get enough sound level before feedback and they were getting leakage of other instruments close by into the piano micro-

phones. Engineers in recording studios find it nearly impossible to simultaneously record an acoustic piano in the same room with other instruments.

The New Earthworks Approach

When we showed a prototype of the Earthworks PM40 PianoMic[™] System to churches and recording studios they were amazed. Churches were able to get a better piano sound than ever before, there was incredible gain before feedback, microphones were not visible outside the piano and there was virtually no leakage of other instruments into the piano mics. Recording studio engineers were amazed in that they could now simultaneously record acoustic piano in the same room with other instruments. They all said

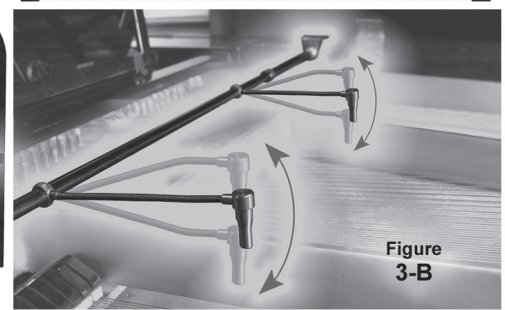
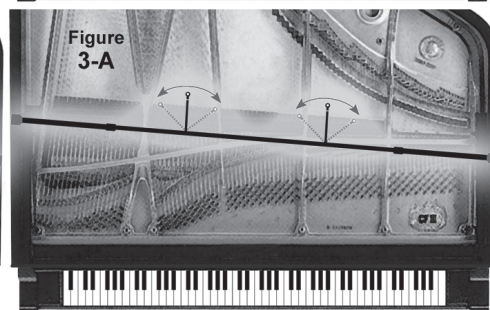
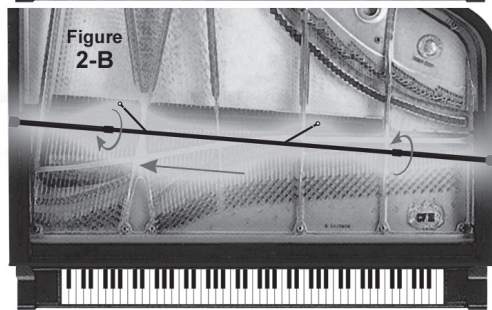
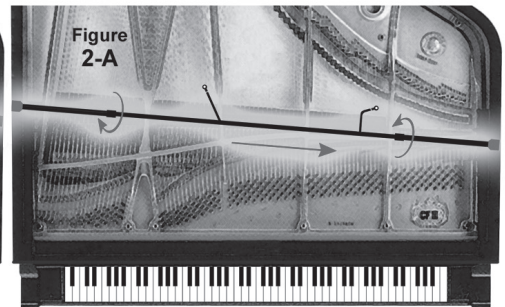
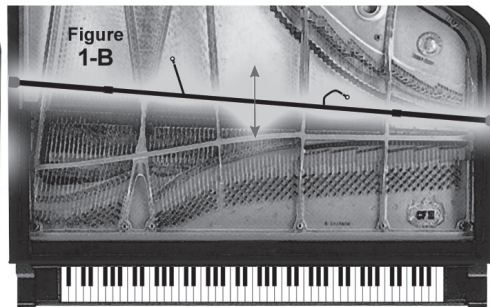
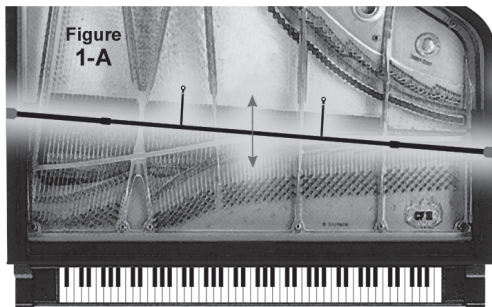
Specifications

Frequency Response:	9Hz - 40kHz
Polar Pattern:	Omnidirectional (random incidence)
Sensitivity:	15mV/Pa (-36 dBV/Pa)
Power requirements:	48V Phantom, 10mA
Peak Acoustic Output:	148 dB SPL
Output:	XLR-3 (pin 2+)
Min. Output Load:	600 ohms between pins 2 & 3
Noise:	22dBA
Mic Gooseneck Length:	(A weighted)
Dimensions:	64" fully extended, 46" fully collapsed
Product Weight:	
Shipping Dimensions:	
Shipping Weight:	

that the PianoMic System was incredible, hands down! For pianos in churches, performing arts centers or recording studios, you will be amazed when you see and hear the new Earthworks High Definition PianoMic System in action.

Random Incidence High Definition Microphones™

The heart of the PianoMic System is two omni 40kHz High Definition Microphones™ with a frequency response from 4Hz to 40kHz, incredible impulse response and very short diaphragm settling time. The 40kHz High Definition Microphones have been designed for random incidence pickup. When microphones are placed inside the piano they are actually within the sound field of the piano which has multiple sound sources (each string is a separate sound source) and there are multiple reflections of the sound from the sound board, the sides and the lid of the piano. The PianoMic microphones are designed to be placed within this sound field and perform optimally with sound coming from all directions. In addition, these omni microphones have no proximity effect, the sound will remain the same (i.e. no increase or decrease in low frequency levels) no matter how close or how far the microphones are from the piano strings or sound board. When you add all this up together, you can have exceptional sound quality with the piano lid either up or down.



Incredible Gain Before Feek

The large amount of gain before feedback is accomplished because the microphones are placed very close to the sound source and are within the sound field of the piano. When we first tested the PianoMic System in a church, we were able to make a piano louder than the pipe organ, and there was a great deal more gain available before reaching feedback. These tests also showed that feeding the piano sound into choir monitor speakers would produce far more sound level than the choir members could stand without being anywhere near a level that would cause acoustic feedback.

Virtually No Leakage of Sounds from Outside the Piano

One might first say, "how can you use omni microphones and have essentially no leakage of sounds from outside the piano. There are two important elements in the answer. Since the microphones are placed between 3" and 6" above the strings, the sound level of the piano seen by the microphones is much, much louder than any sound could reasonably be coming from outside the piano. Therefore any minimal leakage heard in the piano mics is much, much lower in level than the sounds coming from the piano.

Quick, Simple and Easy to Set Up

The PianoMic works differently from any other microphone ever used on piano in that it utilizes an adjustable telescoping tube that is supported on the sides of the piano case. The telescoping tube can be adjusted to any length from 46 to 64 inches to easily accommodate any type of grand piano. The pods that set on the side of the piano case are smooth with a protective coating that will not harm the finish of the piano. The pods are also less than 1/8 inch thick so the piano lid can be easily closed on top of them.

The extendable bar spans across the piano over the strings and can be moved so the two microphones can be placed near the hammers or further away (see

of the PianoMic and how easily it can be adjusted.

The innovative PianoMic™ System incorporates all of the Earthworks High Definition Microphone™ proprietary technologies and some new ones. The PianoMic System provides extended frequency response to 40kHz, incredible impulse response, very short diaphragm settling time, near perfect polar response, is time coherent, high SPL handling, low distortion electronics and is optimized for random incidence. The PianoMic System is a dream come true for live sound and recording applications. Call us and request a demonstration so you can hear this incredible piano microphone system for yourself. You will be impressed!

Figure 1). The PianoMic can be placed in the piano with the microphones facing the keyboard or placed 108 degrees the opposite direction with the microphones facing opposite the keyboard. This provides tremendous versatility for mic placement on any size or type of grand piano. The center section of the rod can be moved as much as 8 inches one direction or the other if you desire to favor either the low or high strings of the piano (see Figure 2). In addition, the flex arms on the microphone heads allow them to move approximately 4 inches to the left or right as well as up or down (closer or further from the strings, see Figure 3). This illustrates the versatility

