

# M23

Measurement Microphone

## User's Guide

### Electronic Calibration Files

All Earthworks Measurement Microphones purchased after July 1, 2012 will have ECFs available at no charge. Simply register your new measurement microphones within 30 days of purchase on our website at [earthworksaudio.com/register](http://earthworksaudio.com/register).

Once your Measurement Microphone has been registered in our database, we will send you your ECF to the valid email address provided in your registration.

### Warranty

All Earthworks microphones carry a fifteen-year limited warranty (parts and labor).

### Product Registration

To help you get the most out of your Earthworks purchase, please take a moment and register your product with us online at [earthworksaudio.com/register](http://earthworksaudio.com/register).

### Service & Repair

If you have any problems with your Earthworks products, please contact our Service & Repair Department.

Email: [returns@earthworksaudio.com](mailto:returns@earthworksaudio.com)

Telephone: (603) 654-2433, ext. 119



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MADE IN USA • 15 YEAR WARRANTY

[earthworksaudio.com](http://earthworksaudio.com)

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HIGH DEFINITION MICROPHONES™

## Description

The Earthworks M23 is an omnidirectional (pressure) microphone designed and calibrated for measurement purposes. It is a pre-polarized condenser microphone directly coupled to a wideband, low output impedance preamplifier. The M23 requires a standard 48V phantom power supply. It features a linear free-field frequency response from 9Hz to 23kHz (please see the enclosed individual calibration chart), very low handling noise, uniform polar pattern, and very high SPL handling capabilities. Its unique circuitry excludes the transconductance of the input FET from the overall gain structure. This means the sensitivity remains very stable when the microphone is subjected to variations in ambient temperature. The M23 meets or exceeds ANSI Type 1 requirements.

Each microphone is delivered with its own calibration chart providing its individually measured open-circuit sensitivity and the frequency response curve. A computer file containing the frequency response data for importing directly into measurement software is available from Earthworks, Inc. upon registering your new microphone. A mounting clip and a calibrator adapter are included with the microphone.

## Applications

The Earthworks M23 is ideally suited for measurements sound system setup and troubleshooting, room acoustics, or any application where an accurate free-field measurement microphone is required. The wide linear minimum-phase response and fast well-damped impulse response make the M23 an excellent microphone for room acoustics measurements, especially for time domain measurements.

The M23 is simple to operate. Connect the microphone to a microphone preamplifier supplying 48V phantom power using a standard XLR microphone cable. Please allow up to one minute for the microphone to settle. Plugging in the microphone "hot" (phantom power already present at the input) will not damage the microphone, and is actually preferred for faster settling. For optimum results we recommend pointing the M23 toward the sound source. This microphone has no removable parts.

## Calibration

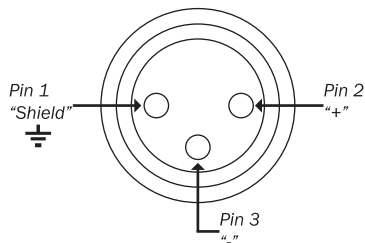
The microphone is calibrated at the factory at 1 kHz (independent of any frequency weighting). The sensitivity in mV/Pa is provided on the enclosed calibration chart. If on-site calibration is required, use the enclosed one-half inch standard calibration adapter.

NOTE: Earthworks recommends re-calibration every five (5) years.

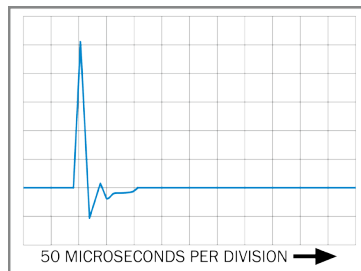
## Specifications

- Frequency response: 9Hz to 23kHz +1/-3dB
- Polar Pattern: Omnidirectional
- Sensitivity: 36mV/Pa (Typical)
- Power Requirements: 48V Phantom, 10mA
- Peak Acoustic Input: 140dB SPL
- Output: XLR-3
- Minimum Load: 600Ω btw. pins 2 & 3
- Noise: 20dB, A equivalent
- Dimensions L x D: 165 x 22 mm (6.5 x .860 in.)
- Weight: 160g (.31lb)

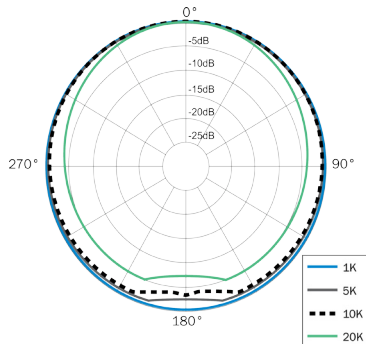
Specifications are subject to change without notice.



XLR Output Connector Assignment of M23



Impulse Response of M23 (typical)



Polar Response of M23 (typical)