

## Technical Support

Should you have any questions regarding your M23 microphone please contact us:

e-mail: [Support@earthworksaudio.com](mailto:Support@earthworksaudio.com)  
phone: (603) 654-2433, ext. 19  
(9am – 5pm ET)

For warranty and product return/exchange information please refer to the back of the enclosed Calibration Chart.

### FIFTEEN-YEAR WARRANTY

All Earthworks products (excluding accessories) carry a fifteen-year limited warranty (parts and labor). If you have any problems with your Earthworks products, please contact our warranty/repair department by email at: [returns@earthworksaudio.com](mailto:returns@earthworksaudio.com) or by telephone at (603) 654-6427, Ext. 19.

## Electronic Calibration Files

Electronic Calibration files are available for your individual microphone, should you need to calibrate your specific microphone to your measurement software or system. To obtain an electronic calibration file for your microphone call 603-654-6427, ext 14. You will need to provide your microphone model and serial number. The cost is \$50 which can be paid with a credit card. Once purchased, the electronic calibration file will be sent to you via email as an attachment. If you have any questions, please call the above listed phone number or email: [sales@earthworksaudio.com](mailto:sales@earthworksaudio.com)



Earthworks, Inc.  
37 Wilton Rd.  
Milford, NH 03055 USA  
Phone: 1-603-654-6427  
Fax: 1-603-654-6107  
[earthworksaudio.com](http://earthworksaudio.com)



Made in U.S.A.  
Printed in U.S.A.



# M23

## User's Manual



**HDM** HIGH DEFINITION MICROPHONES™

## Description

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 request at an extra cost. A mounting clip and a calibrator adapter are included with the microphone.

## Applications

Earthworks M23 is ideally suited for acoustical 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 (Fig. 2) 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 (therefore independent of any frequency weighting). The sensitivity in mV/Pa is provided on the calibration chart. If on-site calibration is required, use the enclosed one half inch standard calibration adapter.

## Specifications

Frequency response:	9Hz to 23kHz +1/-3dB
Polar Pattern:	Omnidirectional
Sensitivity:	30mV/Pa (Typical)
Power Requirements:	48V Phantom, 10mA
Peak Acoustic Input:	142dB SPL
Output:	XLR-3 (Fig. 1)
Minimum Load:	600Ω btw. pins 2 & 3
Noise:	22dB, A equivalent
Dimensions L x D:	165 x 22 mm, (6.5 x .860 in.)
Weight:	160g (.31lb)

**CE** Compliant

Specifications are subject to change without notice.

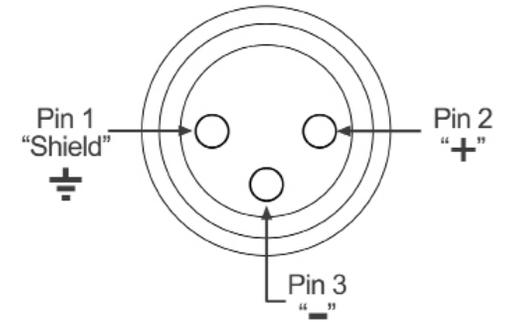


Fig 1. XLR Output Connector Assignment of M23

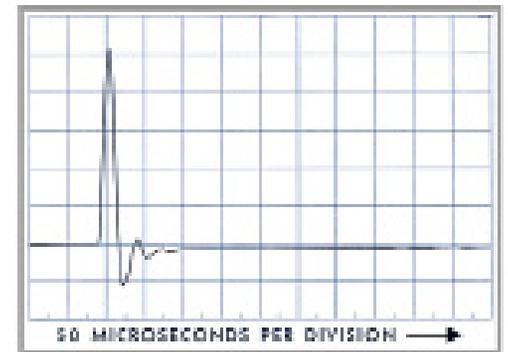


Fig2. Impulse Response (Typical) of M23

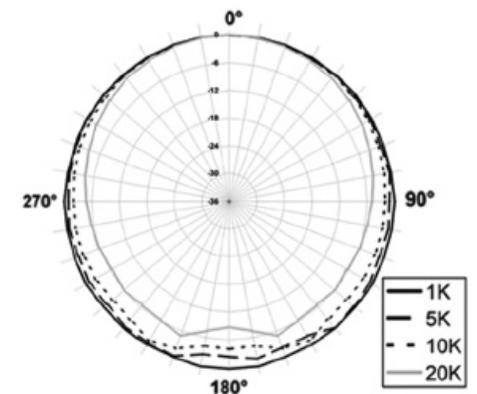


Fig 3. Polar Response (Typical) of M23