

Technical Support

Should you have any questions regarding your M30BX microphone please contact us:

e-mail: Support@EarthworksAudio.com
phone: 1-603-654-6427, ext. 20
(9 a.m. – 5 p.m. ET)

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

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



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Made in U.S.A.



M30BX Measurement Microphone Owner's Manual



Description

Earthworks M30BX is an omnidirectional (pressure) microphone designed and calibrated for measurement purposes. It is a prepolarized condenser microphone directly coupled to a wideband, low output impedance preamplifier. The M30BX requires a single type P28L (Lithium) or 4LR44 or equivalent 6V battery as a power source. It features a linear free-field frequency response from 9Hz to 30kHz (please see the enclosed individual calibration chart), very low handling noise, uniform polar pattern, and has 6dB of extra gain available. 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 M30BX meets or exceeds ANSI Type 1 requirements.

Each microphone is delivered with its own calibration chart providing its individually measured open-circuit sensitivity for both gain positions, 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, a calibrator adapter, an XLR to RCA adapter, and a battery are included with the microphone.

Applications

Earthworks M30BX is ideally suited for on-location acoustical measurements including loudspeaker design and quality control, sound system setup and troubleshooting, room acoustics, or any application where an accurate free-field measurement microphone is required and portability is important or a power source is not readily available. Many test systems manufacturers, such as DRA Labs (MLSSA™), Smart™ and DEQX™, are recommending M30BX microphones. The wide linear minimum-phase response and fast well-damped impulse response (Fig. 2) make M30BX an excellent microphone for loudspeaker design, especially for time domain measurements.

The M30BX is simple to operate. Make sure the battery (included) is properly installed in

the microphone. To open the battery compartment hold the microphone by the upper body and unscrew the lower, larger part of the microphone (this cover is not removable). The battery is only switched on when an XLR connector is plugged into the microphone. The M30BX will not operate from phantom power.

The M30BX will drive either balanced or unbalanced inputs. An XLR to RCA adapter is enclosed for driving unbalanced inputs of sound cards directly. Please note that the best S/N ratio is achieved using a balanced interface.

Inside the battery compartment there is a gain switch. At the “0dB” setting the M30BX has normal condenser sensitivity. At the “6dB” setting the extra dB of gain is applied, eliminating a need for an external preamplifier for most applications.

For optimum results we recommend pointing the M30BX toward the sound source.

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 for both gain positions. Make sure to use the actual data rather than relying upon the nominal 14dB gain figure. If on-site calibration is required, use the enclosed one half inch standard calibration adapter.

Specifications

Frequency response: 9Hz to 30kHz +1/-3dB
Polar Pattern: Omnidirectional
Sensitivity: 30mV/Pa (Typical)
with 6dB Gain 60mV/Pa (Typical)
Power Requirements: 6V Battery Type P28 (2CR-1/N, 4LR44 or eq.)
Peak Acoustic Input: 130dB SPL
with 14dB Gain 124dB SPL
Output: XLR (Fig. 1)
Minimum Load: 600Ω btw. pins 2 & 3
Noise: 22dB, A equivalent
Dimensions L x D: 220 x 23 mm (8.65 x .910 in.)
Weight: 180g (.41lb)

 Compliant

Specifications are subject to change without notice.

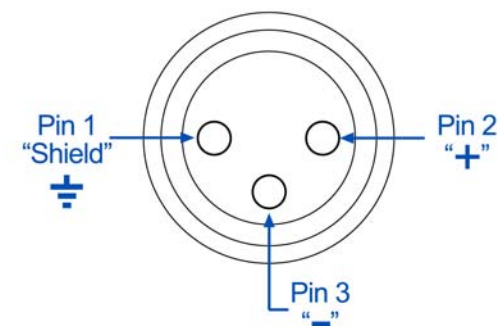


Fig 1. XLR Output Connector Assignment of M30BX

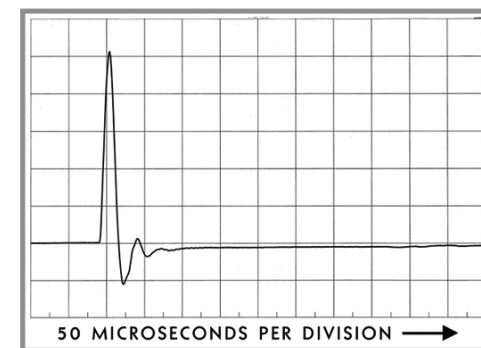


Fig 2. Impulse Response (Typical) of M30BX

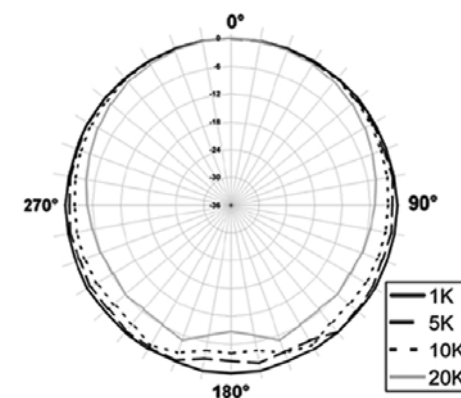


Fig 3. Polar Response (Typical) of M30BX, 1dB/div.