

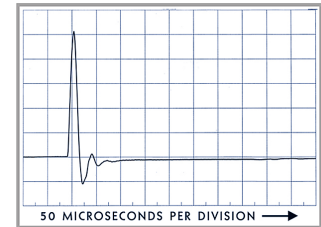
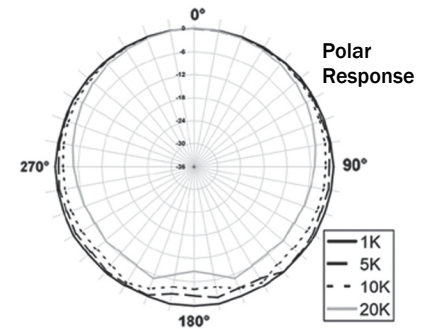


SPECIFICATIONS

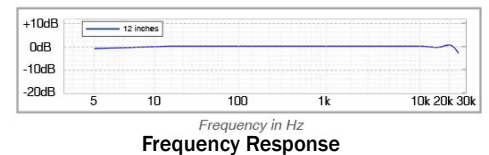
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| Frequency Response: 3Hz to 23kHz \pm 0.5dB |
| Polar Pattern: Omnidirectional |
| Sensitivity: 36mV/Pa (-28.9 dBV/Pa) |
| Matching Tolerance: \pm 0.5dB (frequency resp. & sensitivity) |
| Power Requirements: 24 - 48V Phantom, 10mA |
| Max Acoustic Input: 140dB SPL |
| Output: XLR-3 (pin 2+) |
| Min. Output Load: 600 ohms between pins 2 & 3 |
| Noise: 20dB SPL (A-Weighted) |
| Operating Temp. Range: -4° to 140° F (-20° to +60° C) |
| Storage Temp. Range: -40° to 176° F (-40 to +80° C) |
| Humidity: Up to 90% |
| Dimensions L x D: 6.25 x .860 in. (165 x 22 mm) |
| Weight: 0.35 lb. (1.60kg) |



- All Reference Series Microphones are matched within \pm 0.5dB of each other in Frequency Response & Sensitivity
- Meets or Exceeds Type 1 Specifications
- 140dB SPL Max Acoustic Input
- Exceptionally Uniform Omnidirectional Polar Pattern
- Ideal for SMAART™, Meyer SIM™, MLSSA™, Spectrafoo™, TEF™, RTA and all Audio Band Measurements
- Requires 24-48V Phantom Power
- Operating Temp Range: -4° F to 140° F (-20° C to +60° C)



Impulse Response



Frequency Response

The Earthworks Reference Series measurement microphones are a significant offering to the world of acoustic measurements. Historically, measurement microphone manufacturers have only been able to match microphones to within 2 or 3dB of each other. If you purchased a number of matched microphones and wanted to add more, you would need to send one of your microphones back to the manufacturer to match it to additional new mic(s). Earthworks proprietary technologies have always allowed matching microphones with much tighter tolerances (within 1dB or less). Each Reference Series measurement microphone is manufactured to within \pm 0.5dB of each other in frequency response and sensitivity. This ensures that any microphone in the series will be matched to all others now and forever while also eliminating the need for ECFs (Electronic Calibration Files) in most cases.

Earthworks measurement microphones are accepted throughout the world as a standard for accurate and reliable acoustic measurements. They are accurate in the time and frequency domain and have exceptionally uniform polar response. They feature flat frequency response, fast impulse response, and

are remarkably stable with respect to temperature changes while meeting or exceeding Type 1 specifications.

These microphones incorporate bipolar Class A amplifiers made with all discrete components and no capacitors in the signal path for optimal phase response. The microphone can feed long signal lines up to 300 feet (91m) while maintaining full and accurate frequency response without any loss of high frequencies. Reference Series microphones require standard 24-48V phantom power at 10mA.

Reference Series Microphones come with a protective padded fabric pouch for storage.

ELECTRONIC CALIBRATION FILES

Electronic Calibration Files (ECFs) in most cases will not be required for Reference Series Microphones as each M23R is already flat (\pm 0.5dB from 3Hz to 23kHz). However, ECFs are available for all models of Earthworks measurement microphones to calibrate a specific microphone to your measurement software or system. To obtain your ECF, first register your microphone online at earthworksaudio.com/register and then visit earthworksaudio.com/ecf to request your ECF, which will be sent to you as an email attachment. If you have any other questions, please call 603-654-2433, ext 114 or email: sales@earthworksaudio.com

1.1 11/20/19

