



Low Noise Microphone

1/2" Prepolarized Free-field Microphone



Applications

- Computer disk drive testing
- Electric vehicle sound quality
- Cabin noise measurements
- Environmental noise monitoring
- Appliance noise source location
- Sound power measurements
- General low noise tests

Highlights

- Prepolarized (0V) design
- Low 6.5 dBA noise floor (5.5 dBA typical)
- High sensitivity, 450 mV/Pa
- Wide frequency range, 10 Hz - 16 kHz
- Uses cost effective coaxial cables
- A2LA, ILAC accredited, CE marked

Use of model 378A04 low noise microphone

The 378A04 is a matched system that is comprised of a high sensitivity microphone and a low noise preamplifier that contains a built-in filter that enables the free-field response to remain flat over a wide frequency range. The system requires a minimum of 4 mA and measures to 6.5 dBA (5.5 dBA typical) within a cost efficient, prepolarized (0V) design.

ICP® (0V Polarization)

PCB® is the inventor of ICP® sensor power technology. Pre-polarized microphones operate on this same ICP® sensor power or any 4-20 mA constant current supply and use standard coaxial cables. The low cost power supplies and cables for prepolarized microphones can be shared with other ICP® compatible products such as accelerometers and pressure sensors. This interchangeability results in a significant per-channel cost savings as well as reduced test set-up time.

Quality Commitment

PCB acoustic products are used by some of the world's largest automotive, aerospace & defense, electronic, and consumer goods manufacturers. PCB uses the highest quality materials for its microphones. While other manufacturers outsource their manufacturing, PCB has invested in a state of the art, in-house CNC machining facility, allowing greater control over quality and delivery. PCB has also invested in a clean room, anechoic chamber, and environmental test chambers to provide quality products. Our rigorous environmental testing and aging process ensures that our products will survive in demanding temperature or humidity conditions. PCB microphones are backed by a best in class 5-year warranty and our "Total Customer Satisfaction" (TCS) policy. Application support is available through our 24-Hour SensorLineSM at 716-684-0001.

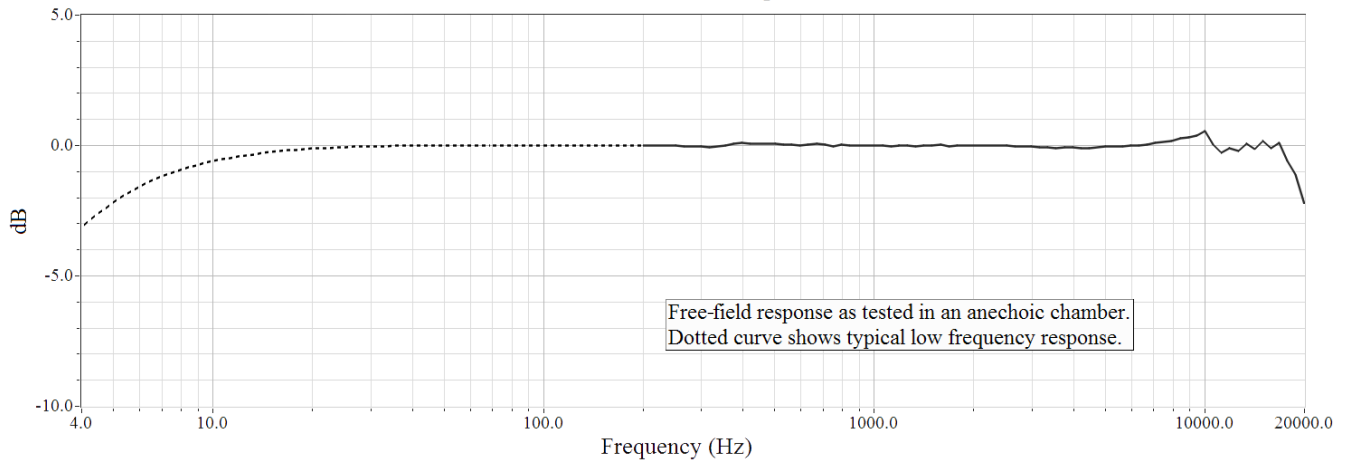


Microphone & Preamplifier System (Model 378A04)



Sample 378A04 calibration response

Frequency Response (0 dB @ 1000 Hz)



1/2" Free-field Microphone Model 378A04

Acoustic Specifications

Sensitivity at 1000 Hz	450 mV/Pa -7 (± 2 dB) re 1 V/Pa
Frequency Range ± 2 dB	10 - 16,000 Hz
Inherent Noise	< 6.5 (< 5.5 Typical) dB[A] re 20 μ Pa
Harmonic Distortion Limit: 3%	> 80 (100 below 5 kHz) dB re 20 μ Pa [1]
Max Sound Pressure Level Peak	130 dB re 20 μ Pa

Environmental Specifications

Operating Temperature Range	-10 to 80 $^{\circ}$ C 14 to 176 $^{\circ}$ F
Temperature Coefficient	0.009 dB / $^{\circ}$ C
Static Pressure Coefficient	-0.013 dB / kPa
Humidity Coefficient	± 0.001 dB / %RH

Electrical Specifications

Polarization Voltage	0 V
Maximum Output Voltage	$\pm 2 V_{PK}$
Constant Current Excitation	4 - 20 mA

Physical Specifications

Diameter with Grid	0.52 in 13.2 mm
Height with Grid	4.03 in 102.2 mm
Pressure Equalization Vent	Rear
Weight	1.81 oz 51.3 grams

Note [1] The 3% distortion limit is frequency dependent and is 80 dB for the entire frequency range and 100 dB from 10 Hz to 5 kHz.

Optional accessories:

- 079A06 – 1/2" microphone windscreen
- 079A11 – 1/2" microphone holder
- 079A15 – tripod microphone stand with boom arm
- 079A16 – miniature microphone stand
- 079A18 – clamp on flexible extension arm
- 079C23 – microphone holder with swivel mount
- 079A44 – extension arm for flexible clamp
- CAL200 – handheld calibrator
- ACS-156 – microphone and preamplifier system calibration



CAL200 Handheld Calibrator



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