PCB PIEZOTRONICS
AN AMPHENOL COMPANY

MODEL **378A07**

1/2" FREE-FIELD MICROPHONE & PREAMPLIFIER

- Frequency: 0.1 Hz – 20 kHz
- Dynamic range: 20 dB(A) - 136 dB

TYPICAL APPLICATIONS

- Environmental testing
- Wind turbine measurements
- Earthquake and tornado analysis
- Sonic boom measurements

STANDARDS COMPLIANCE

- IEC 61094-4 WS2F compliant, and designed to be used in an IEC 61672 Class 1 compliant system for sound level meter use
- Calibration reference microphone traceable to NIST, PTB or DFM National Labs
- PCB calibration service accredited to ISO 17025, ANSI-Z540.3 by A2LA or ILAC

USE OF MODEL 378A07

Model 378A07 is comprised of a 1/2" (12mm) 377A07 prepolarized microphone, a 426E01 preamplifier, and a low frequency filter adapter, Model 079A43. For applications measuring infrasound (below the human hearing threshold) the 378A07 provides the capability to measure down to 0.1 Hz (-3dB).

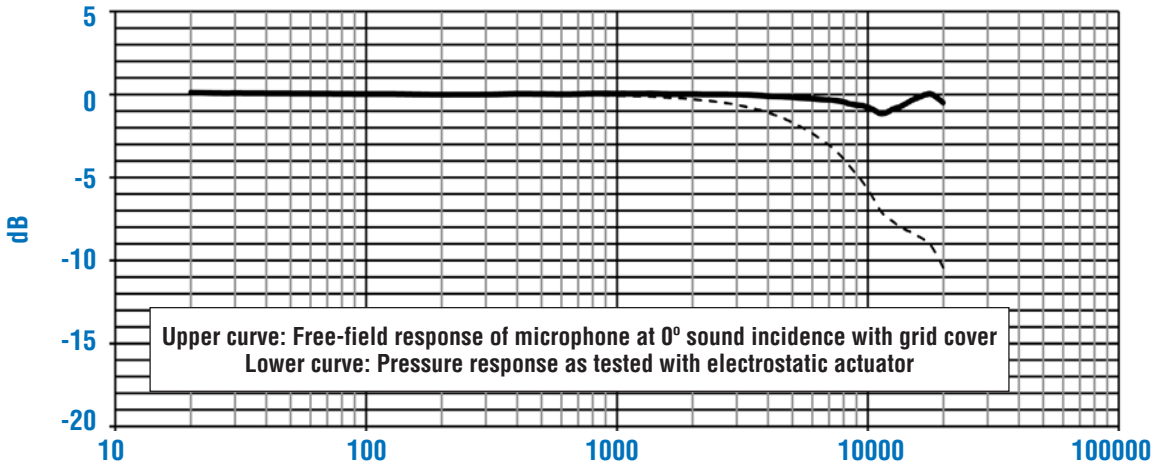
Acoustic pressure waves may be altered by objects in the sound field including the measurement microphone. To correct for this, free-field microphones are calibrated to compensate for their own presence, thus providing more accurate results.

POLARIZATION VOLTAGE – ICP® (0V) PREPOLARIZED

PCB® is the inventor of ICP® sensor power technology. All manufacturers of IEC 61094-4 compliant prepolarized (0V) microphones use the technology that PCB developed. Prepolarized microphones operate on 2-20 mA constant current supply and use coaxial cables resulting in significant per channel cost savings over the PCB 200V models. Other ICP® compatible sensors such as accelerometers, force, strain, and pressure sensors use the same power supplies and cables as prepolarized microphones, further reducing set-up time and initial investment costs.

PCB® QUALITY COMMITMENT

PCB is uniquely equipped with a state of the art, CNC machining facility, allowing control over quality, pricing, and delivery. Investments in clean rooms, anechoic, and environmental test chambers, combined with our rigorous testing and aging process, ensures our products will survive in demanding environmental conditions. PCB has the industry's best 5-year warranty with a "Total Customer Satisfaction" policy.



Frequency Response (0 dB @ 251.2 Hz)

378A07 PREPOLARIZED FREE-FIELD MICROPHONE, PREAMPLIFIER AND LOW FREQUENCY ADAPTER		
Nominal Microphone Diameter	in (mm)	1/2 (12)
Sensitivity at 250 Hz (± 1.5 dB)	mV/Pa (dB re 1 V/Pa)	5.8 (-44.7)
Sensitivity without Adapter at 250 Hz (± 1.5 dB)	mV/Pa (dB re 1 V/Pa)	50 (-26)
Frequency Range (± 2 dB)	Hz	0.13 - 20,000
Frequency Range without Adapter (± 2 dB)	Hz	3.75 - 20,000
Lower Limiting Frequency (-3dB)	Hz	0.1
Inherent Noise	dB[A] re 20 µPa	20
Dynamic Range (3% Distortion Limit)	dB re 20 µPa	136
Environmental Specifications		
Operating Temperature Range	ºF (ºC)	-40 to +176 (-40 to +80)
Electrical Specifications		
Polarization Voltage	V	0
Constant Current Excitation	mA	2 - 20
Physical Specifications		
Size (Diameter x Length with Grid)	in (mm)	0.52 x 4.29 (13.2 x 109.0)
Connector	Coaxial	BNC Jack

* all specifications typical unless otherwise noted

OPTIONAL ACCESSORIES

- **079A06** – windscreen for 1/2" microphones
- **079A11** – 1/2" microphone holder
- **079A15** – tripod microphone stand with boom arm
- **079B16** – miniature microphone stand
- **079A18** – clamp on flexible extension arm
- **079B21** – 1/2" nose cone
- **079B23** – microphone holder with swivel mount
- **CAL200** – handheld calibrator
- **ACS-63** – microphone system calibration
- **HT426E01** – high temperature preamp to 257 °F (125 °C)

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