

MODEL 378B11

# 1/2" PRESSURE FIELD MICROPHONE & PREAMPLIFIER



## USE OF MODEL 378B11

Model 378B11 is a 1/2 in (12 mm) prepolarized microphone and preamplifier high sensitivity system, with the capability of measuring very low amplitudes due to its low noise floor (16 dBA). This mated pair can measure sound pressure levels to 137 dB within a 3% distortion rating.

Pressure field response microphones are typically intended to be used in small closed couplers, impedance tubes, confined spaces, or flush mounted to hard reflective surfaces.

## 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.

- Low noise floor: 16 dB(A)
- High sensitivity: 50 mV/Pa
- Max amplitude: 137 dB (3% distortion)

## TYPICAL APPLICATIONS

- For use in couplers
- HVAC testing
- Impedance tubes

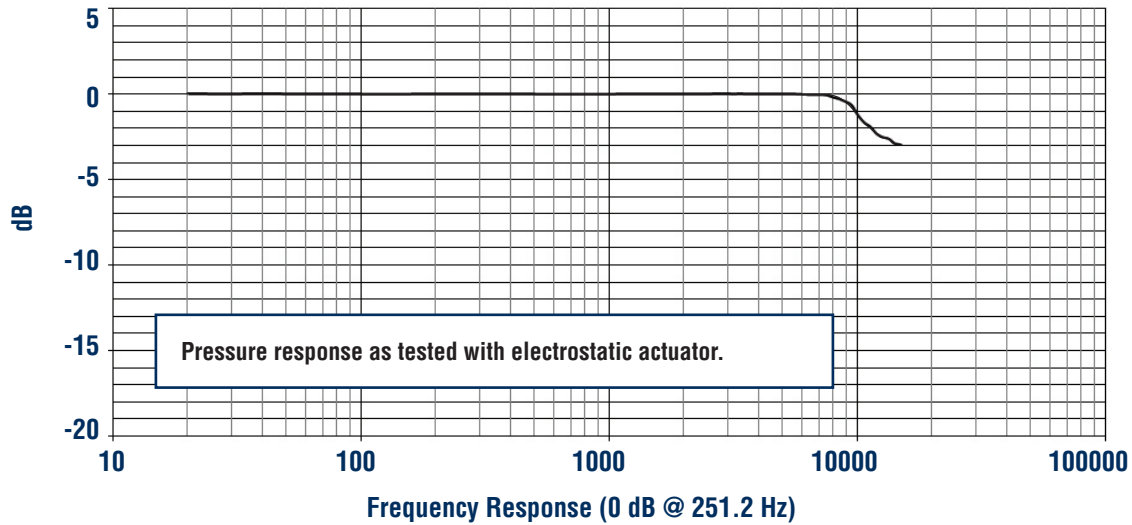
## STANDARDS COMPLIANCE

- 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

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# 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.



378B11 PREPOLARIZED PRESSURE FIELD MICROPHONE SYSTEM		
Nominal Microphone Diameter	in (mm)	1/2 (12)
Sensitivity at 250 Hz ( $\pm 1.5$ dB)	mV/Pa (dB re 1 V/Pa)	50 (-26)
Frequency Range ( $\pm 2$ dB)	Hz	3.75 - 10,000
Cartridge Thermal Noise (Microphone)	dB[A] re 20 $\mu$ Pa	14
Inherent Noise with 426E01 Preamp	dB[A] re 20 $\mu$ Pa	16
Harmonic Distortion Limit: 3%	dB re 20 $\mu$ Pa	146
Distortion Limit with 426E01 Preamp	dB re 20 $\mu$ Pa	137
Environmental Specifications		
Operating Temperature Range Microphone	$^{\circ}$ F ( $^{\circ}$ C)	-40 to +248 (-40 to +120)
Operating Temp. with 426E01 Preamp	$^{\circ}$ F ( $^{\circ}$ C)	-40 to +176 (-40 to +80)
Operating Temp. with HT426E01 Preamp	$^{\circ}$ F ( $^{\circ}$ C)	-40 to +248 (-40 to +120)
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 3.62 (13.2 x 91.9)
Connector	Coaxial	BNC Jack

\* all specifications typical unless otherwise noted

## OPTIONAL ACCESSORIES

- **426A10** – 1/2" preamplifier with 20 Hz high pass filter
- **426A11** – 1/2" preamplifier with gain and filter switches
- **HT426E01** – 1/2" preamplifier, high temperature (125° C)
- **079A06** – 1/2" microphone windscreen
- **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
- **079C23** – microphone holder with swivel mount
- **CAL200** – handheld calibrator
- **ACS-63** – microphone system calibration



3425 Walden Avenue, Depew, NY 14043-2495 USA

Toll-Free in the USA: 800 828 8840

Phone: 1 716 684 0001 | Email: info@pcb.com

PCB Piezotronics, Inc. is a designer and manufacturer of microphones, vibration, pressure, force, torque, load, and strain sensors, as well as the pioneer of ICP® technology used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, OEM applications, and more. With a worldwide customer support team, 24-hour SensorLineSM, and a global distribution network, PCB® is committed to Total Customer Satisfaction. Visit www.pcb.com for more information. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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