



MODEL 378A14

1/4" PRESSURE FIELD MICROPHONE & PREAMPLIFIER

- Frequency: 4 Hz – 70 kHz
- Max amplitude: 173 dB
- Front vented

TYPICAL APPLICATIONS

- Impedance tube
- Flush mounting applications
- Closed couplers
- Gunshot analysis

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



USE OF MODEL 378A14

Model 378A14 is a 1/4 in (6 mm) prepolarized pressure field microphone combined with a 426A05 ventless preamplifier. The 378A14's front vent design allows for equalization of atmospheric pressure when flush mounted in a cavity, tube, or panel where the static pressure inside the structure varies greatly from the outside of the structure, and is designed for high amplitude and high frequency measurements.

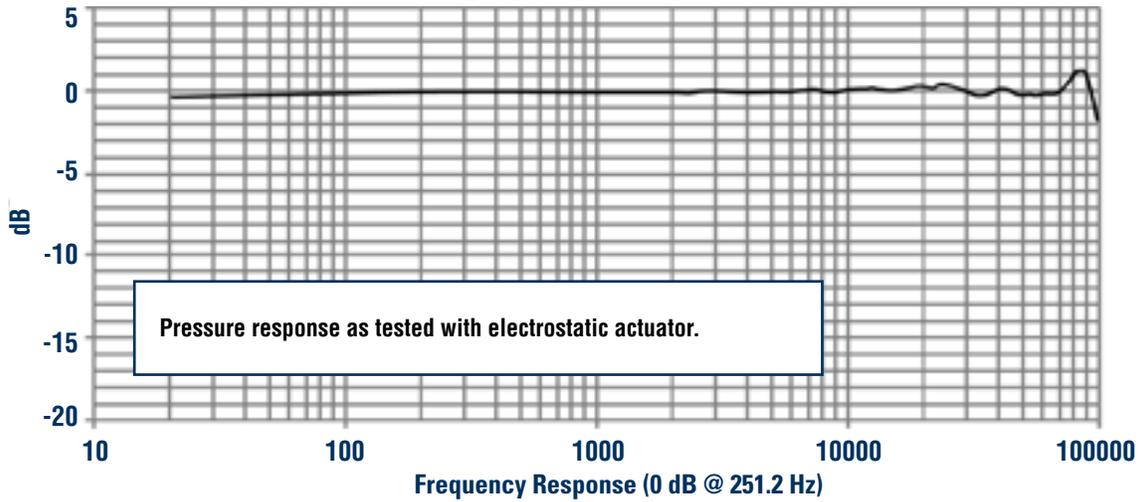
Pressure field response microphones are typically intended to be used in small closed couplers, confined spaces, or flush mounted to hard reflective surfaces.

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.

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.



378A14 PREPOLARIZED PRESSURE MICROPHONE SYSTEM		
Nominal Microphone Diameter	in (mm)	1/4 (6)
Sensitivity at 250 Hz (± 3 dB)	mV/Pa (dB re 1 V/Pa)	1 (-60)
Frequency Range (± 2 dB)	Hz	4 - 70,000
Cartridge Thermal Noise (Microphone)	dB[A] re 20 μ Pa	35
Inherent Noise with 426A05 Preamp	dB[A] re 20 μ Pa	50
Harmonic Distortion Limit: 3%	dB re 20 μ Pa	178
Distortion Limit with 426A05 Preamp	dB re 20 μ Pa	173
Environmental Specifications		
Operating Temperature Range Microphone	$^{\circ}$ F ($^{\circ}$ C)	-40 to +248 (-40 to +120)
Operating Temp. with 426A05 Preamp	$^{\circ}$ F ($^{\circ}$ C)	-40 to +158 (-40 to +70)
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)	0.28 x 2.07 (7.1 x 52.6)
Pressure Equalization Vent	Vented	Rear
Connector	Coaxial	10-32 Jack

* all specifications typical unless otherwise noted

OPTIONAL ACCESSORIES

- **079A02** – 1/4" microphone to 1/2" preamplifier adapter
- **HT426E01** – 1/2" preamplifier, high temperature (125° C)
- **079A07** – windscreen for 1/4" microphones
- **079B10** – microphone holder
- **079A15** – tripod microphone stand with boom arm
- **079B16** – miniature microphone stand
- **079A18** – clamp on flexible extension arm
- **079C20** – 1/4" nose cone for wind tunnel testing
- **079C23** – microphone holder with swivel mount
- **CAL200** – handheld calibrator
- **ADP024** – 1/4" adapter for CAL200
- **ACS-63** – microphone system calibration



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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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