



# 1/4" Prepolarized Pressure Field Microphone, Side Vented

Model 377A14 is recommended for applications where high amplitude sound pressure levels or high frequency measurements are required. This model can be used in flush mounted applications where large differences of static pressure exist.

## Applications

- Impedance tube
- Panel testing
- Flush mounting applications
- Closed couplers
- High amplitude or high frequency tests
- Gunshot analysis
- Research and development
- Hearing preservation and safety
- Precision sound level measurements

## Highlights

- Prepolarized (0V) design
- Sensitivity, 1.0 mV/Pa
- Frequency range, 4 Hz–70 kHz (+/- 2dB)
- Cartridge noise, 35 dB(A)
- Max amplitude, 174 dB
- Temperature range, -40 to +120°C
- IEC 61672 class one compliant and IEC 60651 type one compliant
- A2LA, ILAC accredited, CE marked



Image courtesy of Spectronics, Inc.

## Use of model 377A14 pressure response field microphone

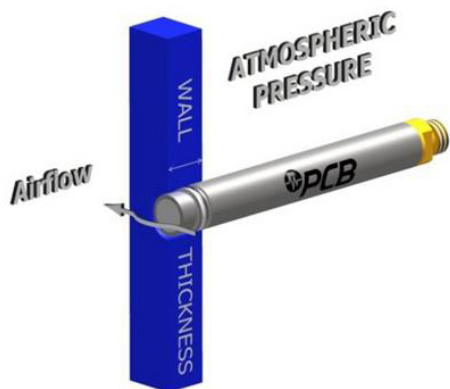
The PCB® model 377A14 is a side vented Pressure Field design which allows for equalization of atmospheric pressure when flush mounted in a cavity, closed coupler, tube, wall or panel where the static pressure inside the structure varies greatly with the outside of the structure. The 377A14 is used for both high amplitude and frequency measurements. For optimum results use with the PCB model 426A05 ventless preamplifier, or order as a Model 378A14, microphone and preamplifier mated pair.

## ICP® (0V Polarization)

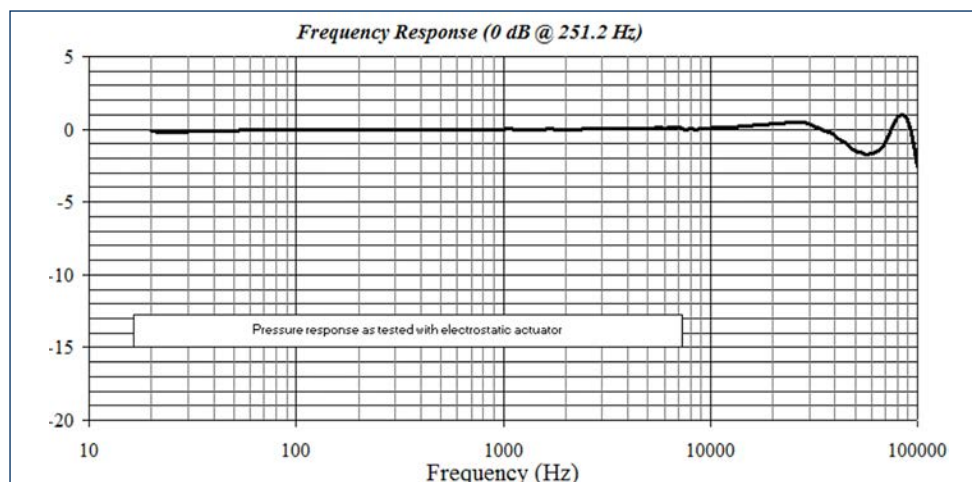
PCB is the inventor of ICP® sensor power technology. Prepolarized microphones operate on this same ICP® sensor power or 2-20 mA constant current supply and use standard coaxial cables. The low cost power supplies and cables for prepolarized microphones can be shared with other ICP® compatible products 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 SensorLine<sup>SM</sup> at 716-684-0001.



Model 377A14

**Specifications - 1/4" Pressure Field Microphone Model 377A14**

Acoustic		
Nominal Microphone Diameter	1/4 (6)	in (mm)
Polarization Voltage	0	V (prepolarized)
Open Circuit Sensitivity (at 250 Hz)	1.0	mV/Pa
Open Circuit Sensitivity (+/- 3 dB)	-60	dB re 1V/Pa
Frequency range (+/- 2 dB)	4 to 70,000	Hz
Lower Limiting Frequency range (-3 dB)	0.25 to 3	Hz
Distortion Limit (3% distortion)	≥ 174	dB
Distortion Limit (with 426A05 Preamp)	≥ 174	dB
Cartridge Thermal Noise	≤ 35	dB(A)
Inherent Noise (with 426A05 Preamp)	≤ 53	dB(A)
Pressure Equalization Vent	Side Vented	
Environmental		
Operating Temperature Range	-40 to 248 (-40 to 120)	°F (°C)
Influence of Axial Vibration (0.1g (1 m/s <sup>2</sup> ))	66	dB re 20μPa
Physical Specifications		
Diameter x Height (without Grid)	0.25 x 0.36 (6.4 x 9.1)	in (mm)
Size (Diameter x Height (with Grid)	0.28 x 0.41 (7.0 x 10.5)	in (mm)
Mounting Thread (to Preamp)	0.2244-60 UNS (5.7-60 UNS)	in (mm)

**TEDS Microphone & Preamp Amplifier Combination:**

- **378A14** – TEDS programmed to the IEEE 1451.4 standard for SMART transducers, V 1.0 format

**Optional Accessories:**

- **426A05** – 1/4" ventless preamplifier, low noise
- **079A07** – windscreen for 1/4" microphones
- **079B10** – microphone holder
- **079A15** – tripod microphone stand with boom arm
- **079A16** – 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
- **CAL250** – handheld calibrator
- **ADP024** – 1/4" adapter for CAL200
- **ADP021** – 1/4" adapter for CAL250



Model 378A14 contains the 377A14 microphone and the 426A05 1/4" preamplifier



3425 Walden Avenue, Depew, NY 14043-2495 USA

**Toll-Free in USA 800-828-8840**

**24-hour SensorLine<sup>SM</sup> 716-684-0001**

**Fax 716-684-0987 E-mail [info@pcb.com](mailto:info@pcb.com)**

**Web Site [www.pcb.com](http://www.pcb.com)**

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