



# 1/2" High Frequency and High Amplitude Prepolarized Microphone

Model 377A06 is free-field prepolarized microphone recommended for applications where a wide range of frequencies or higher amplitudes are required in a 1/2" package



Model 377A06



Microphone &amp; preamplifier system (Model 378A06)

## Applications

- Environmental monitoring
- Railway testing and horn tests
- Alarm monitoring
- Sonic boom measurements
- General wide frequency tests
- General high amplitude tests

## Highlights

- Frequency: 3 Hz - 40 kHz F ( $\pm 3$ dB)
- Max Amplitude: 160 dB (3% distortion)
- Cartridge Noise: 20 dBA
- Sensitivity: 12.6 mV/Pa
- Temperature: -40 to +120 °C
- Polarization: Prepolarized (0V)

## Use of model 377A06 free-field microphones

Model 377A06 is a 1/2" (12mm) prepolarized microphone. It has a flat response in applications where high frequencies (up to 40 kHz) need to be measured very accurately. As an alternative to a standard high sensitivity (50 mV/Pa) microphone, it has an enhanced upper dynamic range and doesn't overload or saturate for measurements above 136 dB. Until now, these applications would require a 1/4" microphone and preamplifier combination which is both higher in price and has significantly higher inherent noise than the 377A06 microphone and preamplifier system.

Acoustic pressure waves may be altered by objects in the sound field including the microphone used to measure it. To correct for this effect, the 377A06 free-field microphone is calibrated to compensate for its own presence, providing more accurate measurements within a free-field.

Key benefits of the 377A06 include the ability to measure to 40 kHz ( $\pm 3$  dB), a 3% distortion rating to 160 dB, and a cost effective 1/2" package that maintains a 20 dBA noise floor.

## ICP® (0V Polarization)

PCB® is the inventor of ICP® sensor power technology. Model 377A06 operates on this same ICP® sensor power or 2-20 mA constant current supply. Prepolarized microphones use standard coaxial cables and are ICP® compliant, allowing power supplies to be shared with other ICP® compliant products such as accelerometers, pressure sensors, etc. This interchangeability can result in a significant per-channel cost savings as well as reduce test set-up time.

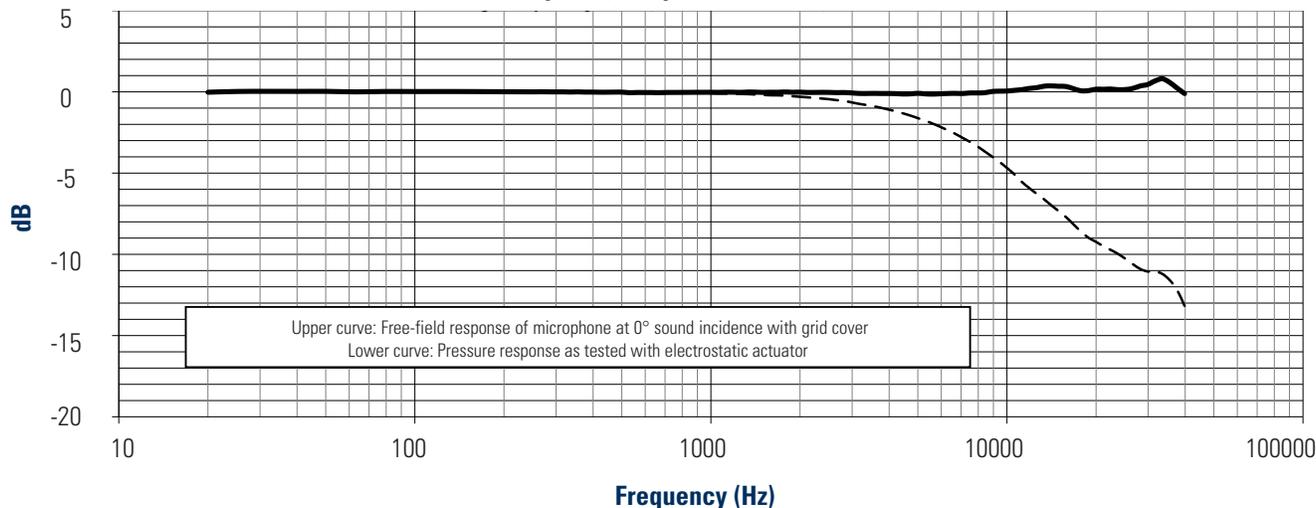
## PCB® Quality Commitment

PCB Piezotronics acoustic products are used by some of the world's largest automotive, aerospace & defense, electronic, and consumer goods manufacturers. PCB® uses only the highest quality material and components for its microphones. While other manufacturers outsource their manufacturing, PCB® has invested heavily in on-going employee training and a state of the art, in-house CNC machining facility. This allows us to control factors that affect quality and delivery. PCB® has also invested in a clean room, anechoic room, and environmental test chambers to test and provide quality products. Our rigorous environmental testing and aging process ensures that our products will survive in demanding temperature or humidity conditions.

Model 377A06 microphone is 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.



Frequency Response (0 dB @ 251.2 Hz)



Specifications - 1/2" Free-Field Array Microphone Model 377A06	
<b>Acoustic</b>	
Nominal Microphone Diameter	1/2" (12mm)
Polarization Voltage	0V (prepolarized)
Open Circuit Sensitivity (at 250 Hz)	12.6 mV/Pa
Frequency Range (±3 dB)	3 to 40,000 Hz
Frequency Range (±2 dB)	3 to 31,500 Hz
Distortion Limit (3% distortion)	160 dB
Distortion Limit with 426E01 Preamp (typical)	150 dB
Cartridge Thermal Noise	20 dB(A)
Inherent Noise with 426E01 Preamp	21 dB(A)
<b>Environmental</b>	
Operating Temperature Range	-40 to 248 °F (-40 to 120 °C)
Operating Temp with 426E01 Preamp	-40 to 176 °F (-40 to 80 °C)
Operating Temp with HT426E01 Preamp	-40 to 248 °F (-40 to 120 °C)
<b>Physical</b>	
Size (Diameter x Height (with grid))	0.52" x 0.50" (13.2 x 12.7mm)

**TEDS Microphone & Preamp Combinations:**

- 378A06 and HT378A06 – TEDS programmed to the IEEE 1451.4 standard for SMART transducers, V 1.0 format

- 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
  - 079B21 – 1/2" nose cone for wind tunnel testing
  - 079B23 – microphone holder with swivel mount
  - 079A42 – 1/2" right angle adapter
  - 079A44 – extension arm for flexible clamp
  - CAL200 – handheld calibrator
  - CAL250 – handheld calibrator
  - ACS-20 – microphone calibration
  - ACS-42 – microphone and preamplifier system calibration



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**Web Site** www.pcb.com

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