



MODEL 378A06

## 1/2" FREE-FIELD MICROPHONE & PREAMPLIFIER

- Frequency: 3.15 Hz - 40 kHz ( $\pm 3$ dB)
- Max amplitude: 150 dB (3% distortion)
- Inherent noise: 22 dB(A)

### TYPICAL APPLICATIONS

- Environmental monitoring
- Railway and horn testing
- 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 378A06

Model 378A06 is a 1/2 in (12 mm) prepolarized microphone and preamplifier combination for applications where high frequencies (up to 40 kHz) need to be measured accurately. As an alternative to a high sensitivity microphone, it has an enhanced upper dynamic range (150 dB) which minimizes overloading. Previously, these applications required a 1/4" microphone system which is both higher in price and inherent noise than the 378A06 system.

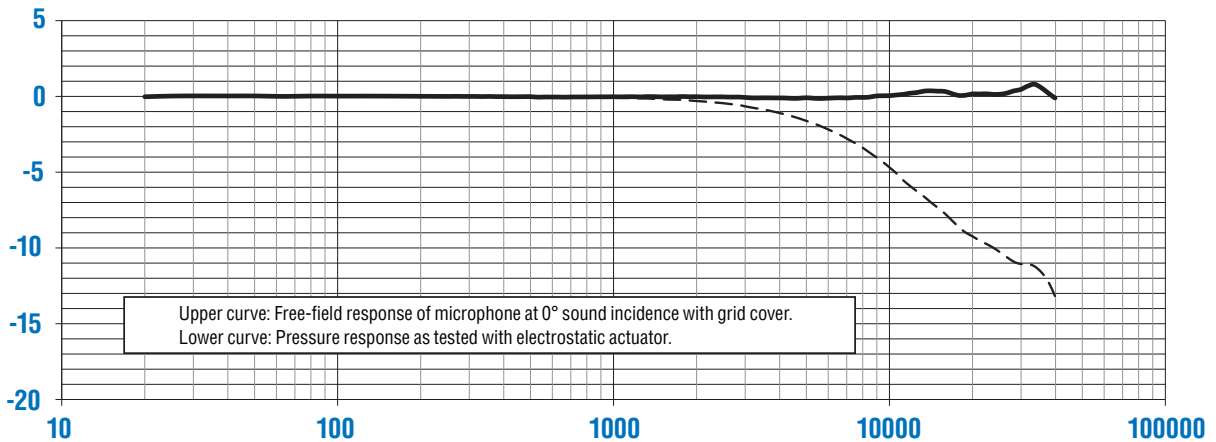
Acoustic pressure waves may be altered by objects in the sound field including the microphone itself. The 378A06 corrects for its own presence, providing more accurate measurements within a free-field.

### 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.



378A06 PREPOLARIZED FREE-FIELD MICROPHONE SYSTEM		
Nominal Microphone Diameter	in (mm)	1/2 (12)
Sensitivity at 250 Hz ( $\pm 2$ db)	mV/Pa (dB re 1 V Pa)	12.6 (-38)
Frequency Range ( $\pm 3$ dB)	Hz	3.15 - 40,000
Frequency Range ( $\pm 2$ dB)	Hz	3.15 - 31,500
Cartridge Thermal Noise (Microphone)	dB[A] re 20 $\mu$ Pa	20
Inherent Noise with 426E01 Preamp	dB[A] re 20 $\mu$ Pa	22
Harmonic Distortion Limit: 3%	dB re 20 $\mu$ Pa	162
Distortion Limit with 426E01 Preamp	dB re 20 $\mu$ Pa	150
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 & Physical Specifications		
Polarization Voltage	V	0
Constant Current Excitation	mA	2 - 20
Size (Diameter x Length with Grid)	in (mm)	0.52 x 3.47 (12.7 x 87.8)
Connector	Coaxial	BNC Jack

\* all specifications typical unless otherwise noted

## OPTIONAL ACCESSORIES

- **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
- **079A42** – 1/2" right angle adapter
- **079A44** –extension arm for flexible clamp
- **CAL200** –handheld calibrator
- **ACS-63** –microphone system calibration