PCB PIEZOTRONICS
AN AMPHENOL COMPANY

MODEL **378C01**

1/4" FREE-FIELD MICROPHONE & PREAMPLIFIER

- Frequency: 4 Hz – 100 kHz (± 3 dB)
- Dynamic range: 42 dB(A) - 165 dB

TYPICAL APPLICATIONS

- Hearing preservation and safety
- Leak detection
- Gunshot analysis
- Acoustic transient measurements

STANDARDS COMPLIANCE

- IEC 61094-4 WS3F 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 378C01

Model 378C01 is a 1/4 in (6 mm) prepolarized microphone and preamplifier combination. It is designed for applications where high frequencies (up to 100 kHz) or high amplitudes (up to 165 dB) need to be accurately measured.

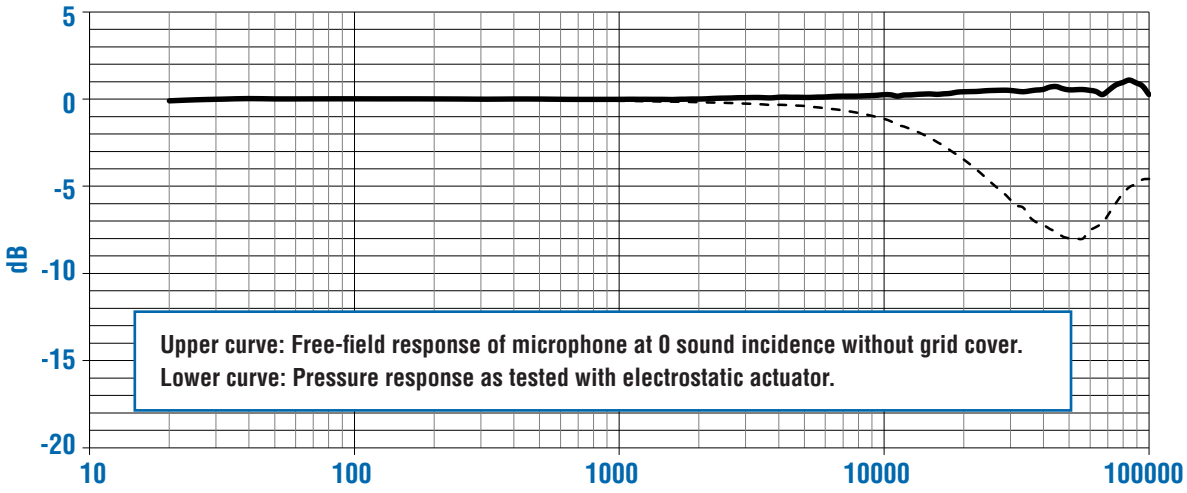
Acoustic pressure waves may be altered by objects in the sound field including the microphone itself. The 378C01 corrects for its own presence, providing more accurate measurements within a free-field.

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.



Frequency Response (0 dB @ 251.2 Hz)

378C01 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)	2 (-54)
Frequency Range (± 3 dB)	Hz	4 - 100,000
Frequency Range (± 2 dB)	Hz	5 - 80,000
Cartridge Thermal Noise (Microphone)	dB[A] re 20 µPa	35
Inherent Noise with 426B03 Preamp	dB[A] re 20 µPa	42
Harmonic Distortion Limit: 3%	dB re 20 µPa	168
Distortion Limit with 426B03 Preamp	dB re 20 µPa	165
Environmental Specifications		
Operating Temperature Range Microphone	°F (°C)	-40 to +248 (-40 to +120)
Operating Temp. with 426B03 Preamp	°F (°C)	-40 to +158 (-40 to +70)
Operating Temp. with HT426E01 Preamp	°F (°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)
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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