

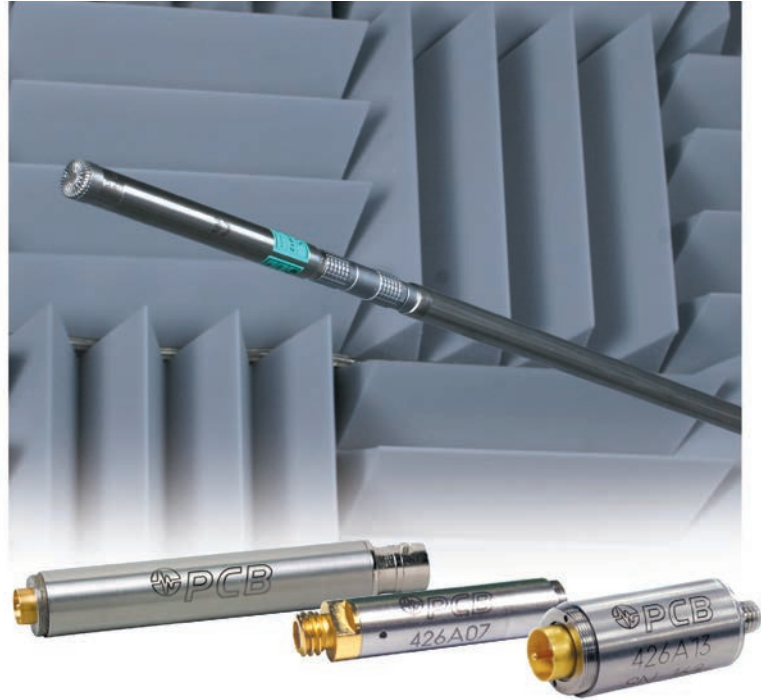


# Preamplifiers for Measurement Microphones

A portfolio of 1/2" and 1/4" preamplifiers for all your test applications

## Highlights

- Low electrical noise specifications
- Low attenuation/gain specifications
- 20 Hz filter available
- A-Weight filtering available
- Vent holes for faster stabilization and consistent measurements
- 10 dB gain available
- High temperature
- For use with 1/4" and 1/2" microphones
- Adapters for 1/8" and 1" microphones
- Interchangeable with competitive models
- CE compliant



## Preamplifiers Technical Information

Preamplifiers allow high impedance signals to be converted to low impedance signals. This minimizes stray capacitance, allows for higher frequency measurements and longer cable lengths to be utilized. PCB® manufactures preamplifiers for test and measurement microphones.

### Preamplifiers for Prepolarized (0V) microphones

PCB® is the inventor of ICP® technology which all modern prepolarized microphones are designed around. Prepolarized microphones and preamplifiers operate on ICP® power, or any 2-20 mA constant current supply. This modern design is preferred for portable measurements and for operation in high humidity applications. Advantages include the use of standard coaxial cables and ICP® power supplies allowing interchangeability with other ICP® sensors (accelerometers, pressure sensors, strain gages, etc.) resulting in set-up time savings and lower cost per channel.

### Preamplifiers for Externally Polarized (200V) microphones

Traditional 200V microphones require preamplifiers with multi-pin configuration. The most common connector is a 7 pin LEMO® 01B. This series of preamplifiers is typically sold into existing systems and has a higher output voltage allowing for a slightly higher amplitude measuring capability with a similar sensitivity microphone.



## Preamplifiers for 1/2" (12mm) microphones (and 1/4" and 1" microphones with optional adapters)

Model Number	426A10	426A11	426A13	426A30	426E01	HT426E01
Polarization Design	Prepolarized	Prepolarized	Prepolarized	Ext. Polarized	Prepolarized	Prepolarized
Attenuation/Gain	-0.1 dB [1][2]	-0.16 dB [1][2]	-0.2 dB [1][2]	-0.2 dB [1][2]	-0.05 dB [1][2]	-0.06 dB [1][2]
Electrical Noise (A-Wt)	< 3.6 $\mu$ V [1]	< 7.5 $\mu$ V [1]	< 3 $\mu$ V [1]	< 2.8 $\mu$ V [2]	< 2.8 $\mu$ V [2]	< 4.9 $\mu$ V [1]
Electrical Noise (Linear)	< 11.2 $\mu$ V [1]	< 5.7 $\mu$ V [1]	< 6 $\mu$ V [1]	< 5.0 $\mu$ V [2]	< 5.0 $\mu$ V [2]	< 13.4 $\mu$ V [1]
Output Voltage (Maximum)	$\pm$ 7 V pk	$\pm$ 5 V pk	$\pm$ 8 V pk	$\pm$ 14 V pk	$\pm$ 7 V pk	$\pm$ 7 V pk
Frequency Response	80 Hz to 125 kHz [1]	5 Hz to 125 kHz [1]	10 Hz to 126 kHz [1]	10 Hz to 126 kHz [1]	6.3 Hz to 125 kHz [1]	6.3 Hz to 126 kHz [1]
TEDS IEEE 1451	Yes [3]	Yes [3]	Yes [3]	n/a	Yes [3]	Yes [3]
Temperature Rating	-40 to +176 °F -40 to +80 °C	-4 to +158 °F -20 to +70 °C	-40 to +158 °F -40 to +70 °C	-40 to +185 °F -40 to +85 °C	-40 to +176 °F -40 to +80 °C	-40 to +248 °F -40 to +120 °C
Connector	BNC Jack	BNC Jack	BNC Jack	7 Pin LEMO	BNC Jack	BNC Jack
Application	20 Hz HP Filter	Gain & Filter Switches	Short	200 V	Low Noise & General Purpose	High Temperature

### Notes

[1] Measured with an 18 pF reference microphone. [2] Typical. [3] TEDS Capable Digital Memory and Communication, compliant with IEEE P1451.4  
 [4] See PCB Declaration of Conformance PS073 for details.

## Quality

PCB Piezotronics acoustic products are used by some of the largest automotive, aerospace & defense, electronic, and consumer goods manufacturers. PCB® uses the highest quality, non-corrosive alloys in our products and continues to invest heavily in ongoing employee training. While other manufacturers outsource their manufacturing, PCB® has a state of the art, in-house CNC machining facility. This allows us to control all 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. Rigorous environmental testing and aging process ensure that our products will survive in demanding temperature or humidity conditions.

When selecting a preamplifier it is important to choose one that is optimal for your application, is reliable and is manufactured by a company that is easy to do business with. Our products are backed by a best-in-class, 5 year warranty and our "Total Customer Satisfaction" (TCS) no risk policy. Application support is available from the 24 Hour SensorLine<sup>SM</sup>.

## Preamplifiers for 1/4" (6mm) microphones (and 1/8" and 1/2" microphones with optional adapters)

Model Number	426A05	426A07	426B31	426B03
Polarization Design	Prepolarized	Prepolarized	Ext. Polarized	Prepolarized
Attenuation/Gain	-0.19 dB [1]	-0.19 dB [1]	-0.14 dB [1][2]	-0.08 dB [1][2]
Electrical Noise (A-Wt)	< 3.2 $\mu$ V [1]	< 2.5 $\mu$ V [1]	< 4.8 $\mu$ V [1]	< 3.2 $\mu$ V [2]
Electrical Noise (Linear)	< 5.6 $\mu$ V [1]	< 5.6 $\mu$ V [1]	< 12.0 $\mu$ V [1][2]	< 5.6 $\mu$ V [2]
Output Voltage (Maximum)	$\pm$ 8 V pk	$\pm$ 8 V pk	$\pm$ V [2]	$\pm$ 8 V pk
Frequency Response	5 Hz to 126 kHz	2.5 Hz to 126 kHz	3.98 Hz to 126 kHz	5 Hz to 126 kHz
TEDS IEEE 1451	Yes [3]	Yes [3]	Yes [3]	Yes [3]
Temperature Rating	-40 to +158 °F -40 to +70 °C	-40 to +158 °F -40 to +70 °C	-4 to +167 °F -16 to +75 °C	-40 to +158 °F -40 to +70 °C
Connector	10-32 Coax	10-32 Coax	7 Pin LEMO	10-32 Coax
Application	Ventless for Sidevent	Short	200 V	General Purpose

### Notes

[1] Measured with an 18 pF reference microphone. [2] Typical.  
 [3] TEDS Capable Digital Memory and Communication, compliant with IEEE P1451.4  
 [4] See PCB Declaration of Conformance PS073 for details.



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**PCB Piezotronics Test & Measurement** Acoustic products consists of microphones, preamplifiers, and accessories for noise testing, pressure mapping, holography, NVH, beamforming, arrays and general sound measurements. Additional Test & Measurement products include pressure, force, load, strain, torque, acceleration, shock, vibration, and electronics. PCB® products are used for product design and development, consumer product testing, quality assurance, civil structure monitoring, research and development, education and engineering applications. All products are backed by our **Total Customer Satisfaction** policy, which guarantees your satisfaction or your money refunded.

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