



# High Temperature, 1/2 Inch ICP® Low-Noise Microphone Preamplifier

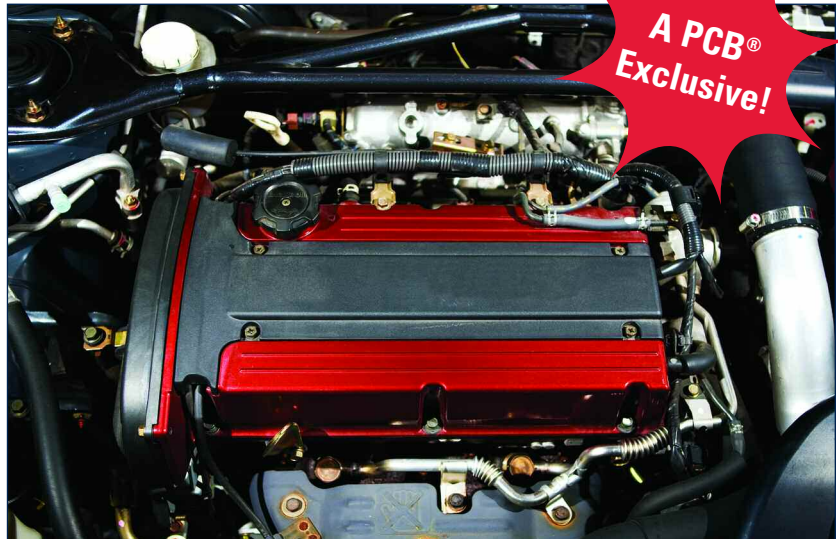
For Automotive Underhood, Powertrain NVH and Near-field Acoustic Measurements

## Highlights

- Operating temperature to + 120 °C (+ 248 °F)
- Low electrical noise
- Low attenuation factor of -0.06 dB
- Wide frequency capability
- Temperature range eliminates need for high-priced probe microphones

## Applications

- **Underhood Acoustic Measurements**
  - Powertrain Noise
  - Noise Path Analysis
- **Near-field Acoustic Measurements**
  - Engine/Transmission/ Differentials
  - Engine Ancillaries
  - Turbocharger
  - Manifold
  - Exhaust Pipe and Components
  - Brake Discs



The industry exclusive Model HT426E01 high temperature, 1/2 inch ICP® low-noise microphone preamplifier from PCB Piezotronics (PCB®) is designed to overcome specific high temperature challenges associated with powertrain and vehicle systems NVH test applications. Model HT426E01 provides an operating temperature range of - 40 to + 120 °C (- 40 to + 248 °F), as well as a low attenuation factor of -0.06 dB and low electrical noise. This 1/2 inch preamplifier operates from ICP® sensor power, terminating with a BNC connector and utilizing standard coaxial cables.

Model HT426E01 offers minimal set-up and system cost, and eliminates the need for high-priced probe microphones. When this ICP® preamplifier is used in concert with a prepolarized microphone as a measurement system, existing ICP® accelerometer and pressure sensor set-ups may be utilized, minimizing overall testing costs and increasing efficiencies. The model's TEDS compliant circuitry allows for on-board memory storage and traceability, and is ideal for applications requiring larger channel counts.

As with all PCB® instrumentation, this preamplifier is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.



Model  
HT426E01

# MODEL HT426E01 HIGH TEMPERATURE, 1/2 INCH ICP® LOW-NOISE MICROPHONE PREAMPLIFIER



## MODEL HT426E01

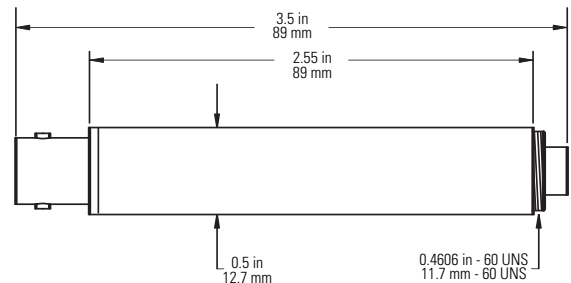
Technical	English	SI
<b>Frequency Response</b> 1 kHz, ± 0.1 dB -3 dB lower limiting frequency		6.3 to 126k Hz <1.58 Hz
<b>Phase Linearity</b> <1° > (-1°), <10°		63 to 40k Hz 10 to 63 Hz
<b>Attenuation</b> (typical)		0.06 dB
<b>Electronic Noise</b> A-weight Flat, 20 to 20k Hz		≤4.9 µV ≤13.4 µV
<b>Maximum Output Voltage</b> Maximum dB with 50 mV/Pa microphone Maximum dB with 12.5 mV/Pa microphone		8 V peak 138 dB 150 dB
<b>Operating Temperature</b>	- 40 to + 248 °F	- 40 to + 120 °C
<b>Humidity Range</b>	0 to 95% RH, non-condensing	
<b>Input Impedance</b>	9.4 G Ω	
<b>Output Impedance</b>	55 Ω	
<b>Dimensions</b> (Diameter x Length)	0.5 x 3.5 inch	12.7 x 89 mm
<b>Connections</b> Input Output	0.4606 inch – 60 UNS microphone thread Output BNC Female	11.7 mm – 60 UNS microphone thread Output BNC Female
<b>Power</b> Excitation Voltage Constant Current Excitation	20 to 32 VDC 2 to 10 mA	
<b>Cable Driving Capability</b> 4 mA current source 2 mA current source	100 ft of cable (30 pF/ft) to 21.5 kHz with 8 V peak signals 100 ft of cable (30 pF/ft) to 8.3 kHz with 8 V peak signals	

### Notes

Unless otherwise stated, all values are at 20 °C, 50% RH, 4 mA constant current current excitation, < 131 ft (40 m) cable.

### Accessories and Related Products

426B02	In-line A-weight analog filter; connects to BNC output of HT426E01 <i>Note: requires minimum 4 mA current to use with HT426E01</i>
480E09	Single channel, battery-powered ICP® sensor power supply (2.5 mA)
079A11	1/2 inch microphone and preamplifier holder
CAL200	Class 1 acoustic calibrator (94 or 114 dB @ 1 kHz)
CAL250	Class 1 acoustic calibrator (114 dB @ 250 Hz)
079A02	1/4 inch microphone to 1/2 inch preamplifier adaptor
079A15	Instrumentation tripod



### Suggested Precision, Prepolarized, Condenser Microphones

Model	PCB 377B02	PCB 377B11	PCB 377B20	PCB 377C01	PCB 377C10	PCB 377A12
Diameter	1/2 inch	1/2 inch	1/2 inch	1/4 inch	1/4 inch	1/4 inch
Type	Free-Field	Pressure	Random Incidence	Free-Field	Pressure	Pressure
Type Designation	Type 1	Type 1	Type 1	Type 1	Type 1	Type 1
Sensitivity (@ 250 Hz)	50 mV/Pa	50 mV/Pa	50 mV/Pa	3 mV/Pa	1 mV/Pa	0.25 mV/Pa
Frequency Range (± 2 dB)	3.2 to 20k Hz	3.2 to 10k Hz	3.2 to 12.5k Hz	4 to 80k Hz	4 to 70k Hz	4 to 20k Hz
Dynamic Range	15 to 146 dB	15 to 146 dB	15 to 146 dB	30 to 165 dB	30 to 170 dB	30 to 178 dB



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A2LA ACCREDITED to ISO 17025

PCB Piezotronics, Inc. manufactures accelerometers, force sensors, load cells, microphones, pressure transducers and transmitters, strain sensors, torque sensors, signal conditioners, cables, and accessories. This instrumentation is used for test, measurement, monitoring, and feedback control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, and OEM applications. PCB Piezotronics offers exceptional customer service, 24-hour technical assistance, and a **Total Customer Satisfaction** guarantee.

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