



# 1/2" Water & Dust Resistant Prepolarized Array Microphone and Preamplifier

Model 130A24 is a free-field prepolarized array microphone and preamplifier system recommended for harsh applications and environments and is IP55 rated



## Use of model 130A24 Free-field microphones

Model 130A24 is a 1/2" (12mm) prepolarized microphone and preamplifier system with a replaceable water and dust resistant cover. This acoustically transparent cover provides an unobtrusive alternative to windscreens and a more consistent response than rubber protective covers. The 130A24 has a wide dynamic range from 30 dBA (inherent noise level) to 150 dB before clipping. This array microphone is equipped with a rugged stainless steel grid cap similar to our high end condenser microphones. The 130A24 is an excellent choice for large channel array microphone applications, outdoor measurements, high humidity applications or harsh industrial settings where dust or oil splash is a concern.

Acoustic pressure waves can be altered by objects in the sound field including the microphone used to measure it. To correct for this, free-field microphones are designed to compensate for their own presence in the sound field. This provides accurate measurements within a free-field. Although the 130A24 is optimized for flat response in a free-field, it also provides excellent response in many pressure and diffuse field microphone applications, with manual corrections.

## ICP® (0V Polarization)

PCB® is the inventor of ICP® sensor power technology. Model 130A24 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 as well as in 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 130A24 microphone system 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.

## Applications

- Brake noise testing
- Tire noise analysis
- Acoustic holography
- Beamforming
- Noise source identification
- General audible range testing
- Non-contact defect detection
- Acoustic tests where oil splash, high humidity or dust is a concern
- Leak detection

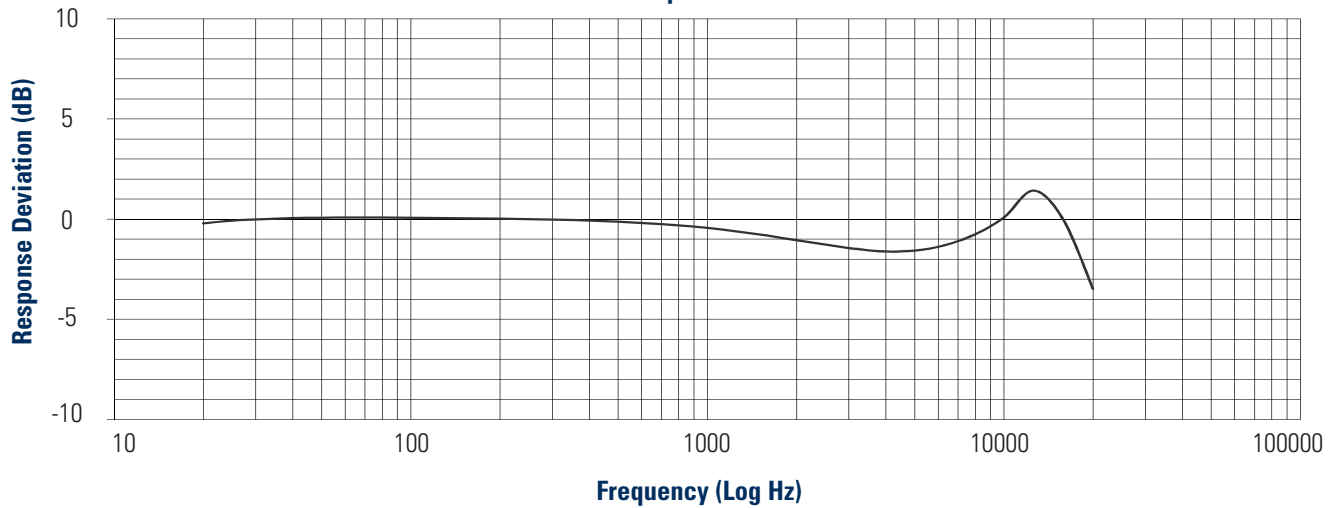
## Highlights

- Water and dust resistant
- Max Amplitude: 143 dB (150 dB before clipping)
- Cartridge Noise: 30 dBA
- Frequency: 20 Hz - 16 kHz
- Sensitivity: 10 mV/Pa
- Temperature: -10 to +50 °C
- Polarization: Prepolarized (0V)



# 1/2" Free-Field Prepolarized Microphone and Preamplifier

### Response Plot



Specifications - 1/2" Free-Field Array Microphone Model 130A24	
<b>Acoustic</b>	
Nominal Microphone Diameter	1/2" (12mm)
Polarization Voltage	0V (prepolarized)
Open Circuit Sensitivity (at 250 Hz)	10 mV/Pa
Frequency range (+/- 3 dB)	20 to 16,000 Hz
Phase Match 100 Hz to 3 kHz	+/- 3 degrees
Phase Match 3 kHz to 5 kHz	+/- 5 degrees
Distortion Limit (3% distortion)	143 dB
Distortion Limit (Max before clipping)	150 dB
Cartridge Thermal Noise	30dB(A)
Pressure Equalization Vent	Front Vented
<b>Environmental</b>	
Operating Temperature Range	+14 to 122 °F (-10 to 50 °C)
Water Resistant	Yes
Dust Resistant	Yes
<b>Physical</b>	
Size (Diameter x Height (with grid))	0.52" x 2.75"(13.2 x 69.9 mm)
Mating Cable Connectors	BNC Jack

TEDS Microphone & Preamplifier Combination:
<ul style="list-style-type: none"> <li>130A24 – TEDS programmed to the IEEE 1451.4 standard for SMART transducers, V 1.0 format</li> </ul>

### Optional accessories:

- 079A06 – Windscreen for 1/2" microphones
- 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
- 079A44 – Extension arm for flexible clamp
- 079A46 – 5 pack of replaceable water resistant pads
- CAL200 – Hand-held calibrator
- CAL250 – Hand-held calibrator
- ACS-21 – Microphone and preamplifier system calibration



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**PCB Piezotronics, Inc.** is a global manufacturer of vibration, pressure, force, torque, load, strain sensors and microphones, as well as the pioneer of ICP<sup>®</sup> technology. This instrumentation is used for test, measurement, monitoring, and control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, OEM applications, and more. With a customer support team of more than 30 Customer Service Representatives and Application Engineers, PCB proudly stands behind their products with the services you value most, including 24-hour technical support, a global distribution network, a best in class warranty and **Total Customer Satisfaction**. Our Platinum Products program is one way PCB ensures fast delivery with over 10000 sensors in stock and covered by a Lifetime Warranty. Visit us at [www.pcb.com](http://www.pcb.com) for more details, including our Terms and Conditions.

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