



MODEL 130A24

1/2" WATER AND DUST RESISTANT FREE-FIELD MICROPHONE

- Water and dust resistant
- Dynamic range: 30 dB(A) 143 dB

TYPICAL APPLICATIONS

- Brake and tire noise testing
- Acoustic camera and holography
- Beamforming
- Noise source identification
- Non-contact defect detection

STANDARDS COMPLIANCE

- IP55 Rated
- Calibration reference microphone traceable to NIST, PTB or DFM National Labs
- PCB calibration service in compliance with ISO 10012-1, ANSI/NCSL Z540.3



USE OF MODEL 130A24

Model 130A24 is a 1/2 in (12 mm) prepolarized microphone and preamplifier system with a replaceable water and dust resistant cover. This acoustically transparent lid provides an unobtrusive alternative to windscreens and a more consistent response than rubber protective covers. The 130A24 has a wide dynamic range and 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 may be altered by objects in the sound field including the microphone itself. The 130A24 corrects for its own presence, providing more accurate measurements within a free-field. Although the 130A24 is optimized for free-field, it can be used for pressure and diffuse field applications with manual corrections.

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.



Nominal Microphone Diameterin (mm)1/2 (12)Sensitivity at 250 Hz (± 3 dB)mV/Pa (dB re 1 V/Pa)10 mV/PaFrequency range (± 3 dB)Hz20 – 16,000Phase Match 100 Hz to 3 kHzDegrees± 3Phase Match 3 kHz to 5 kHzDegrees± 5Distortion Limit (3% distortion)dB143Distortion Limit (Max before clipping)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental Specifications-YesOperating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specificationsin (mm)0.52 x 2.75 (13.2 x 69.9)	130A24 PREPOLARIZED FREE-FIELD ARRAY MICROPHONE			
Sensitivity at 250 Hz (\pm 3 dB)mV/Pa (dB re 1 V/Pa)10 mV/PaFrequency range (\pm 3 dB)Hz20 – 16,000Phase Match 100 Hz to 3 kHzDegrees \pm 3Phase Match 3 kHz to 5 kHzDegrees \pm 5Distortion Limit (3% distortion)dB143Distortion Limit (3% distortion)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedPressure Equalization VentOperating Temperature Range°F (°C) $+14$ to 122 (°C)Water Resistant-YesDust Resistant-YesElectrical SpecificationsmA2 - 20Physical SpecificationsmA2 - 20Physical Specificationsin (mm)0.52 x 2.75 (13.2 x 69.9)	Nominal Microphone Diameter	in (mm)	1/2 (12)	
Frequency range (\pm 3 dB)Hz20 - 16,000Phase Match 100 Hz to 3 kHzDegrees \pm 3Phase Match 3 kHz to 5 kHzDegrees \pm 5Distortion Limit (3% distortion)dB143Distortion Limit (3% distortion)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C) $+14$ to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specificationsin (mm) 0.52×2.75 (13.2 x 69.9)	Sensitivity at 250 Hz (± 3 dB)	mV/Pa (dB re 1 V/Pa)	10 mV/Pa	
Phase Match 100 Hz to 3 kHzDegrees± 3Phase Match 3 kHz to 5 kHzDegrees± 5Distortion Limit (3% distortion)dB143Distortion Limit (Max before clipping)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specificationsin (mm)0.52 x 2.75 (13.2 x 69.9)	Frequency range (± 3 dB)	Hz	20 - 16,000	
Phase Match 3 kHz to 5 kHzDegrees± 5Distortion Limit (3% distortion)dB143Distortion Limit (Max before clipping)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (°C)Water Resistant-YesDust Resistant-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specificationsin (mm)0.52 x 2.75 (13.2 x 69.9)	Phase Match 100 Hz to 3 kHz	Degrees	± 3	
Distortion Limit (3% distortion)dB143Distortion Limit (Max before clipping)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesElectrical SpecificationsPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specifications-Size (Diameter x Length with Grid)in (mm)0.52 x 2.75 (13.2 x 69.9)	Phase Match 3 kHz to 5 kHz	Degrees	± 5	
Distortion Limit (Max before clipping)dB150Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental Specifications*********************************	Distortion Limit (3% distortion)	dB	143	
Cartridge Thermal NoisedB(A)30Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (°10 to 50)Water Resistant-YesDust Resistant-YesElectrical Specifications-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specifications-Size (Diameter x Length with Grid)Size (Diameter x Length with Grid)in (mm)0.52 x 2.75 (13.2 x 69.9)	Distortion Limit (Max before clipping)	dB	150	
Pressure Equalization VentVenting TypeFront VentedEnvironmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesElectrical Specifications-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specifications-Size (Diameter x Length with Grid)Size (Diameter x Length with Grid)in (mm)0.52 x 2.75 (13.2 x 69.9)	Cartridge Thermal Noise	dB(A)	30	
Environmental SpecificationsOperating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesElectrical Specifications-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specificationss-Size (Diameter x Length with Grid)Size (Diameter x Length with Grid)in (mm)0.52 x 2.75 (13.2 x 69.9)	Pressure Equalization Vent	Venting Type	Front Vented	
Operating Temperature Range°F (°C)+14 to 122 (-10 to 50)Water Resistant-YesDust Resistant-YesElectrical Specifications-YesPolarization VoltageV0Constant Current ExcitationmA2 - 20Physical Specifications-Size (Diameter x Length with Grid)in (mm)0.52 x 2.75 (13.2 x 69.9)	Environmental Specifications			
Water Resistant – Yes Dust Resistant – Yes Electrical Specifications – Yes Polarization Voltage V 0 Constant Current Excitation mA 2 - 20 Physical Specifications Size (Diameter x Length with Grid) in (mm) 0.52 x 2.75 (13.2 x 69.9)	Operating Temperature Range	°F (°C)	+14 to 122 (-10 to 50)	
Dust Resistant – Yes Electrical Specifications Polarization Voltage V 0 Constant Current Excitation mA 2 - 20 Physical Specifications Size (Diameter x Length with Grid) in 0.52 x 2.75 (mm)	Water Resistant	-	Yes	
Electrical Specifications Polarization Voltage V 0 Constant Current Excitation mA 2 - 20 Physical Specifications Image: Colspan="2">Size (Diameter x Length with Grid) Size (Diameter x Length with Grid) in 0.52 x 2.75 (mm)	Dust Resistant	-	Yes	
Polarization Voltage V 0 Constant Current Excitation mA 2 - 20 Physical Specifications Size (Diameter x Length with Grid) in (mm) 0.52 x 2.75 (13.2 x 69.9)	Electrical Specifications			
Constant Current Excitation mA 2 - 20 Physical Specifications Size (Diameter x Length with Grid) in 0.52 x 2.75 (mm) 0.13 (13.2 x 69.9)	Polarization Voltage	V	0	
Physical Specifications Size (Diameter x Length with Grid) in 0.52 x 2.75 (mm) (13.2 x 69.9)	Constant Current Excitation	mA	2 - 20	
Size (Diameter x Length with Grid) in 0.52 x 2.75 (mm) (13.2 x 69.9)	Physical Specifications			
	Size (Diameter x Length with Grid)	in (mm)	0.52 x 2.75 (13.2 x 69.9)	
Mating Cable Connectors Coaxial BNC Jack	Mating Cable Connectors	Coaxial	BNC Jack	

OPTIONAL ACCESSORIES

- 079A06 windscreen for 1/2" microphones
- 079A11 1/2" microphone holder
- 079A15 tripod microphone stand with boom arm
- 079B16 miniature microphone stand
- 079A18 clamp on flexible extension arm
- 079B23 microphone holder with swivel mount
- 079A44 extension arm for flexible clamp
- 079A46 5-pack of replaceable water resistant pads
- CAL200 hand-held calibrator
- ACS-21 microphone system calibration

* all specifications typical unless otherwise noted

PCB PIEZOTRONICS AN AMPHENOL COMPANY 3425 pcb.co

3425 Walden Avenue, Depew, NY 14043 USA

pcb.com | info@pcb.com | 800 828 8840 | +1 716 684 0001

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