



## MODEL CAL250

# PRECISION ACOUSTIC CALIBRATOR

- Output level: 114 dB
- Output frequency: 251.2 Hz
- Standard: 1" microphone
- IEC 60942-1:2003 compliant
- Internal battery
- Output level independent of battery condition
- Adaptors: 1/8", 1/4", 3/8", 1/2" microphones
- Array adaptor for 8 microphones simultaneously

## TYPICAL APPLICATIONS

Field or laboratory calibration of:

- Sound level meters
- Noise dosimeters
- Noise monitoring stations
- Microphone arrays

## IEC 60942 CLASS 1 CALIBRATOR

The Larson Davis Model CAL250 is a battery operated precision microphone calibrator for 1" microphones used for the calibration of sound level meters and other sound measurement equipment. The CAL250 delivers a full 114.0 dB level output signal at 251.2 Hz. A 1/2" microphone adaptor is supplied with the CAL250. Adaptors for 1/8", 1/4", and 3/8" microphones are available as optional accessories.

It has been designed for both field and laboratory use and the accuracy has been calibrated to a reference traceable to the National Institute of Standards and Technology (NIST).

The Larson Davis CAL250 features a stable sound pressure independent of the battery condition. In addition, the CAL250 will turn off automatically to preserve battery and guarantee a stable output.

In addition to precision acoustic calibrators, factory calibration services for Larson Davis products are available through the CAL+ program. CAL+ service is provided with all Larson Davis calibrations and includes a complete multi-point factory test, free firmware upgrade to the latest version where applicable, labor warranty extended for one year<sup>(1)</sup>, worn consumables replaced at no charge<sup>(2)</sup>, and more. Contact us for details.

## CAL250 PRECISION ACOUSTIC CALIBRATOR

Acoustic		
Calibration Sound Pressure Level Initial After 1 Year	114.0 dB ± 0.1 dB re: 20 µPa ± 0.2 dB re: 20 µPa	
Equivalent Free-field Level	0.0 dB for 1/2" microphones	
Frequency	251.2 Hz ± 2 Hz	
Harmonic Distortion	< 2 %	
Stability After Pressing On	± 0.1 dB after 2 seconds	
Minimum Stabilizing Time	10 seconds after coupling microphone and calibrator	
Reference Conditions	101.3 kPa, 23 °C and 50 % RH	
Environmental		
Static Pressure Range	65 kPa to 108 kPa	SPL variation < ± 0.3 dB
Temperature Range	-10 °C to +50 °C	SPL variation < ± 0.4 dB Frequency variation < ± 2 Hz
Humidity Range	10 % to 90 % RH non-condensing	SPL variation < ± 0.4 dB Frequency variation < ± 2 Hz
Storage Temperature	-40 °C to +60 °C	
Storage Humidity	0 % to 90 % RH (non-condensing)	
Physical		
Effective Volume of Calibrator and Microphone	> 6.1 in <sup>3</sup> (100 cm <sup>3</sup> )	
Dimensions (L x D)	4.9 x 1.75 in (124 x 44.5 mm)	
Weight	8.8 oz (249 g)	
Power Supply		
Battery	9 V NEDA 1604A or IEC 6LR61	
Battery Voltage Operating Range	6.7 V to 10 V	
Traceability		
Traceability	Traceable to National Institute of Standards and Technology (NIST)	
Supplied Accessories		
ADP019 Adaptor for 1/2" Microphone		
CCS003 Storage Case		
9 V Alkaline Battery		
Users Manual		
Optional Accessories		
ADP020	Adaptor for 3/8" microphones	
ADP021	Adaptor for 1/4" microphones	
ADP023	Adaptor for 1/8" microphones	
079A31	Adaptor 8 1/4" microphone coupler	

## COMPLIANCE

Acoustic	
ANSI S1.40-2006, Class 1	
IEC 60942-2003, Class 1	
IEC 60942:2017, Class 1	
Safety	
IEC 61010-1:2001	
EMC	
EU directive 2004/108/EC	
IEC 61326-1:2005	
For Use with Microphones of Type	
IEC 61094-4:1995	1" WS1P, WS1F and WS1D
	1/2" WS2P, WS2F and WS2D microphones; with ADP019 adaptor
	1/4" WS3P, WS3F and WS3D microphones with ADP021 adaptor
According to IEC 61094-1:2000	1" LS2P without adaptor
Other microphones	3/8" with ADP020 adaptor 1/8" with ADP023 adaptor
For use with Sound Level Meters and Noise Dosimeters	
ANSI S1.4 Type 1	
ANSI S1.25	
IEC 61672 Class 1	
IEC 61252	

[1] Requires regular annual factory calibration. Limited to seven (7) years.  
[2] Windscreen, O-rings, desiccants, fuses, for example.



## Microphone Adaptors



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Larson Davis offers a full line of noise and vibration measurement instrumentation such as Class 1 and 2 sound level meters, outdoor noise monitoring systems, personal noise dosimeters, human vibration meters, audiometric calibration systems, microphones and preamplifiers, and data analysis software. Instrumentation is used in community and environmental noise monitoring, measurement of building acoustics, managing worker exposure to noise and vibration, and various automotive, aerospace, and industrial applications. Larson Davis is a division of PCB Piezotronics, Inc., a wholly owned subsidiary of MTS Systems Corporations.

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