

1/2 Inch Free-Field Microphone

Model 2541

Larson
Davis



Typical Applications

- Precision sound level measurements
- Environmental noise monitoring
- Industrial hygiene noise studies
- Machinery noise control
- Research and development



Features

- Rugged
- Accurate
- Wide frequency range
- Flat frequency response
- Stable over temperature and humidity
- Meets IEC 61094-4 Type WS2F
- Externally Polarized
- Supplied with individual calibration data

The Larson Davis Model 2541 is a free-field, 1/2 inch microphone designed with high sensitivity for low level measurements. It exhibits good temperature stability, an important parameter for microphones.

The Model 2541 is the appropriate microphone for use with precision sound level meters intended to meet the specifications of IEC 60651 Type 1 and ANSI S1.4-1983 Type 1.

Technical Specifications

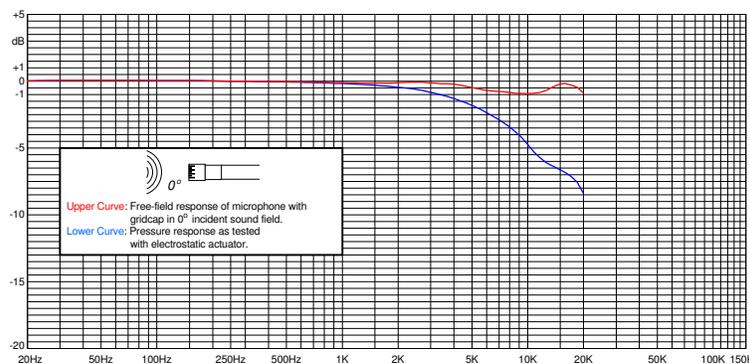
Model 2541		
Nominal Diameter	1/2 inch	
Open Circuit Frequency Response (± 2 dB)	3.15 Hz to 20 kHz	
Open Circuit Sensitivity (250 Hz)	44.5 mV/Pa (-27 \pm 1.2 dB re: 1V/Pa)	
Lower Limiting Frequency (-3 dB)	1 Hz to 2 Hz (rear vented)	
Cartridge Thermal Noise	15 dB(A)	
Distortion Limit (3%)	>146 dB re: 20 μ Pa at 100 Hz	
Diaphragm Resonance Frequency	14 kHz (90° phase-shift)	
Polarization Voltage	200 V	
Polarized Cartridge Capacitance (250 Hz)	15 pF	
Mean Temperature Coefficient	+0.006 dB/°C (-10 °C to +50 °C)	
Equivalent Air Volume	45 mm ³	
Expected Long-Term Stability	>1000 years/dB at 20 °C (68 °F)	
Influence of Vibration	62 dB re: 20 μ Pa when excited with 1 m/s ² axial vibration	
Influence of Magnetic Field	0 dB re: 20 μ Pa in 60 Hz, 80 A/m field	
Influence of Humidity	<0.1 dB, 0% to 95% RH, non-condensing	
Influence of Static Pressure	- 0.01 dB/kPa	
Diameter	With Grid	13.2 mm (0.52 in)
	Without Grid	12.7 mm (0.50 in)
Height	With Grid	16.3 mm (0.64 in)
	Without Grid	15.5 mm (0.61 in)
Thread for preamplifier mounting	11.7 mm-60 UNS (0.4606-60 UNS)	

Unless otherwise specified, all data are valid at 23 °C, 101.3 kPa and 50% RH

Accessories and Related Products

PRM828	1/2 inch microphone preamplifier with Switchcraft connector for use with Larson Davis 812/820 and DSP80	CAL200	Class 1 acoustic calibrator: 94/114 dB @ 1 kHz
PRM900C	1/2 inch microphone preamplifier with Switchcraft connector	CAL250	Class 1 acoustic calibrator: 114 dB @ 250 Hz
PRM902	1/2 inch microphone preamplifier with LEMO connector	WS001	3-1/2 inch windscreen
PRM903	1/2 inch microphone preamplifier with LEMO connector and heater		

Typical Frequency Response from Calibration Certificate



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Printed in U.S.A.

ATP-2541-1103/D0501.0016

Larson Davis provides a complete line of acoustic measurement tools including dosimeters, sound level meters, real time analyzers, preamplifiers, calibrators, and microphones.