

1/2 Inch Microphone Preamplifier with LEMO® Connector Model PRM902

Larson
Davis



Typical Applications

- Precision sound measurements with Larson Davis and other microphones meeting IEC61094-4
- Use with prepolarized or externally polarized microphones

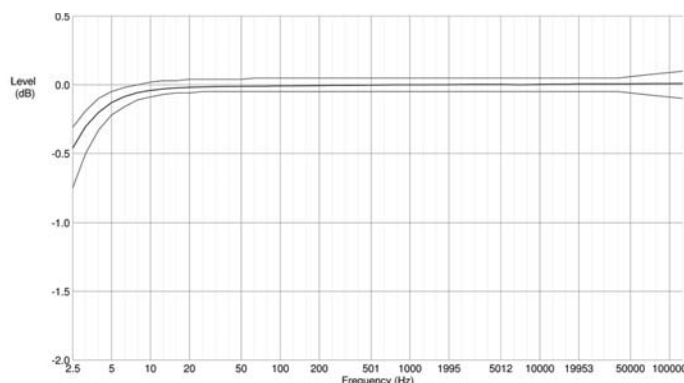


Features

- Low noise
- Stainless steel housing
- Wide frequency bandwidth
- High input impedance
- Low output impedance and high output current for driving long cables
- 7-pin LEMO® connector

The Larson Davis Model PRM902 is a general-purpose microphone preamplifier. It has a high output current drive capability for driving long cables. The preamplifier operates over wide temperature and humidity ranges. The preamplifier can be used with both dual and single voltage power supplies. The very low input capacitance insures that the microphone is not loaded producing a low frequency (-3 dB) limit of < 1.26 Hz.

Typical Frequency Response from Calibration Certificate



Technical Specifications

| Model PRM902 | |
|--|--|
| Frequency Response (re:1 kHz) | 10 Hz to 126 kHz ± 0.10 dB 3 Hz to 10 Hz (+0.10, -0.5 dB) < 1.26 Hz |
| -3 dB lower limiting frequency | |
| Phase Linearity: < $\pm 3^\circ$ > $\pm 3^\circ$, < 10° | 20 Hz to 100 kHz 6 Hz to 20 Hz |
| Attenuation (typical) | 0.19 dB |
| Electronic Noise: A-weight Flat (20 Hz to 20 kHz) (with 18 pF equivalent microphone) | < 2.8 μ V (2.1 μ V typical) < 5.0 μ V (3.7 μ V typical) |
| Maximum Output Voltage Maximum dB with 50 mV/Pa microphone Maximum dB with 12.5 mV/Pa microphone | 14 V _{peak} with 2900/3000+ 143 dB peak 155 dB peak |
| Temperature Sensitivity (± 0.05 dB) | - 40 °C to + 65 °C (-40 °F to +149 °F) Operating range to 85 °C (185 °F) |
| Humidity Sensitivity (± 0.05 dB) | 0 to 95% RH non-condensing |
| Input Impedance | 10 G Ω //0.36 pF |
| Output Impedance | 50 Ω |
| Dimensions (Diameter x Length) | 12.7 mm (0.5 in) x 132 mm (5.2 in) |
| Connections (Input) (Output) | 11.7 mm - 60 UNS (0.4606 - 60 UNS) microphone thread LEMO® 7-pin male |
| Power Requirements | Dual: ± 10 V to ± 18 V Single: 20 V to 150 V current 1.7 mA typical plus output current |
| Cable Driving Capability for 10 Vrms signal | to 80 kHz with 3 ft (0.9 m) cable to 52 kHz with 100 ft (30 m) cable to 31 kHz with 300 ft (91 m) cable to 18 kHz with 500 ft (152 m) cable |

Unless otherwise stated, all values are at 23 °C, 50% RH, ± 18 V supply, < 3 m (10 ft) cable and equivalent microphone of 18 pF.

Accessories and Related Products

| | | | |
|--------|--|--------|--|
| EXAXXX | Extension Cable 7-pin LEMO® male to 7-pin LEMO® female (XXX feet long) | ADP067 | Preamplifier Holder for 1/2 inch preamplifiers for microphone stands |
| ADP005 | 18 pF equivalent 1/2 inch microphone with BNC Connector | CAL200 | Class 1 Sound Level Calibrator (94/114 dB @ 1 kHz) |
| ADP008 | 1 inch microphone to 1/2 inch preamplifier adaptor | CAL250 | Class 1 Sound Level Calibrator (114 dB @ 250 Hz) |
| ADP040 | Microphone Signal Tee | TRP018 | Adjustable microphone stand with adjustable boom and 5/8 inch thread |
| ADP043 | 1/4 inch microphone to 1/2 inch preamplifier adaptor | 2221 | Single channel battery powered microphone preamplifier power supply |

Suggested Larson Davis Precision Condenser Microphones

| Model # | Diameter | Type | Sensitivity@ 250 Hz | Freq. Range, Hz(± 2 dB) |
|----------|----------|------------------|---------------------|------------------------------|
| 2575 (1) | 1 inch | Pressure | 45 mV/Pa | 2.6 Hz to 8 kHz |
| 2570 (1) | 1 inch | Free-field | 48 mV/Pa | 2.6 Hz to 20 kHz |
| 377B41 | 1/2 inch | Free-field | 44.5 mV/Pa | 3.15 Hz to 20 kHz |
| 2540 | 1/2 inch | Free-field | 14.5 mV/Pa | 3.15 Hz to 40 kHz |
| 377A60 | 1/2 inch | Pressure, random | 45.2 mV/Pa | 2.6 Hz to 10 kHz |
| 2559 | 1/2 inch | Pressure, random | 12.9 mV/Pa | 4.0 Hz to 25 kHz |
| 2520 (2) | 1/4 inch | Free-field | 4 mV/Pa | 4.0 Hz to 80 kHz |
| 2530 (2) | 1/4 inch | Pressure, random | 1.45 mV/Pa | 4.0 Hz to 70 kHz |

(1) ADP008 adaptor required

(2) ADP043 adaptor required



Larson Davis
A PCB Group Co.

Larson Davis, Inc. – Acoustic Test Products Group

1681 West 820 North, Provo, UT 84601-1341 USA

Toll Free: 888-258-3222 Phone: 801-375-0177 Fax: 801-375-0182

Email: info@LarsonDavis.com www.LarsonDavis.com

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