

Lock-In Preamplifier

SR550 — FET input preamplifier



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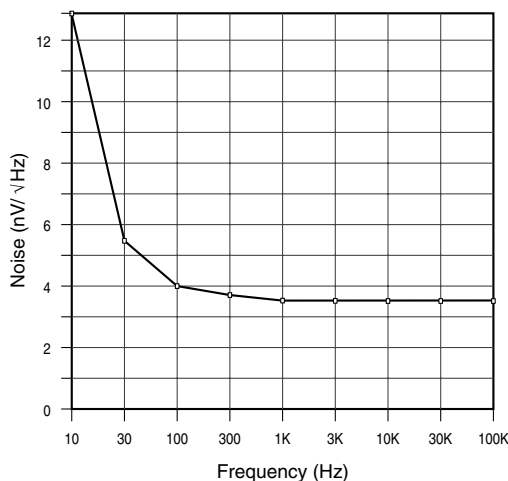


- **3.6 nV/ $\sqrt{\text{Hz}}$ input noise**
- **FET input, 100 M Ω input impedance**
- **Gain of 1, 2, 5 or 10**
- **Single-ended and differential inputs**
- **AC coupled input**
- **High common mode rejection**
- **Powered by SRS lock-in amplifiers**

• **SR550 ... \$750 (U.S. list)**

The SR550 Voltage Preamplifier is designed to work with SRS lock-in amplifiers. Preamplifiers provide gain close to the experimental detector, before the signal-to-noise ratio is permanently degraded by cable capacitance and pickup. The SR550 minimizes noise and pickup in the connecting lines and reduces measurement time in noise-limited experiments. Power and control signals are brought from the lock-in by a 9-pin cable. The SR550 may also be operated independently by applying appropriate biasing (± 20 VDC, ± 5 VDC).

SR550 Specifications



SR550 noise plot

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|------------------------|---|
| Input impedance | 100 M Ω + 25 pF |
| Inputs | Single-ended or differential |
| Maximum input | 250 mVrms for overload 100 VDC, 10 VAC damage threshold |
| Noise (typ.) | 3.6 nV/ $\sqrt{\text{Hz}}$ at 1 kHz 4.0 nV/ $\sqrt{\text{Hz}}$ at 100 Hz 13 nV/ $\sqrt{\text{Hz}}$ at 10 Hz |
| Coupling | AC (0.016 Hz) |
| CMRR (1 V input) | 90 dB at 100 Hz |
| Gain settings | 1, 2, 5, 10 (automatically set by SR510 or SR530 lock-in) |
| Full-scale sensitivity | 10 nV to 200 mV |
| Gain accuracy | 2% (2 Hz to 100 kHz) |
| Gain stability | 100 ppm/ $^{\circ}\text{C}$ |
| Outputs | A (signal, 600 Ω , single-ended) B (shielded ground) |
| Maximum output | 7 Vpp |
| Power | Supplied by SR510, SR530, SR810, SR830, SR850 or SR124 via connector cable |
| Mechanical | 3.0" \times 1.3" \times 5.1" (WHD) |
| Weight | 1 lbs. |
| Warranty | One year parts and labor on defects in materials and workmanship |

Ordering Information

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|-------|----------------------|-------|
| SR550 | Lock-in preamplifier | \$750 |
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