

# Lock-In Preamplifier

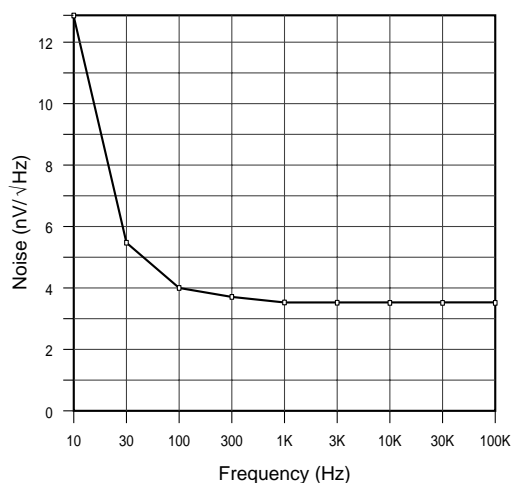
SR550 — FET input preamplifier



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 ( $\pm 20$  VDC, +5 VDC).

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

## SR550 Specifications



SR550 noise plot

Input impedance	100 M $\Omega$ + 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 $\Omega$ , single-ended) B (shielded ground)
Maximum output	7 Vpp
Power	Supplied by SR510, SR530, SR810, SR830 or SR850 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

SR550      Lock-in preamplifier

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