STANFORD RESEARCH SYSTEMS

SR570 Low-Noise Current Preamplifier

$2195 (U.S. list)

- **5 fA/√Hz Input noise**
- **1 MHz bandwidth**
- **1 pA/V maximum gain**
- **Adjustable bias voltage and input offset current**
- **Low noise, high bandwidth and low drift modes**
- **2 configurable signal filters**
- **Line or battery operation**
- **RS-232 interface**

The new SR570 Current Preamplifier from Stanford Research Systems provides a voltage output proportional to input current, making it appropriate for a variety of photonic, low temperature and low noise applications. And the SR570 delivers all the performance you'd like in a current preamplifier – 5 fA/√Hz input noise, from 1 pA/V to 1 mA/V current gain, and up to 1 MHz of bandwidth.

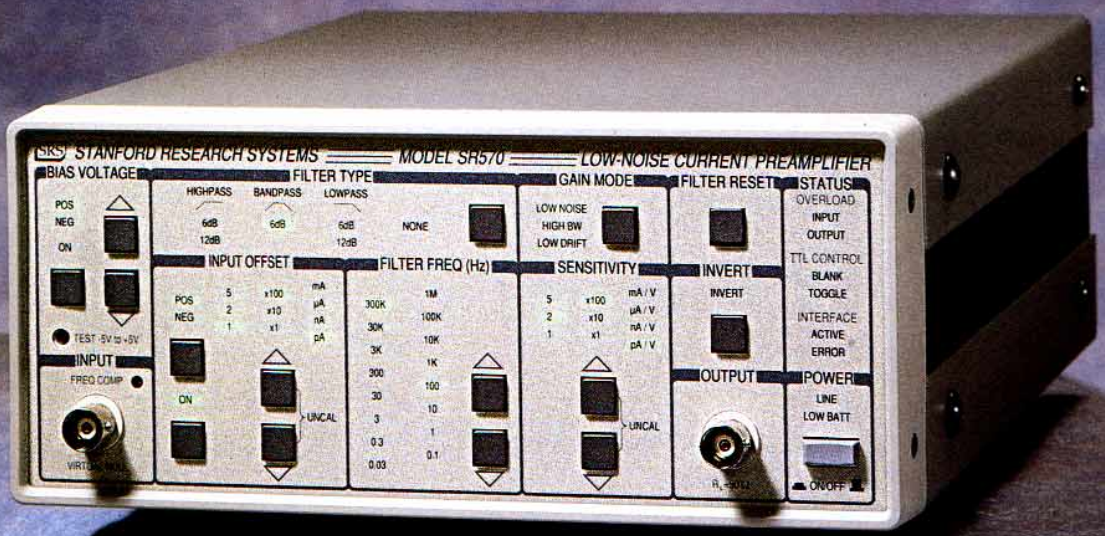
The gain of the SR570 can be allocated to various stages of the amplifier to optimize the instrument's performance. The low noise mode places gain in the front end of the amplifier for the best noise performance. The high bandwidth mode allocates gain to the later stages of the amplifier to improve the frequency response of the front-end. In the low drift mode the input amplifier is replaced with a very low input current op amp, minimizing the amplifier's DC drift.

The SR570 allows you to directly sink current into a virtual null or a selected DC bias (± 5 V). The input offset current can be adjusted from ± 1 pA to ± 5 mA to suppress background currents.

Adjustable high, low and bandpass filters reject unwanted interference and noise. When isolation from line power is needed, the SR570 can run from internal rechargeable batteries for up to 15 hours.

The optoisolated RS-232 interface provides fast and quiet computer control of front panel settings. Digital noise is eliminated from the instrument by activating the microprocessor only when an instrument setting is changed.

Take a look at the SR570 for your current application. Unparalleled performance and an unmatched value.



Specifications

INPUT

Inputs	Virtual null or user set bias (– 5 V to + 5V).
Input offset	± 1 pA to ± 5 mA adjustable offset current.
Maximum input	± 5 mA p-p
Noise	See graphs below
Sensitivity	1 pA/V to 1mA/V in a 1-2-5 sequence. Vernier sensitivity in 1% steps.
Frequency response	± 0.5 dB to 100 kHz on 1 mA/V scale. Frequency response can be adjusted from front panel to compensate for source capacitance.
Grounding	Amplifier ground is fully floating. Amplifier and chassis ground are available at rear panel.

FILTERS

Signal filters	Two configurable low or high pass filters (6 db/oct). Cutoff frequencies (-3 dB) can be set in a 1-3-10 sequence from 0.03 Hz to 1 MHz (10 kHz for highpass).
Filter reset	Long time constant filters can be reset from front panel.

GAIN ALLOCATION

Low noise	Gain is allocated to the front end for best noise performance.
High bandwidth	Front end gain is reduced for optimum frequency response.
Low drift	Low bias current amplifier is used for reduced drift at high sensitivity.

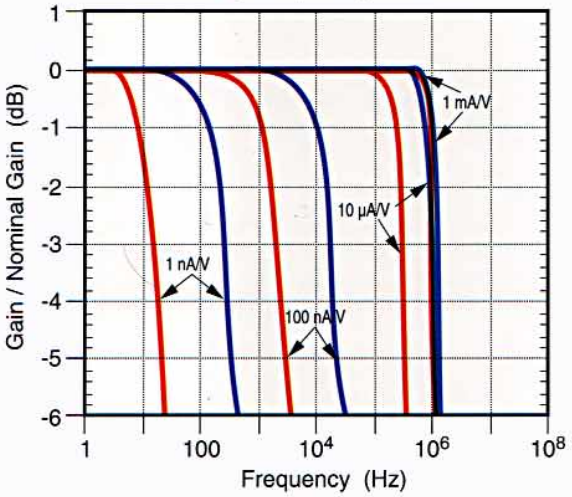
OUTPUT

Absolute accuracy	± (0.5% of output + 1 mV) @25°C
DC drift	(0.01% + 16 nA)/°C at low sensitivity to (0.04% + 10 fA)/°C at high sensitivity.
Maximum output	± 5 V into a high impedance load (50Ω output impedance).

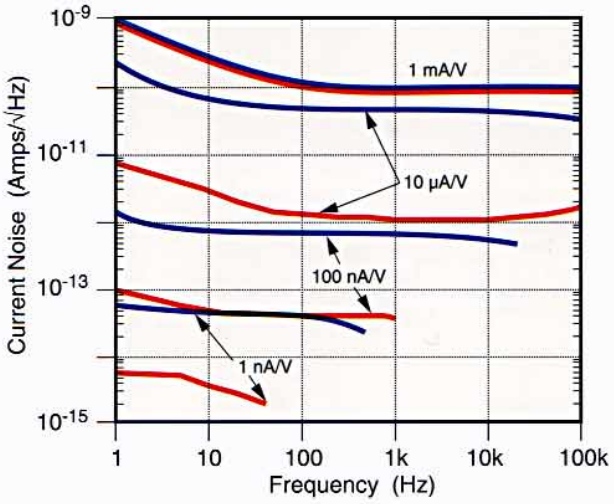
GENERAL

External blanking	TTL input sets gain to zero.
External toggle	TTL input inverts gain polarity.
RS-232 interface	Optoisolated listen only, 9600 Baud, 8 bit, no parity, 2 stop bits. All instrument functions can be controlled.
Rear Panel Biasing	±12 VDC @ 200 mA ref. to ground
Power	100/120/220/240 VAC, 50/60 Hz, 6 Watts if charged (30 Watts while charging). Internal batteries provide up to 15 hours of operation between charges.
Dimensions	8.3"x 3.5"x 13.0" (WxHxL)
Weight	15 lbs including batteries.
Warranty	One year parts and labor on materials and workmanship.

Frequency Response



Noise Performance



Ordering Information

(All prices U.S. list)

SR570		OPTIONS		
Current Preamplifer	$2195	-O560RMS	Single rack mount	$ 85
		-O560RMD	Double rack mount	$ 85
		-O560SB	Spare battery set	$150

SRS

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