



STANFORD RESEARCH SYSTEMS

# SR560

## Very Low-noise Preamplifier

- 4.0 nV/ $\sqrt{\text{Hz}}$  input noise
- 1 MHz bandwidth
- Gain variable up to 50,000
- AC or DC coupled
- True differential or single-ended input
- 100 dB CMRR
- 2 configurable signal filters
- Selectable gain allocation
- Line/internal battery operation
- RS232 interface
- External gating input

**L**ower noise, higher gain, and greater bandwidth. Introducing the SR560 low-noise preamplifier from Stanford Research Systems. Everything you need in your laboratory amplifier.

The SR560 provides DC or AC coupled low-noise amplification of single-ended or differential signals at gains from 1 to 50,000. Two configurable (high pass or low pass) filters condition signals in the frequency range from DC to 1 MHz. Choose flat, low pass, band pass, or high pass response to attenuate unwanted interference. Selectable gain allocation further optimizes performance for high dynamic reserve or low noise.

When you need complete isolation from the AC line, the batteries operate the SR560 for up to 15 hours per charge. The battery voltage is regulated so that amplifier performance will not degrade as the batteries discharge. The gating input and RS-232 interface are opto-isolated allowing complete flexibility in controlling the SR560. Digital noise is eliminated by shutting down the microprocessor except when an instrument setting is changed. This allows intelligent operation and interfacing without digital noise.

The SR560. Take a closer look. Whether you have a new application or your present amplifier just doesn't do the job, call Stanford Research Systems and find out what the SR560 can do for you.



## Specifications

### Inputs

Input	AC or DC coupled, single-ended or differential
Input Impedance	100 M $\Omega$ + 25 pF
Maximum Input	3 V peak to peak
CMRR	100 dB from DC to 1 kHz. -6 dB/oct from 1 kHz to 1 MHz.
Noise	4.0 nV/ $\sqrt{\text{Hz}}$ at 1 KHz
Gain	1 to 50,000 $\pm$ 1% in 1-2-5 sequence. Vernier gain in 0.5% steps.
Frequency Response (gains up to 1000)	$\pm$ 0.5 dB to 1 MHz $\pm$ 0.2 dB to 300 KHz

### Filters

Signal Filters	2 configurable (low or high pass) filters: 6 or 12 dB/oct. -3 dB points are settable in a 1-3-10 sequence from 0.03 Hz to 1 MHz.
Gain Allocation	High Dynamic Reserve: Gain is increased after the signal filters to prevent overloading. Low Noise: Gain is increased before the filters to improve noise figure.

### Output

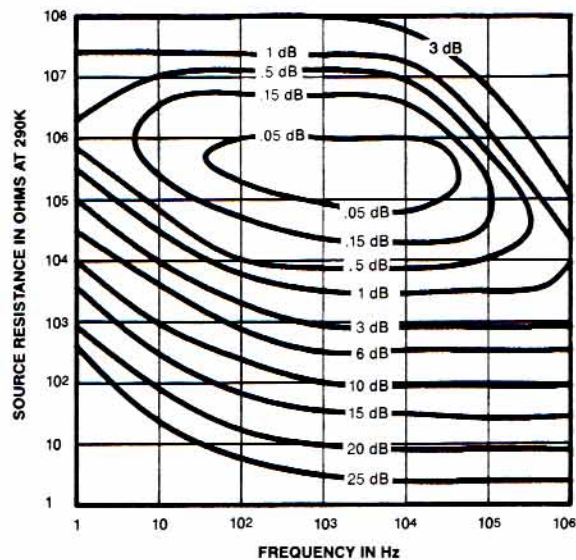
Maximum Output	10 V pk to pk ahead of 50 $\Omega$ and 600 $\Omega$
Filter Reset	Long time constant filters may be reset with front panel button.
DC Drift	5 $\mu\text{V}/^\circ\text{C}$ referred to input (DC coupled)
Distortion	0.01% at 1 KHz

### General

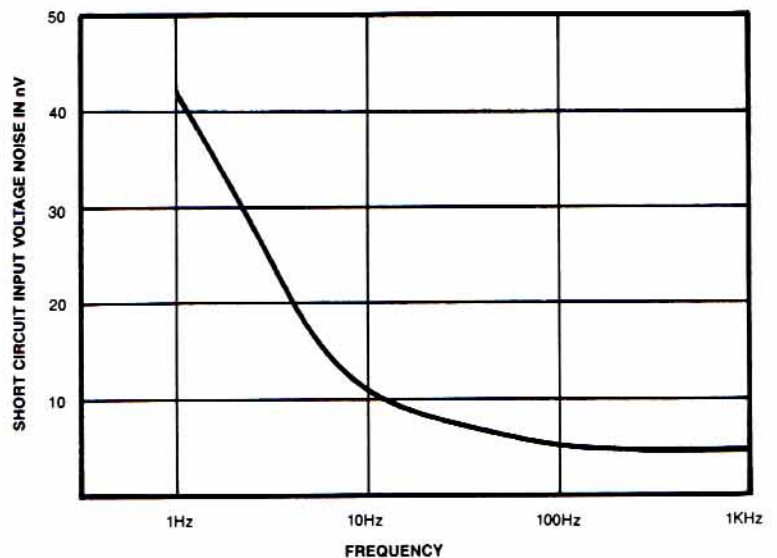
External Gating	TTL input sets gain to zero.
Interfaces	RS-232, 9600 BAUD, receive only.
Power	100,120,220, or 240 VAC from line. 6 watts charged. 30 watts while charging. Internal batteries provide approx. 15 hours operation between charges. Batteries are charged while connected to the line.
Dimensions	8.3" $\times$ 3.5" $\times$ 13.0"
Weight	15 lbs (batteries installed)
Warranty	1 Year

All specifications are subject to change (4/90)

## Noise Figure Contours



## Noise Voltage Response



## Ordering Information

Low Noise Preamplifier (including batteries and RS232 interface)	SR560
Rack Mount, Single	Option 0560 RMS
Rack Mount, Double	Option 0560 RMD
Spare Battery Set	Option 0560 SB



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