



STANFORD RESEARCH SYSTEMS

SR554 Transformer Preamplifier

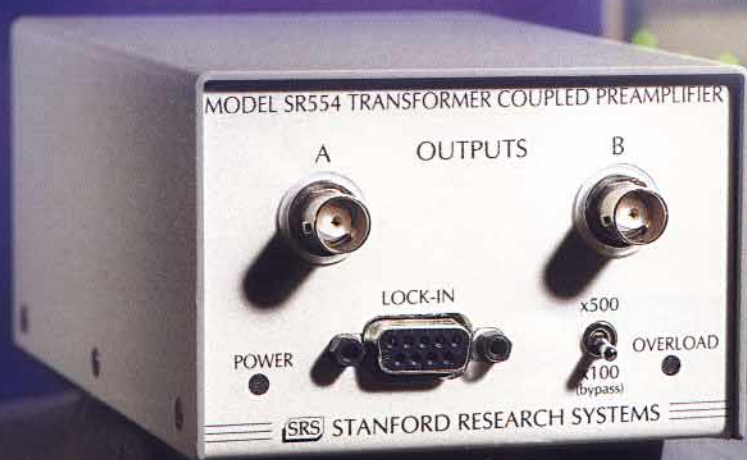
- **0.1 nV/√Hz input noise**
- **> 40 dB isolation from DC to 500 MHz**
- **0.1 Hz to 40 kHz bandwidth**
- **Gain of 100 or 500**
- **Ideal for low impedance sources (0.05 Ω to 1 kΩ)**

The SR554 is a low-noise transformer preamplifier optimized for source impedances between 0.05 Ω and 1 kΩ. With input noise of only 0.1 nV/√Hz, the SR554 can be used in a wide range of low noise applications. It is the ideal preamplifier for low temperature synchronous detection applications where isolation is needed between your experiment and lock-in amplifier.

The SR554 has a bandwidth that extends from 0.1 Hz to 40 kHz. Frequency response is directly related to source impedance as detailed on the back page.

Voltage gain can be set to either 100 or 500. In the 100x gain setting, the SR554 is simply a transformer with a turns ratio of 100, and does not require external power. In the 500x gain setting, an additional stage of amplification increases the gain and provides a low impedance (< 1 Ω) output. Power can be provided directly from any SRS lock-in amplifier or from a ±20 VDC source.

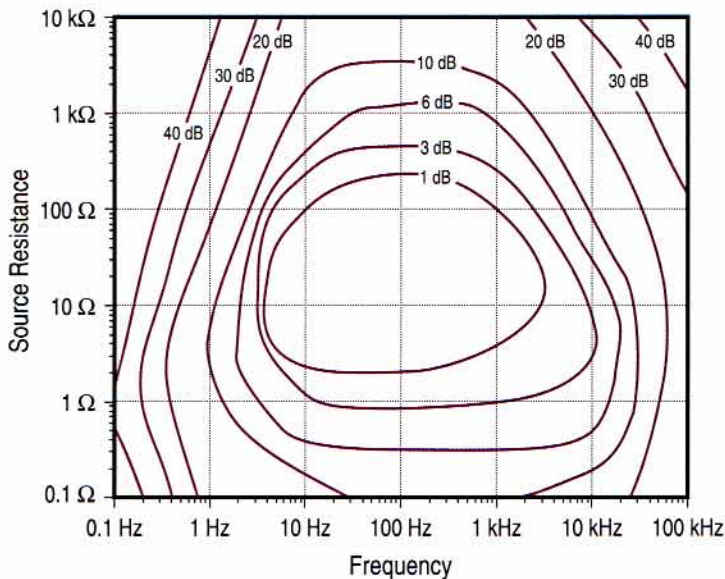
For more information on the SR554 Transformer Preamplifier or details on our complete line of signal recovery instrumentation, contact SRS.



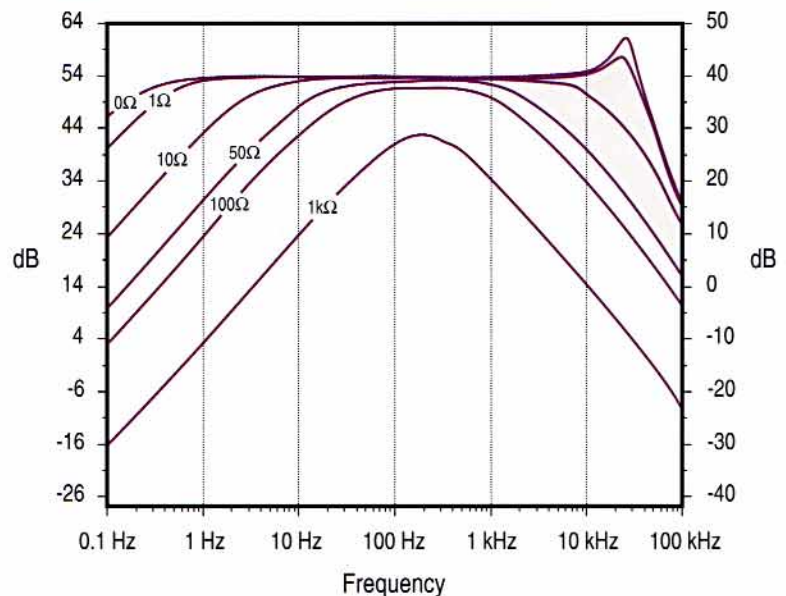
Specifications

Input	Single-ended or differential
Input noise (transformer and buffer)	0.1 nV/ $\sqrt{\text{Hz}}$ (at 100 Hz)
Recommended source impedance	0.05 Ω to 1 k Ω
Max. frequency response	0.1 Hz to 40 kHz. See graph below.
Gain	500 (transformer and buffer), 100 (transformer only)
CMRR	> 120 dB (below 1 kHz)
Common mode range	Primary can float up to ± 100 VDC
Isolation	> 40 dB (DC to 500 MHz)
Output	Single-ended or differential
Output voltage	Up to 20 Vp-p (100 Vp-p transformer only)
Output impedance	< 1 Ω (transformer and buffer) > 5 k Ω (transformer only)
Power	Power can be provided by any SRS lock-in amplifier via the supplied 9 pin connector cable or from a ± 20 VDC (100 mA) source.
Weight	4 lbs
Size	3.0" x 3.75" x 7.5" (HxWxL)
Warranty	One year parts and labor on any defects in materials or workmanship.

SR554 Noise Figure Contours



Amplitude Response vs Source Resistance and Frequency



Ordering Information

SR554

Transformer Preamplifier



STANFORD RESEARCH SYSTEMS

1290 D Reamwood Avenue • Sunnyvale, CA 94089

Telephone (408)744-9040 • FAX: 4087449049

email: info@thinkSRS.com • www.thinkSRS.com

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