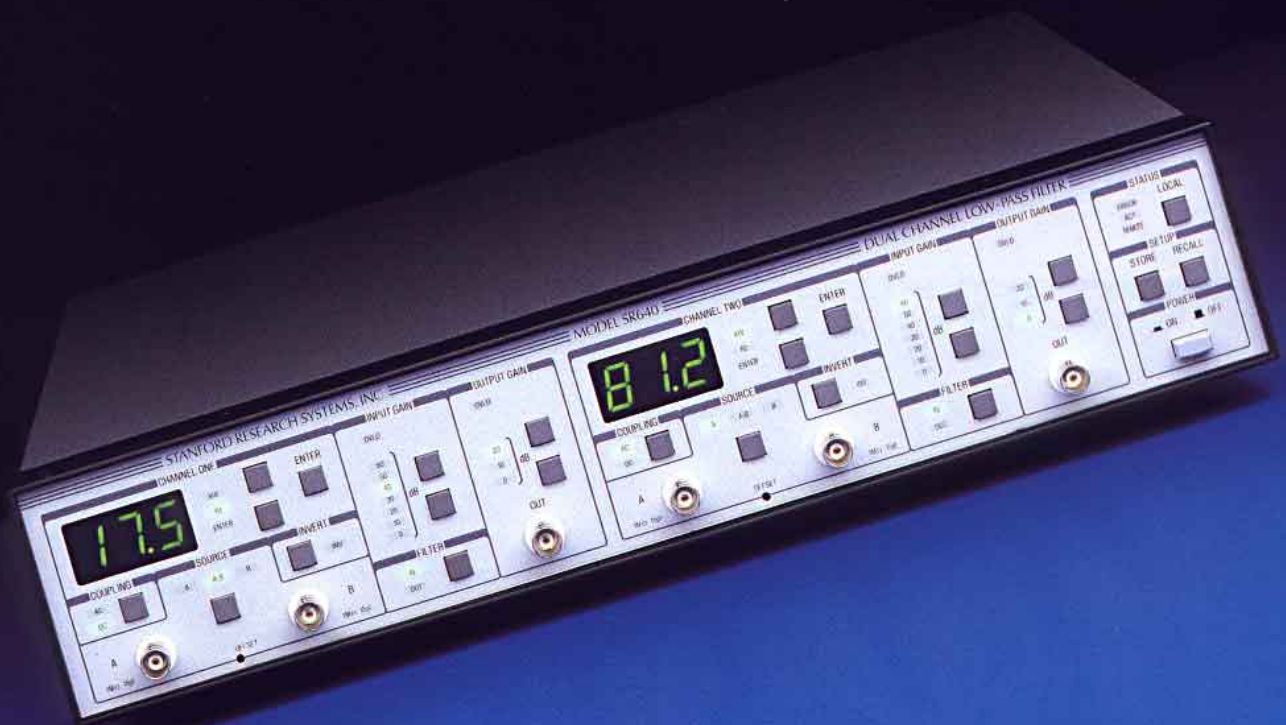




STANFORD RESEARCH SYSTEMS

Dual channel filters



Programmable Dual Channel Filters

SR640 low pass
SR645 high pass
SR650 high/low pass



- 1 Hz to 100 kHz cutoff frequency
- 3 digit frequency resolution
- 0.1 dB passband ripple
- 115 dB/octave rolloff
- 80 dB stopband attenuation
- 4 nV/ $\sqrt{\text{Hz}}$ input noise
- differential inputs
- 60 dB prefilter gain
- 20 dB postfilter gain
- GPIB, RS232 interfaces standard

The SR600 series of programmable filters are ideal for all of your signal processing and analysis applications.

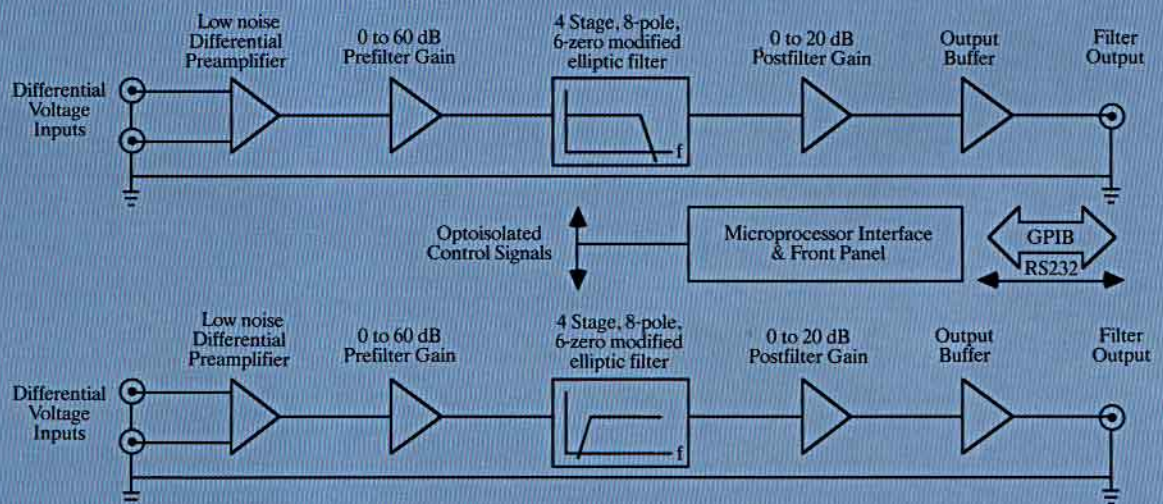
The reasons are simple: superior performance, ease of use and value.

While the complex design of these filters optimizes performance, simple, straightforward controls make them easy to set up and operate. And the SR600 series comes with all the advantages of microprocessor control, keypad programming, and both GPIB and RS232 interfaces.

What's more, these filters provide outstanding performance under virtually all signal filtering conditions—even when frequencies are very low and very close together.

For exceptional noise rejection, the SR600 series uses 8-pole, 6-zero elliptic filters to provide the sharpest passband to stopband cutoff. The cutoff slope is 115 dB/octave, and passband ripple is less than 0.1 dB peak-to-peak. Cutoff frequencies can be set with 3-digit resolution, resulting in precisely defined passbands.

Block Diagram of SR600 Series





Every step has been taken to eliminate interferences. Each filter channel is completely isolated and uses insulated (floating ground) BNC connectors. The microprocessor components are optically isolated from the filter section for optimum low noise performance. At 60 dB input gain, the input noise is only $4\text{nV}/\sqrt{\text{Hz}}$.

As far as operation is concerned, one look at the SR600 series front panel tells the story.

The controls are clearly labeled and organized for easy operation. A simple pushbutton selects AC/DC coupling, sets the input source configuration, or inverts the output. A filter bypass feature is provided which allows input signals to be amplified while the filters are disengaged.

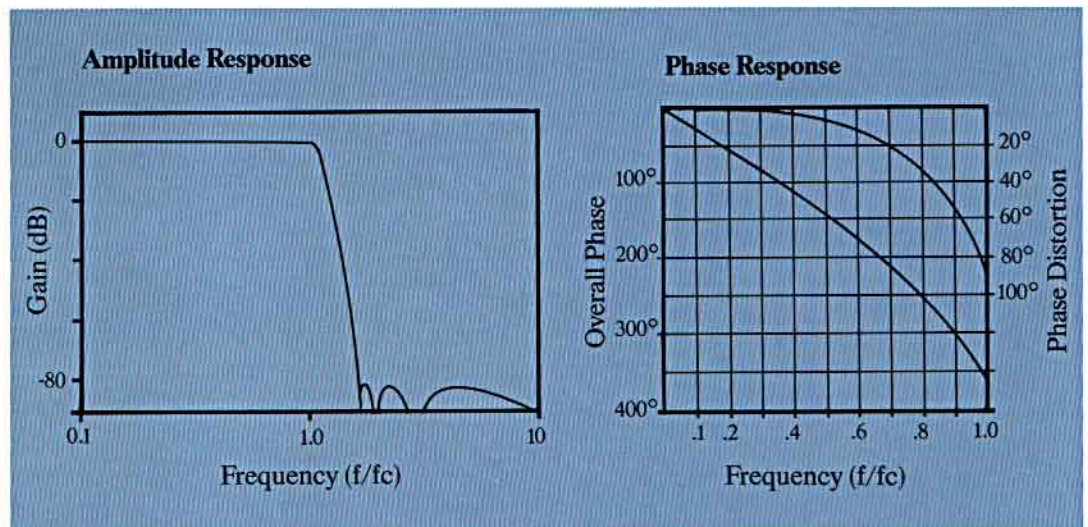
Cutoff frequencies can be set from 1 Hz to 100 kHz and are shown in three digits on two easy-to-read LED displays. Input preamplifier gain is adjustable from 0 to 60 dB in 10 dB increments. Output post-filter gain can be set to 0, 10 and 20 dB. An optional high power output will drive 10 volts peak-to-peak into 50Ω .

As many as 9 complete instrument setups can be stored in non-volatile memory for easy instrument setup. Status indicators display the remote state of the instrument, computer interface activity, and errors.

IEEE-488 and RS232 interfaces are standard, so parameters can be set and read remotely for full instrument programmability and control.

The specifications on the back of this brochure speak for themselves. For further assistance, or to place an order, call Stanford Research Systems at (408) 744-9040.

The SR600 series filters will help you separate the signal from the noise — at a price you can afford.



Specifications

Filter Characteristics

Frequency Range	1 Hz to 100 kHz with 3-digit resolution
Type	8-pole, 6-zero elliptic
Rolloff	115 dB/octave
Passband Ripple	< 0.1 dB pk-pk
Stopband Attenuation	>80 dB

Input Characteristics

Impedance	1M Ω // 15 pF
Configuration	Single ended (A or B) or Differential (A-B)
Common Mode Rejection	>90 dB at 1 kHz
Coupling	Ac or Dc
Input Noise	4 nV/ $\sqrt{\text{Hz}}$ at 1 kHz with 60 dB input gain
Gain	0, 10, 20, 30, 40, 50, 60 dB \pm 0.2 dB
Maximum Input Signal	10 Volts pk-pk

Output Characteristics

Impedance	<1 Ω
Full Scale Output Signal	10 Volts pk-pk into >300 Ω
Dc Offset	Adjustable to 0 Volts Dc
Gain	0, 10, 20 dB \pm 0.2 dB
Harmonic Distortion	No greater than 80 dB below full scale at 1 kHz signal
Spurious Components	No greater than 80 dB below full scale with input source <50 Ω
Crosstalk Between Channels	No greater than 110 dB below full scale with input source <50 Ω
Phase Match Between Channels	\pm 0.25 $^\circ$ fc<10kHz; \pm 0.5 $^\circ$ 10kHz<fc<50kHz; \pm 0.7 $^\circ$ fc>50kHz

General

Interfaces	IEEE-488 and RS232 standard. All instrument functions can be controlled and read through the interface.
Stored Settings	9 complete 2 channel instrument configurations can be stored in non-volatile memory.
Power	100/120/220/240 Vac, 50/60 Hz
Dimensions	15.7" W X 3.0" H X 14.0" L
Configuration	Bench top, rack mounting brackets included. All signal connections made through isolated BNC connectors.



Ordering Information

SR640, Dual Channel Low-Pass Filter
with IEEE-488 and RS232 interfaces
SR645, Dual Channel High-Pass Filter
SR650, Dual Channel, one High-Pass, one Low-Pass Filter
Option 01, High Output 10V pk-to-pk into 50 Ω



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