

# Small Instrumentation Modules

SIM980 — Analog summing amplifier (4-channel)

- Four summing inputs
- $\pm 10$  V operating range
- 1 MHz bandwidth
- Low crosstalk ( $-80$  dB)
- $< 100$   $\mu$ V input offset
- High slew rate



## SIM980 Summing Amplifier

The SIM980 Summing Amplifier has four input channels that can be added or subtracted from each other. The *output* noise is less than  $60$   $\text{nV}/\sqrt{\text{Hz}}$ , and crosstalk between channels is less than  $-80$  dB. With a bandwidth of  $1$  MHz, a slew rate of  $40$   $\text{V}/\mu\text{s}$ , and input offsets that are trimmed to  $\pm 100$   $\mu\text{V}$ , the SIM980 is extremely useful in many analog applications.

The digital control circuitry in the SIM980 is designed with SRS's special clock-stopping architecture in which the microcontroller is turned on only when switch settings are being changed. This guarantees that no digital noise contaminates low-level analog signals.

### Specifications

Number of inputs	4
Function	Inverting, non-inverting or off
Gain	$1\times$
Impedance	$1$ M $\Omega$
Bandwidth	DC to $1$ MHz
Output noise	$60$ $\text{nV}/\sqrt{\text{Hz}}$ @ $1$ kHz

Crosstalk	$-80$ dB @ $1$ kHz
Offset	$\pm 100$ $\mu\text{V}$ (after 5 min. warm up)
Max. input & output	$\pm 10$ V
Input slew rate	$40$ $\text{V}/\mu\text{s}$
THD	$0.01\%$ ( $80$ dB) @ $1$ kHz
Output slew rate	$75$ $\text{V}/\mu\text{s}$
Operating temperature	$0^\circ\text{C}$ to $40^\circ\text{C}$ , non-condensing
Interface	Serial via SIM interface
Connectors	BNC (5 front-panel, 1 rear-panel) DB15 (male) SIM interface
Power (max.)	Powered by SIM900 Mainframe, or by user-provided DC power supply ( $\pm 15$ V and $+5$ V)
Dimensions, weight	$1.5'' \times 3.6'' \times 7.0''$ (WHD), $1.5$ lbs.
Warranty	One year parts and labor on defects in materials and workmanship

### Ordering Information

SIM980 Summing amplifier