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Data Sheet

August 12, 2026

STANFORD RESEARCH

Stanford Research SIM914 – 350 MHz Preamplifier

Stanford Research Systems SIM914 350 MHz Preamplifier The SRS SIM914 is a dual-channel, DC-coupled 350 MHz preamplifier in the SIM modular instrument family. Each channel has fixed voltage gain of 5 (14 dB), 50 Ω I/O, and fast overload recovery for PMT/photodiode and pulse work. Cascadable for 25 $\times$ (+28 dB). Photomultiplier and photodiode pulse amplification; low-noise wideband front-end; cascaded gain stages in SIM900 mainframes. The SRS SIM914 is a dual-channel, DC-coupled 350 MHz preamplifier in the SIM modular instrument family. Each channel has fixed voltage gain of 5 (14 dB), 50 Ω I/O, and fast overload recovery for PMT/photodiode and pulse work. Cascadable for 25 $\times$ (+28 dB). Photomultiplier and photodiode pulse amplification; low-noise wideband front-end; cascaded gain stages in SIM900 mainframes.



MODEL

**Stanford Research
SIM914**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SIM914

LISTING

<https://aumictechlabs.com/products/sim914-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Stanford Research SIM914 is a dual-channel, DC-coupled preamplifier delivering 5 $\times$ voltage gain (14 dB) per channel across a DC to 350 MHz bandwidth. Engineered for precision amplification of weak signals from photodiodes, photomultiplier tubes, and similar detectors, the SIM914 achieves 6.4 nV/ $\sqrt{\text{Hz}}$ input noise with excellent phase linearity and fast signal integrity.

Each channel operates independently with 50 Ω input and output impedance, ± 200 mV input range, and ± 1 V output range. Rise and fall times are 1 ns (bandwidth limited), with 2.7 ns propagation delay and 3 ns overload recovery for 10 $\times$ overdrive. The module integrates into the SIM900 Mainframe via DB15/M connector or operates standalone with external +5 V DC power.

Technical Specifications
Bandwidth: DC to 350 MHz
Voltage Gain: 5 per channel (14 dB); cascadable to 25 $\times$ (28 dB) across two modules
Input Noise: 6.4 nV/ $\sqrt{\text{Hz}}$ typical; 80 μV_{rms} broadband (1 Hz to 300 MHz)
Input Impedance: 50 Ω , DC coupled
Output Impedance: 50 Ω , DC coupled
Input Operating Range: ± 200 mV; DC limit ± 4 V
Output Operating Range: ± 1 V with ± 1.6 V clamp voltage
Rise/Fall Time: 1 ns; 1.3 ns into 50 Ω load
Propagation Delay: 2.7 ns typical
Overload Recovery: 3 ns for 10 $\times$ overdrive
Input Protection: ± 50 V transients ($< 1 \mu\text{s}$)
Crosstalk: -60 dB

Channels: 2 independent

Key Features
Excellent phase linearity across entire frequency range
Output overload detection threshold at ± 1.3 V
Peak-to-peak noise typically 5 $\times$ rms value (~ 10 mVpp output, dual cascaded)
Fast transient recovery with minimal distortion

Interfaces
Front panel: 4 $\times$ BNC connectors (2 inputs, 2 outputs)
Rear panel: DB15/M SIM interface connector for power and overload monitoring

Compatibility & Integration
The SIM914 integrates directly into the Stanford Research Systems SIM900 Mainframe or operates standalone with external +5 V DC power supply.

Features & description

From manufacturer datasheet

Features

- Channels: 2 independent amplifiers
- Bandwidth: DC to 350 MHz (−3 dB)
- Voltage gain: 5× (14 dB) per channel; cascade to 25× (+28 dB)
- Rise/fall time: 1.3 ns (manual); catalog also lists ~1 ns class
- Input noise: 6.4 nV/√Hz typ. (catalog); ~5.2 nV/√Hz typ. >1 kHz (manual)
- Propagation delay: 2.7 ns typ.
- Overload recovery: 3 ns from 10× full-scale overload
- Linear range: ±200 mV input; ±1 V output into 50 Ω
- Input protection: ±50 V for <1 μs; DC protect ±4 V
- Output clamp ±1.6 V; overload detect ±1.3 V
- Crosstalk: −60 dB class (catalog); CH1→CH2 / CH2→CH1 detailed in manual
- Impedance: 50 Ω DC-coupled in/out
- Connectors: 4× front BNC; rear DB15 SIM interface
- Power: SIM900 mainframe or ±5 VDC external (~80 mA)
- Size/weight: 1.5" × 3.6" × 7.0" (W×H×D); 1.4 lb
- Operating temp: 0 °C to 40 °C, non-condensing

SIM914 Characteristics / Specifications

PARAMETER	VALUE
Model	SIM914
Manufacturer	Stanford Research Systems
Instrument Type	Dual-Channel Preamplifier Module
Alias	SIM914; SRS SIM914 Amplifier
Bandwidth	DC to 350 MHz (−3 dB)
Gain	5.00 V/V typ. (4.95–5.05)
Rise/fall	1.3 ns
Delay	2.7 ns typ. Noise / Range
Noise	6.4 nV/√Hz typ. (catalog); 5.2 nV/√Hz typ. >1 kHz
Input FS	±200 mV
Output linear	±1.0 V into 50 Ω Notes Specs from SRS SIM914 catalog sheet and operation/service manual. Prefer catalog 6.4 nV/√Hz for datasheet headline; detailed noise vs frequency on certificate/manual.
Channels	2 independent amplifiers
Voltage gain	5× (14 dB) per channel; cascade to 25× (+28 dB)
Rise/fall time	1.3 ns (manual); catalog also lists ~1 ns class
Input noise	6.4 nV/√Hz typ. (catalog); ~5.2 nV/√Hz typ. >1 kHz (manual)
Propagation delay	2.7 ns typ.
Overload recovery	3 ns from 10× full-scale overload
Linear range	±200 mV input; ±1 V output into 50 Ω
Input protection	±50 V for <1 μs; DC protect ±4 V
Crosstalk	−60 dB class (catalog); CH1→CH2 / CH2→CH1 detailed in manual
Impedance	50 Ω DC-coupled in/out
Connectors	4× front BNC; rear DB15 SIM interface
Power	SIM900 mainframe or ±5 VDC external (~80 mA)
Size/weight	1.5" × 3.6" × 7.0" (W×H×D); 1.4 lb

PARAMETER	VALUE
Operating temp	0 °C to 40 °C, non-condensing

SIM914 Specifications

PARAMETER	VALUE
Stanford Research Systems SIM914 350 MHz Preamplifier	Overview
Applications	Photomultiplier and photodiode pulse amplification; low-noise wideband front-end; cascaded gain stages in SIM900 mainframes.
Key Features	- Channels: 2 independent amplifiers
Technical Specifications	Model: SIM914
Amplifier	Bandwidth: DC–350 MHz
Noise / Range	Noise: 6.4 nV/√Hz typ. (catalog); 5.2 nV/√Hz typ. >1 kHz

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	SIM914
Manufacturer	Stanford Research Systems
Instrument Type	Dual-Channel Preamplifier Module
Alias	SIM914; SRS SIM914

Amplifier

Specifications

PARAMETER	VALUE
Bandwidth	DC–350 MHz
Gain	5.00 V/V typ. (4.95–5.05)
Rise/fall	1.3 ns
Delay	2.7 ns typ.

Noise / Range

Specifications

PARAMETER	VALUE
Noise	6.4 nV/√Hz typ. (catalog); 5.2 nV/√Hz typ. >1 kHz
Input FS	±200 mV
Output linear	±1.0 V into 50 Ω

Notes

Specs from SRS SIM914 catalog sheet and operation/service manual. Prefer catalog 6.4 nV/√Hz for datasheet headline; detailed noise vs frequency on certificate/manual.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.