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Data Sheet

August 13, 2026

STANFORD RESEARCH SYSTEMS

Stanford Research SG392 2 GHz Vector Generator

Stanford Research Systems SG392 2 GHz Vector Signal Generator The SRS SG392 is the 2 GHz member of the SG390 Series vector signal generators. RAFS synthesis delivers 1 uHz resolution with analog AM/FM/phase/pulse modulation plus a dual 14-bit 125 MS/s baseband generator for vector I/Q on carriers from 400 MHz to 2.025 GHz. The BNC output covers DC to 62.5 MHz; the N-type output covers 950 kHz to 2.025 GHz at +16.5 dBm to -110 dBm. Communications receiver and transmitter stimulus to 2 GHz; vector constellation generation (PSK, QAM, FSK, VSB); analog modulation and sweep test; LO generation; automated RF production test via GPIB, Ethernet, and RS-232. The SRS SG392 is the 2 GHz member of the SG390 Series vector signal generators. RAFS synthesis delivers 1 uHz resolution with analog AM/FM/phase/pulse modulation plus a dual 14-bit 125 MS/s baseband generator for vector I/Q on carriers from 400 MHz to 2.025 GHz. The BNC output covers DC to 62.5 MHz; the N-type output covers 950 kHz to 2.025 GHz at +16.5 dBm to -110 dBm. Communications receiver and transmitter stimulus to 2 GHz; vector constellation generation (PSK, QAM, FSK, VSB); analog modulation and sweep test; LO generation; automated RF production test via GPIB, Ethernet, and RS-232.



MODEL

**Stanford Research
Systems SG392**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

SG392

LISTING

<https://aumictechlabs.com/products/sg392-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Stanford Research Systems SG392 is a 2 GHz vector signal generator engineered for RF and microwave component and system testing. It combines analog and vector modulation capabilities using Rational Approximation Frequency Synthesis (RAFS), delivering spur-free outputs with low phase noise and 1 μ Hz frequency resolution across DC to 2.025 GHz. An ovenized SC-cut oscillator provides superior frequency stability and reduced in-close phase noise versus TCXO-based instruments.

Technical Specifications

Frequency & Output Carrier frequency: DC to 2.025 GHz, 1 μ Hz resolution RF output power: +25 dB gain to -130 dB attenuation in 156 digitally controlled steps Analog attenuator: 0.01 dB resolution with thermal compensation Output connectors: BNC and Type N Vector Modulation Carrier range: 400 MHz to 2.025 GHz Modulation bandwidth: 300 MHz I/Q inputs: 50 Ω , ± 0.5 V rear panel; full-scale $(I^2 + Q^2)^{1/2} = 0.5$ V Supported modes: BPSK, QPSK, OQPSK, DQPSK, $\pi/4$ DQPSK, 8 PSK, 16 PSK, $3\pi/8$ PSK, QAM (4-256), FSK, ASK, CPM, MSK, VSB (8VSB, 16VSB) Internal baseband: Dual 125 MHz arbitrary waveform generators; symbol rates to 6 MHz with programmable pulse shaping Preset standards: GSM, EDGE, W-CDMA, APCO-25, DECT, NADC, PDC, ATSC-DTV, TETRA Analog Modulation Types: AM, FM, phase modulation, pulse modulation FM deviation: 0.1 Hz minimum; up to 16 MHz (1.0125-2.025 GHz) AM: 0-100% (reduces above +7 dBm), 0.1% resolution AM distortion: <1% ($f_c < 62.5$ MHz, 1 kHz), 62.5 MHz, 1 kHz) AM bandwidth: >100 kHz Internal sources: sine, ramp, saw, square, noise; external modulation input available

Key Features Spur-free synthesis with 1 μ Hz carrier resolution Direct I/Q input for custom modulation schemes Cascaded gain and attenuation with interpolation for output power accuracy Preset digital standards reduce setup time for common formats

Typical Applications RF component characterization and validation Digital and analog modulation testing Wireless protocol development and conformance testing Microwave system integration and bench measurements

Compatibility & Integration Rear-panel I/Q and external modulation inputs support integration with external baseband processors and test automation systems.

Features & description

From manufacturer datasheet

Features

- N-type RF to 2.025 GHz; BNC to 62.5 MHz with DC offset
- Built-in analog and vector modulation (no extra vector option required)
- Dual-channel arbitrary baseband generator with PRBS and pattern sources
- Communications presets including GSM, GSM-EDGE, W-CDMA, APCO-25, DECT, NADC, PDC, TETRA, ATSC DTV
- Rear-panel markers: symbol clock, data frame, TDMA, and user-defined
- Standard OCXO; optional rubidium timebase (Opt. 04)

SG392 Characteristics / Specifications

PARAMETER	VALUE
Model	SG392
Manufacturer	Stanford Research Systems
Instrument Type	Vector Signal Generator
Series	SG390
Alias	SG392; SRS SG392
Synthesis Method	Rational Approximation Frequency Synthesis (RAFS)
BNC Output Frequency Range	DC to 62.5 MHzNType Output Frequency Range: 950 kHz to 2.025 GHz
Frequency Resolution	1 uHz at any frequency
Switching Speed	less than 8 ms (to within 1 ppm)
Frequency Error	less than (1e-18 + timebase error) times carrier frequency
Frequency Stability	1e-11 (1 s Allan variance)
BNC Amplitude Range	1.00 Vrms to 0.001 Vrms
BNC Offset Range	+/-1.5 VDC
BNC Offset Resolution	5 mV
BNC Amplitude Accuracy	+/-5 %
BNC Harmonics	less than -40 dBc
BNC Spurious	less than -75 dBc
BNC Output Coupling	DC, 50 ohm +/-2 %
N Type Power Range	+16.5 dBm to -110 dBmNType Voltage Range: 1.5 Vrms to 0.7 uVrms
Power Resolution	0.01 dBm
Power Accuracy	+/-1 dBNType Output Coupling: AC, 50 ohm
User Load Impedance	50 ohm
Output VSWR	less than 1.6
Reverse ProtectionNType	30 VDC, +25 dBm RF
RF Harmonics	less than -25 dBc (below +7 dBm, N-type)

PARAMETER	VALUE
Close In Spurious	less than -65 dBc (offset below 10 kHz)
Far Spurious	less than -75 dBc (offset above 10 kHz)
Phase Noise at Ten Hz	-80 dBc/Hz typical (referenced to 1 GHz)
Phase Noise at One kHz	-102 dBc/Hz typical (referenced to 1 GHz)
Phase Noise at Twenty kHz	-116 dBc/Hz typical (SG392 and SG394, 1 GHz)
Phase Noise at One MHz	-130 dBc/Hz typical (SG392 and SG394, 1 GHz)
OCXO Stability	less than +/-0.002 ppm (0 to 45 C)
OCXO Aging	less than +/-0.05 ppm/year
Vector Carrier Frequency Range	400 MHz to 2.025 GHz
External IQ Input Impedance	50 ohm, +/-0.5 V (rear panel)
IQ Full Scale Input	$(I^2 + Q^2)^{0.5} = 0.5 \text{ V}$
IQ Modulation Bandwidth	300 MHz RF bandwidth
IQ Input Offset	less than 500 uV
Carrier Suppression	greater than 40 dBc
Baseband DAC Format	dual 14-bit at 125 MS/s
Reconstruction Filter	10 MHz, 3rd order Bessel LPF
Arb Symbol Memory	up to 16 Mbits
Symbol Rate Range	1 Hz to 6 MHz (1 uHz resolution)
Symbol Length	1 to 9 bits (maps to constellation)
QAM Derivatives	4, 16, 32, 64, 256
VSB Derivatives	8 and 16 (at rates to 12 MS/s)
Noise Impairment Level	-70 dBc to -10 dBc (band limited by digital filter)
AM Modulation Range	0 to 100 % (decreases above +7 dBm)
Pulse On Off RatioNType	57 dB at or below 1 GHz; 40 dB from 1 GHz to 4 GHz
Interfaces	Ethernet; GPIB IEEE-488.2; RS-232
Line Power	less than 90 W, 90 to 264 VAC, 47 to 63 Hz with PFC
Dimensions	8.5 in x 3.5 in x 13 in (WHD)

PARAMETER	VALUE
Weight	10 lbs
Stored Configurations	9 instrument setups in non-volatile memory Notes Specs from SRS SG390 Series catalog and SG390 user manual. SG392 is the 2 GHz vector model (SG394 4 GHz; SG396 6 GHz). Confirm Opt. 04 and installed firmware on the unit.
Rear-panel markers	symbol clock, data frame, TDMA, and user-defined
Bandwidth	300 MHz RF bandwidth

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	
Technical Specifications	
PARAMETER	VALUE
Model	SG392
Manufacturer	Stanford Research Systems
Instrument Type	Vector Signal Generator
Series	SG390
Alias	SG392; SRS SG392
Synthesis Method	Rational Approximation Frequency Synthesis (RAFS)
BNC Output Frequency Range	DC to 62.5 MHz
N Type Output Frequency Range	950 kHz to 2.025 GHz
Frequency Resolution	1 uHz at any frequency
Switching Speed	less than 8 ms (to within 1 ppm)
Frequency Error	less than (1e-18 + timebase error) times carrier frequency
Frequency Stability	1e-11 (1 s Allan variance)
BNC Amplitude Range	1.00 Vrms to 0.001 Vrms
BNC Offset Range	+/-1.5 VDC
BNC Offset Resolution	5 mV
BNC Amplitude Accuracy	+/-5 %
BNC Harmonics	less than -40 dBc
BNC Spurious	less than -75 dBc
BNC Output Coupling	DC, 50 ohm +/-2 %
N Type Power Range	+16.5 dBm to -110 dBm
N Type Voltage Range	1.5 Vrms to 0.7 uVrms
Power Resolution	0.01 dBm
Power Accuracy	+/-1 dB
N Type Output Coupling	AC, 50 ohm
User Load Impedance	50 ohm
Output VSWR	less than 1.6

PARAMETER	VALUE
Reverse Protection N Type	30 VDC, +25 dBm RF
RF Harmonics	less than -25 dBc (below +7 dBm, N-type)
Close In Spurious	less than -65 dBc (offset below 10 kHz)
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Phase Noise at One MHz	-130 dBc/Hz typical (SG392 and SG394, 1 GHz)
OCXO Stability	less than +/-0.002 ppm (0 to 45 C)
OCXO Aging	less than +/-0.05 ppm/year
Vector Carrier Frequency Range	400 MHz to 2.025 GHz
External IQ Input Impedance	50 ohm, +/-0.5 V (rear panel)
IQ Full Scale Input	$(I^2 + Q^2)^{0.5} = 0.5 \text{ V}$
IQ Modulation Bandwidth	300 MHz RF bandwidth
IQ Input Offset	less than 500 uV
Carrier Suppression	greater than 40 dBc
Baseband DAC Format	dual 14-bit at 125 MS/s
Reconstruction Filter	10 MHz, 3rd order Bessel LPF
Arb Symbol Memory	up to 16 Mbits
Symbol Rate Range	1 Hz to 6 MHz (1 uHz resolution)
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QAM Derivatives	4, 16, 32, 64, 256
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Noise Impairment Level	-70 dBc to -10 dBc (band limited by digital filter)
AM Modulation Range	0 to 100 % (decreases above +7 dBm)
Pulse On Off Ratio N Type	57 dB at or below 1 GHz; 40 dB from 1 GHz to 4 GHz
Interfaces	Ethernet; GPIB IEEE-488.2; RS-232
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Frequency Resolution	1 uHz at any frequency
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Frequency Error	less than (1e-18 + timebase error) times carrier frequency
Frequency Stability	1e-11 (1 s Allan variance)
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OCXO Aging	less than +/-0.05 ppm/year
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Weight	10 lbs
Stored Configurations	9 instrument setups in non-volatile memory

Notes

Specs from SRS SG390 Series catalog and SG390 user manual. SG392 is the 2 GHz vector model (SG394 4 GHz; SG396 6 GHz). Confirm Opt. 04 and installed firmware on the unit.

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.