SPIRENT Inspired Innovation

Multi-Channel Scenario Replay GPS/SBAS Simulation System
Spirent STR4500

The use of a multi-channel simulator as the core of any test approach for systems with a GPS navigation capability yields tremendous benefits in verification and evaluation of all aspects of equipment performance.

The STR4500 multi-channel GPS simulator from Spirent provides an easy-to-use but powerful solution for users wishing to replay scenarios. Additional scenarios can be created using Spirent's on-line scenario generation tool. Alternatively, upgrade to Spirent's optional SimPLEX45 software to generate scenario and import vehicle motion.

Key Features

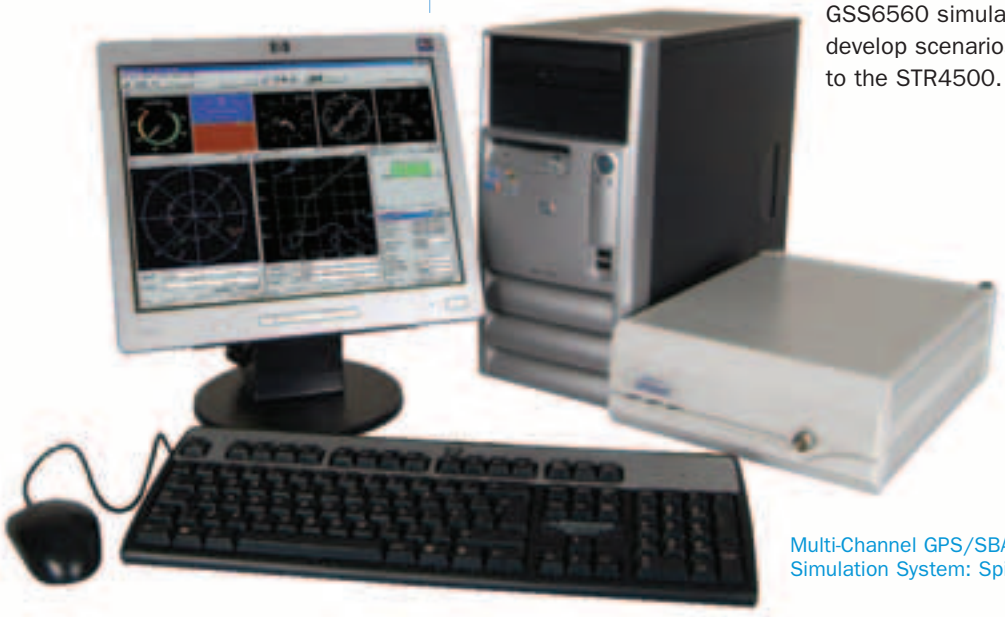
- GPS L1 C/A code and SBAS generation
- 12 independent signal channels
- Supplied with a wide range of scenarios covering different vehicle types and applications
- On-line scenario generation tool for additional scenarios
- Low cost and compact
- High fidelity, accuracy, repeatability and dynamics
- Interactive control facilities
- Multiple vehicle types with comprehensive error effects
- Assistance data extract utility provided for users working in A-GPS arena
- Capture receiver data plus simulation truth data in NMEA-0183 format
- RTCM-SC104 differential corrections via serial port

The STR4500 is suited to a wide range of applications, from multiple test runs in a development environment to production and field-testing. The STR4500 has been chosen by developers and manufacturers from a wide range of sectors including vehicle tracking and telematics, telecommunications, civil aviation, personal navigation and space.

The simulator offers exceptional repeatability, wide dynamic capability in both Doppler and power level, low phase noise, code/carrier coherence and a large number of signal channels to support all-in-view and multipath environments. The data needed to assess almost any possible scenario is available at any time. In addition, full Satellite Based Augmentation System (SBAS) functionality for WAAS, EGNOS and MSAS is included.

The simulator is supplied as standard with Spirent's graphical SimPLEX software pre-installed on a high-performance Windows® desktop or laptop PC. The optional SimPLEX45 software adds scenario generation capability complete with remote motion import.

A comprehensive range of pre-installed simulations is supplied on CD-ROM, and additional variations of these can be obtained from Spirent via our website. Users of Spirent GSS7700 and GSS6560 simulators can develop scenarios for download to the STR4500.



Multi-Channel GPS/SBAS Simulation System: Spirent STR4500

Multi-Channel Scenario Replay GPS/SBAS Simulation System

Spirent STR4500

SPECIFICATION

Output Frequency

L1	@ 1575.42MHz

Signal Dynamics

Max Velocity	± 15000m/s
Max Acceleration	± 450m/s^2
Max Jerk	± 500m/s^3

Signal Accuracy

(RMS max over 1 minute)

Pseudorange	± 10cm
Pseudorange rate	± 1cm/s
Delta-Pseudorange	± 5mm
Interchannel bias	zero

Signal Quality

Spurious (Max)	- 30dBc
Harmonics (Max)	- 35dBc
Phase Noise (Max) (SSB)	0.02 rad RMS (10Hz-10kHz offset)
Frequency Stability	± 5 x 10^{-10} per day (after 24 hour warm-up)

Signal Level

L1 C/A Code	-130 dBm nominal

Signal Level Controlt

Range	+ 15/-20dB
Resolution	0.5dB
Accuracy	±1.0dB RSS uncertainty (-15/+15dB)

Signal Generator Unit

Generator Channels	12
Channel type (independent)	GPS C/A with data @ 50bps or SBAS with data @ 500sps
Size	(HxWxD) 99 x 254 x 345mm (3.9 x 10 x 13.6inch)
Weight	5kg (11 lb.)
Power	100–264V, 70W (max), 48-62 Hz

Computer Specification

Operating System	Microsoft® Windows® Professional
Power	115/230V,50/60Hz

Product Specification (MS2980) is available on request. SimPLEX45 specification (MS3051) is available on request.

Performance figures and data in this document are typical and must be specifically confirmed in writing by Spirent Communications plc. before they become applicable to any particular order or contract.

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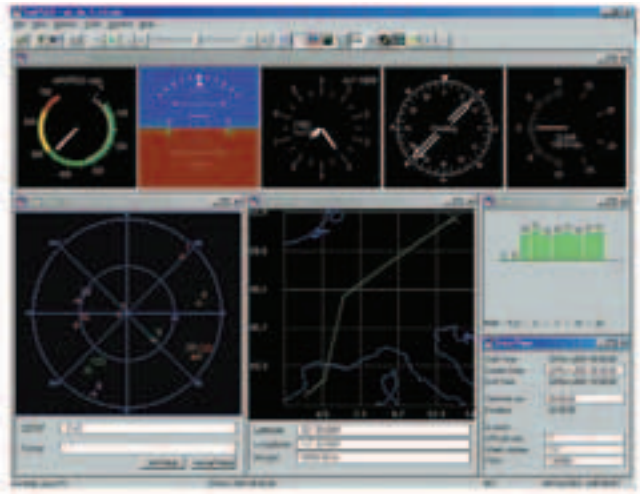
For current product data, visit the Spirent websites at www.spirent.com/positioning or www.spirentfederal.com



SimPLEX

SALES AND INFORMATION

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