

# Multi-Channel Scenario Replay GPS/SBAS Simulation System

## 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 represents a real breakthrough in technology, and provides an easy-to-use but powerful solution for users wishing to replay scenarios.

### 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
- 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 STR4500 GPS simulator provides accurate and repeatable signals, where the user is in control and where the data needed to assess almost any possible scenario is available at any time.

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 multi-path environments.

In addition, full Satellite Based Augmentation System (SBAS) functionality for WAAS, EGNOS and MSAS is included.

The simulator is supplied with Spirent's graphical **SimPLEX** software pre-installed on a high-performance Windows® XP desktop or laptop PC.

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 STR2760, STR4760 and GSS6560 simulators can develop scenarios themselves for download to an STR4500.

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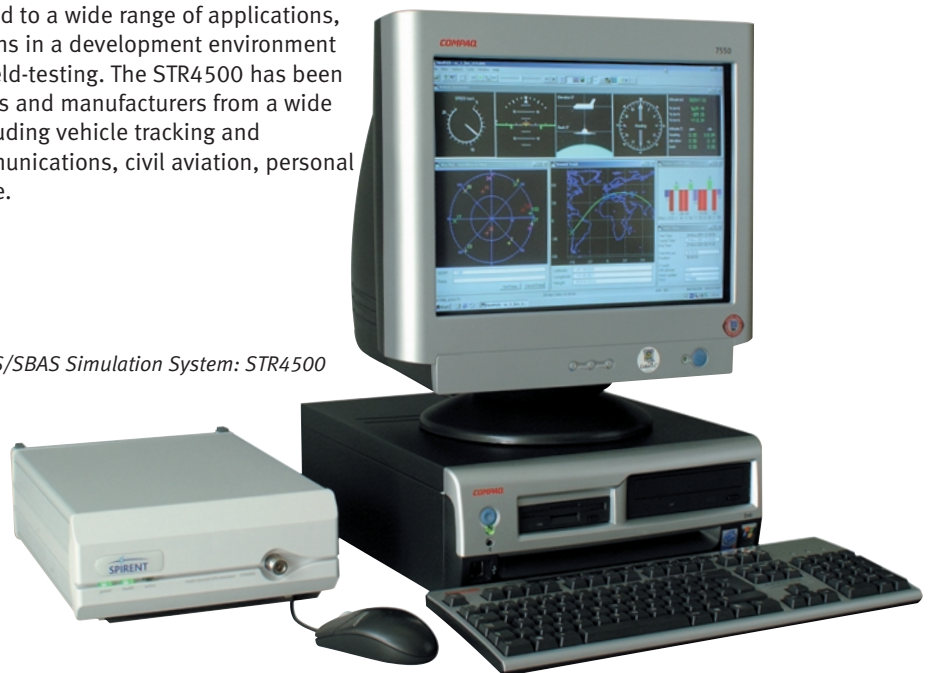
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Multi-Channel GPS/SBAS Simulation System: STR4500



Analyse | Assure | Accelerate™

## Specification

### Output Frequency

- L1 @ 1575.42MHz

### Signal Dynamics

- Max Velocity ± 15000m/s
- Max Acceleration ± 450m/s<sup>2</sup>
- Max Jerk ± 500m/s<sup>3</sup>

### 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 (10 Hz-10kHz offset)
- Frequency Stability ± 5 x 10<sup>-10</sup> per day (after 24 hour warm-up)

### Signal Level

- L1 C/A Code -130 dBm nominal

### Signal Level Control

- 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® XP Professional
- Power 115/230V,50/60Hz

### Product Specification (MS2980) is available on request

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

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For current product data, visit the Spirent website at [www.positioningtechnology.co.uk](http://www.positioningtechnology.co.uk)

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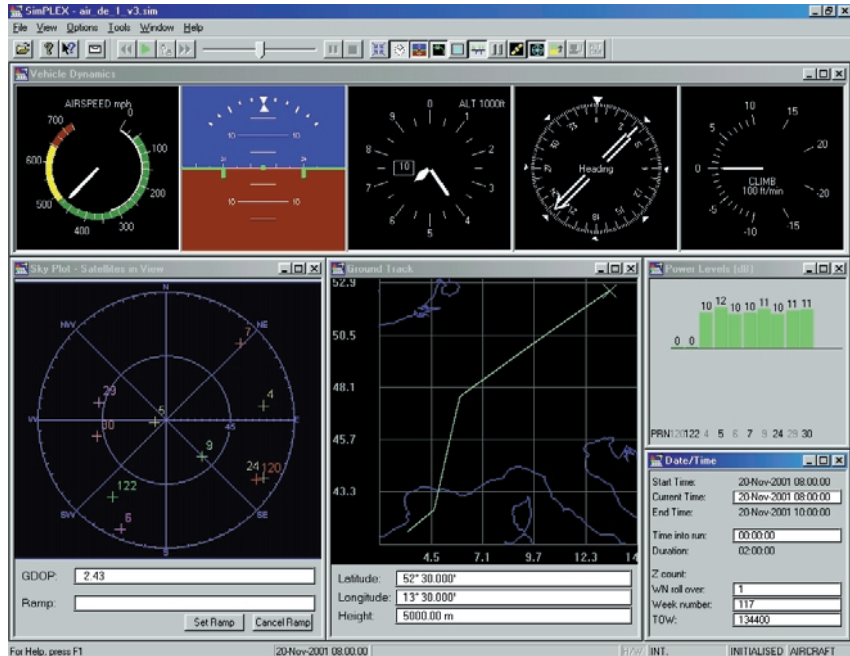
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