The Global Leader in Resilient **PNT**

GPS/GNSS Testing for Automotive Applications

GPS RF generation for development and product test/quality control

Comprehensive GPS Testing Via Simulation

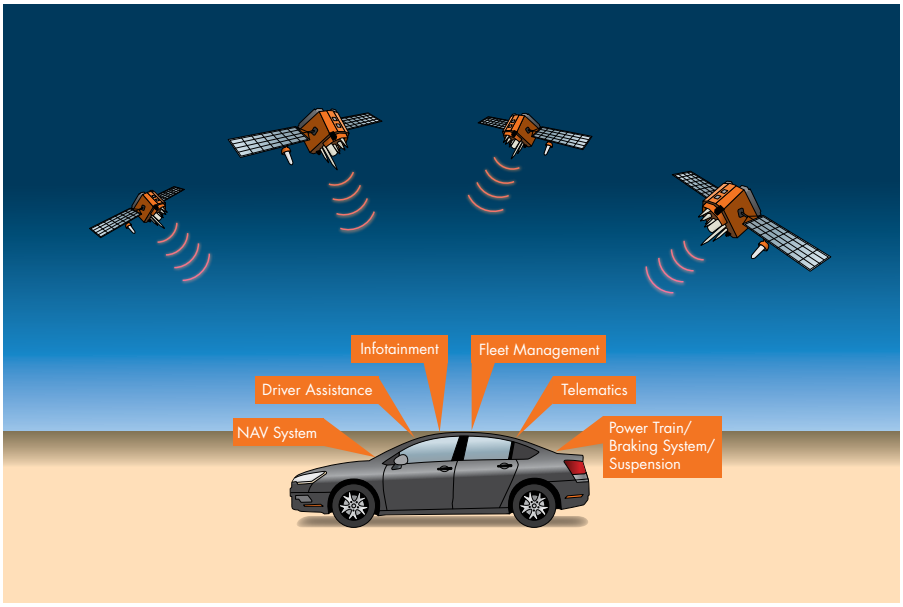
- Easy, fast, powerful
- Reduce development cost and time-to-market

GSG Series GPS/GNSS Simulators

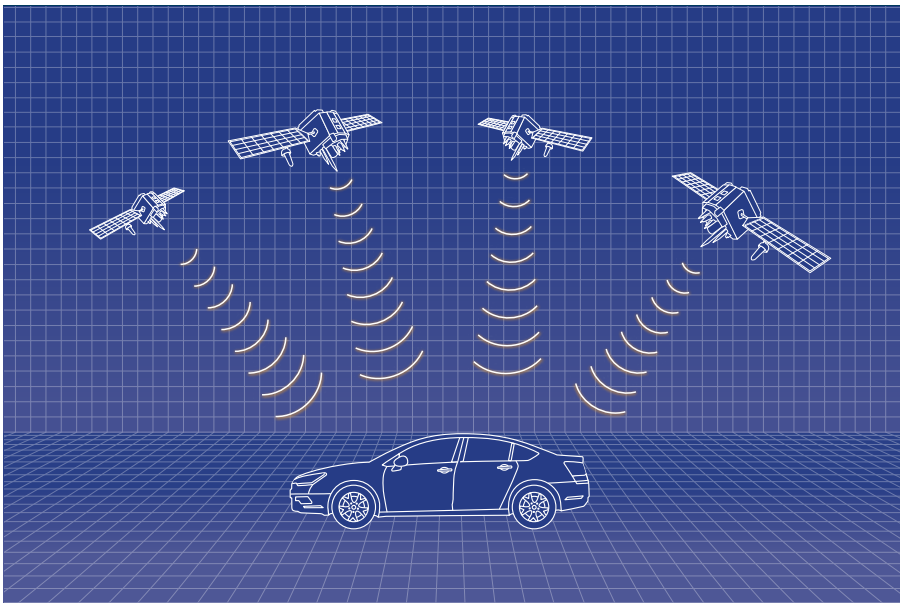
- 1 to 64 satellite, or other, signals
- Configure-to-order and upgradeable
- Pre-configured test scenarios, easy to modify, create your own
- Windows software with Google maps interface
- Multi-GNSS, multi-frequency simulation
- GPS standard (L1 C/A), codeless (L2), new GPS (L2C, L5)
- Simultaneous GPS, GLONASS, Galileo, BeiDou
- Stand-alone operation
- Remote control and integration API via a variety of interfaces

Advanced Testing Features

- Drive test once, replay many, with modification via Record and Playback
- HIL-test-integratable via Real-time Scenario Generation and Sensor Simulation
- Assisted-GPS test for improving acquisition
- Differential GPS test for increasing accuracy



Automotive GPS subsystems are often limited to live-sky signals on the test track



GPS testing in a virtual environment reduces test time and cost and improves quality and reliability

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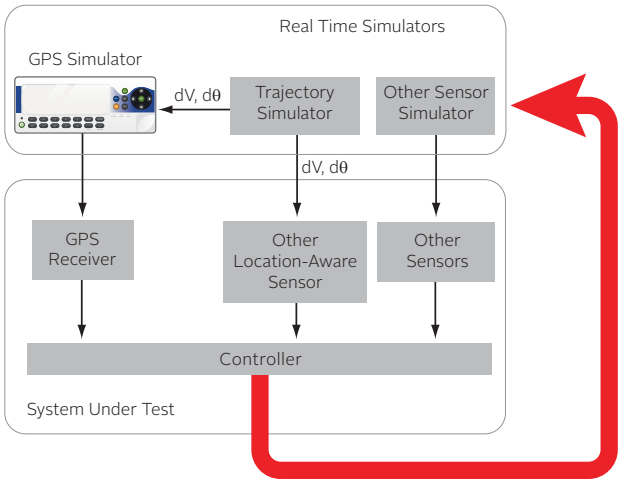
Drive Testing – with Record and Playback (RP) Option

Drive tests are tedious, expensive, are not always repeatable, and can be dangerous. The Record and Playback option allows you to drive once and test often by recording the GPS environment associated with a particular route. Upload the recorded data and modify as you wish to add "what-ifs" to your testing.

Hardware-in-the-Loop with Real-Time Scenario Generator (RSG) Option

The development of automotive mechatronics can benefit from simulation as a significant enhancement by testing any conceivable possibility. The RSG option supports the integration of actual GPS RF signals into HIL systems by integrating fixed latency streaming of 6 degrees-of-freedom trajectory via position, velocity, acceleration and heading commands. Vehicle orientation and orientation changes, as well as satellite power levels, are also controllable via real-time commands. A common application is testing the integration of a GPS receiver and inertial sensors.



Assisted-GPS for the Connected Car

With more and more telecom services integrated into the connected car, navigation data and other location-based services are available through the data network. Test GPS receivers' ability to use assisted-GPS data to improve signal acquisition and time-to-first-fix. Spectracom A-GPS option tests the ability of the device to receive and process assistance data from an LTE signal or RINEX files which is compatible with the simulated RF signal.

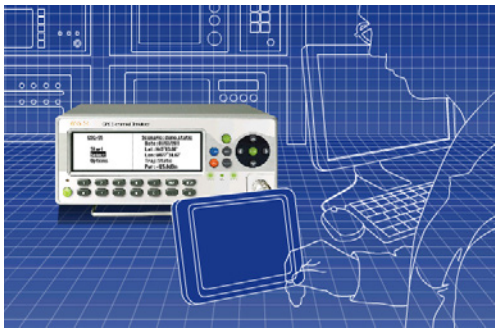
Differential GPS Enables the Future of the Driverless Vehicle

While GPS signals have served the industry well with tens of meters of accuracy, there is no doubt that much higher location-awareness precision will be required for semiautomatic or fully-automatic guidance. One such approach involves differential measurements and real-time kinematics (RTK) where a localized reference communicates with an onboard GPS receiver to reduce GPS errors down to the centimeter level. Spectracom's RTK option offers the ability to send correction messages.

Put Us to the Test

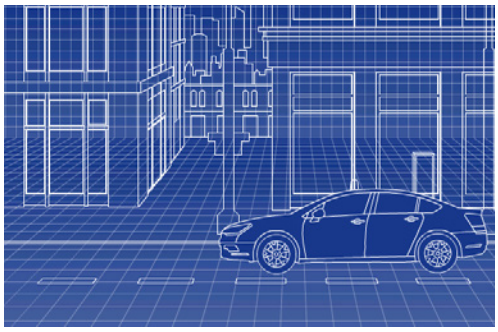
As experts in GNSS signals, we help you make the most out of your applications for GPS receivers and other technologies for positioning, navigation and timing. Our RF generating simulation hardware is just a start. We provide applications assistance, integration services, training and startup support and a wide range of other services so you can get ahead and stay ahead in the mobile world.

Record and Playback – Here's how it works



1. Connect the recording receiver to a laptop running the software and record

2. Connect the laptop to the simulator, edit the scenario as desired, and run the playback generator



3. Connect the simulator to the receiver under test and run the scenario

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