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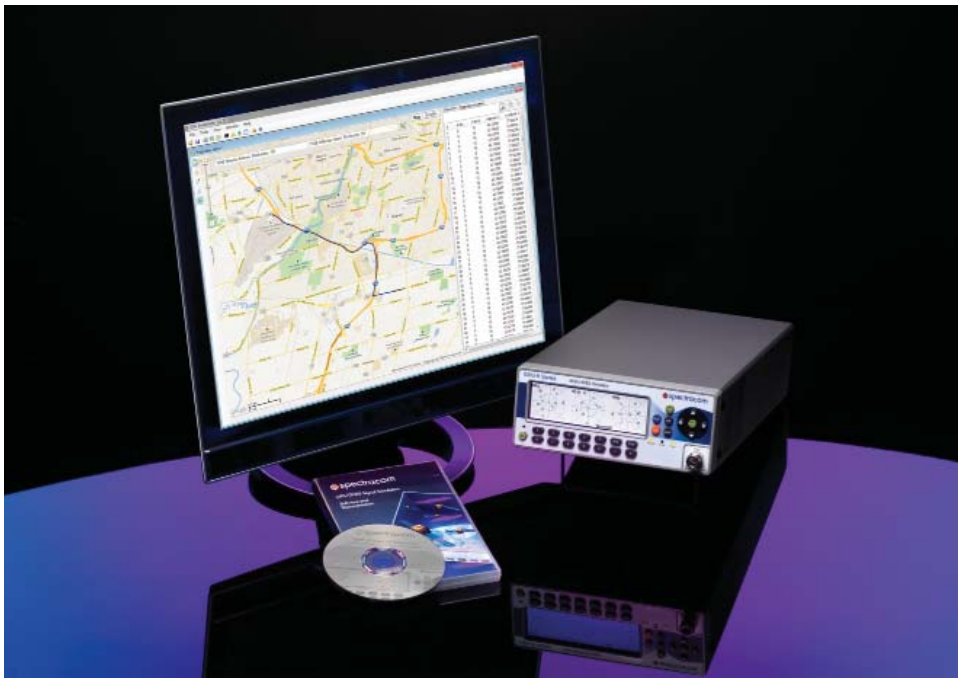
Assisted GNSS Option

A-GNSS Input and Output for GSG-6 Series GNSS Simulators

- **3GPP LTE Test Scenarios**
- **Accepts Almanac and RINEX Navigation files for GPS and GLONASS**
- **Generates YUMA Almanac for GPS**
- **Generates RINEX 3.x Navigation files for GPS, GLONASS, Galileo, and BeiDou**
- **Support for converting 3GPP GPS CSV data files to RINEX Navigation files**
- **Additive White Gaussian Noise**
- **Option includes GSG StudioView™ software**



The Assisted GNSS (AST™) option for the GSG-6 Series simulators supports the integration of the GSG into A-GNSS test systems as both a user of Almanac/Ephemeris data from the A-GNSS test system or as a generator of current simulated Almanac/Ephemeris data.

Interface

The AST option takes advantage of the SCPI protocol to allow test systems to provide the GSG YUMA Almanac files and RINEX Navigation files used for simulation. The SCPI interface or the HTTP Wget via the web server allows read access to generated YUMA and RINEX Navigation data while the simulation is running.

External A-GNSS Data Input

The AST option uses GSG StudioView™ to convert the 3GPP Navigation Model GPS CSV data file to a RINEX Navigation file for use by the GSG. Users can run the 3GPP tests using the Scenario files, YUMA Almanac file, RINEX Navigation file and optional Trajectory and Event files.

When acting as a client to the A-GNSS test system, the GSG utilizes YUMA Almanac and RINEX Navigation files to generate RF signals that are compatible with the assistance data provided to the Device-Under-Test (DUT). The A-GNSS test system can then perform acquisition tests under varying signal and simulated environmental conditions.

A-GNSS Data Output

The AST option can act as a source in the form of real-time scenario state, time, and assistance data via YUMA, and RINEX files during simulation.

The AST option generates RINEX 3.x Ephemeris data during the scenario execution. These RINEX files are accessible to the A-GNSS test system and represent the current simulated Ephemeris data. These RINEX 3.x files can be retrieved and used to create assistance data or to be downloaded directly to GNSS receivers to shorten their acquisition time.

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Specifications

- Input: YUMA, AGL, RINEX 2.x and RINEX 3.x compliant
- Output: YUMA and RINEX 3.x compliant (output RINEX files generated every 6 hours)

Interfaces

- LabView
- National Instruments VISA bus driver support o Ethernet, USB, GPIB (IEEE 488.2)
- SCPI commands and queries
- File system access via SCPI commands or HTTP Wget

Ordering Information

A license file is provided to enable this feature on a GSG-6 Series simulator. This license file is tied to the serial number and the option must be purchased for each simulator.

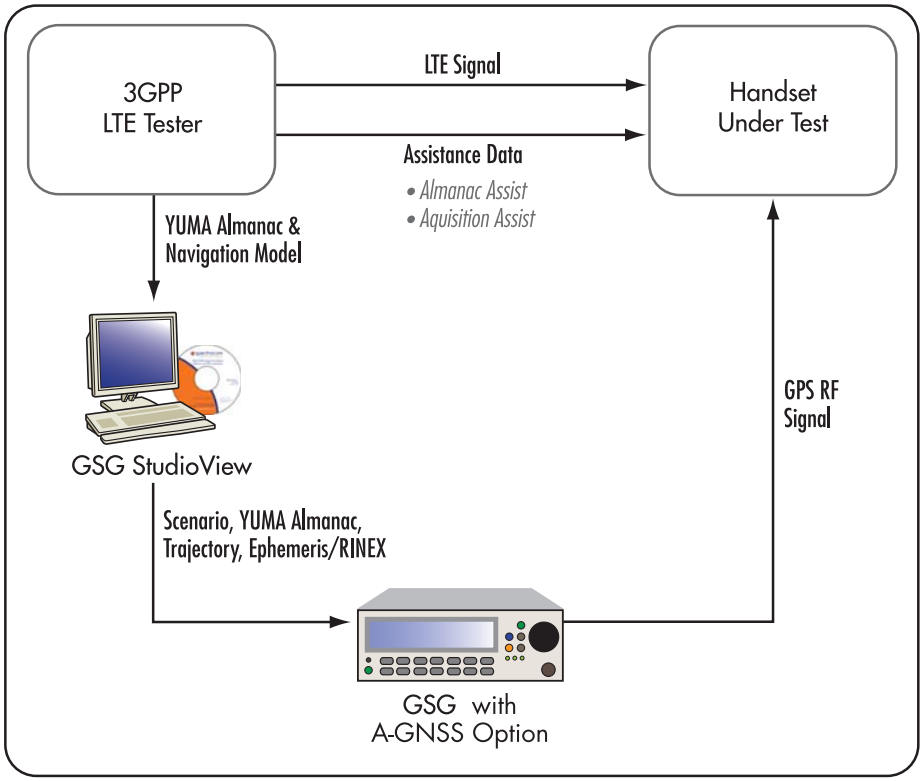

Figure 1: External A-GNSS Data Input

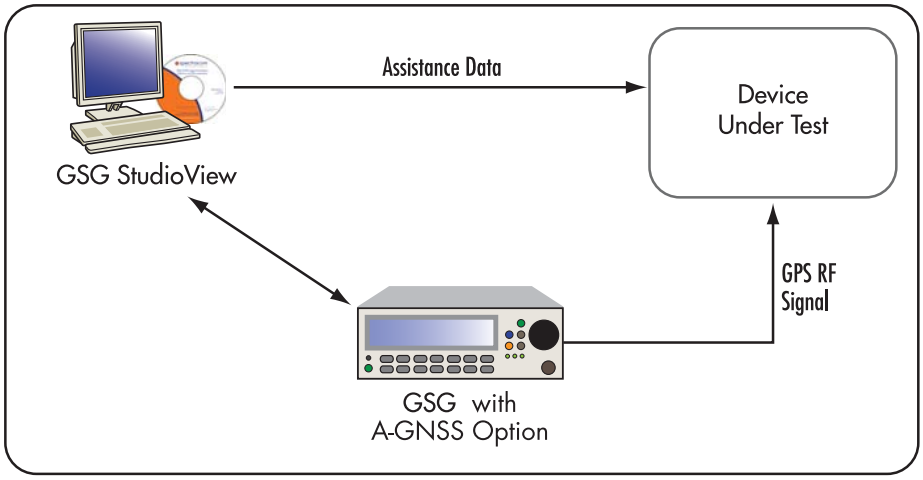

Figure 2: A-GNSS Data Output

March 4, 2014 - A-GNSS (B)
Specifications subject to change or improvement without notice.
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