



The Genos GNSS Simulator is a configurable GNSS signal emulator hardware/software solution.

Key Features and Benefits

- **Speed and Accuracy**
1 ms update means real-time dynamic satellite simulation.
- **Ensure Usability and Coverage**
Evaluate many GNSS receivers including GPS, GLOSSNAS, Galileo, and more...
- **Save time and money**
in development, testing, and product deployment - easily integrated into test environments and save testing travel expenses.
- **Build on existing maps** and logic structure using the Google Earth Interface.
- **Powerful and Flexible**
Control all satellite parameters including power levels and RF output signal levels.
- Perfect for evaluating the performance of many types of GNSS receivers
- **Fine control** of all satellite parameters including power levels and RF output signal levels
- **Slim Form Factor**
Huge functionality in a single rack space
- Industry-leading stability, quality and reliability

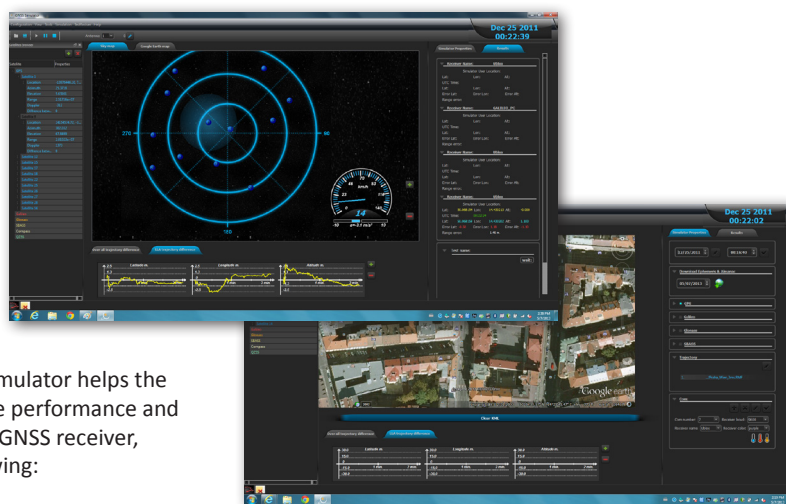
Frontline's Genos GNSS Satellite Simulator is a high-dynamics, flexible, Global Navigation Satellite Systems (GNSS) signal emulator that can be used for testing any product that incorporates satellite navigation functionality.

Genos can be configured to emulate up to 160 satellite signals that will be visible to a GNSS receiver in any location in the world, at any time in both past and future and along any trajectory, including unique high-dynamic trajectories, thanks to an extremely high update rate of every one millisecond.

Satellite Constellations in a Box

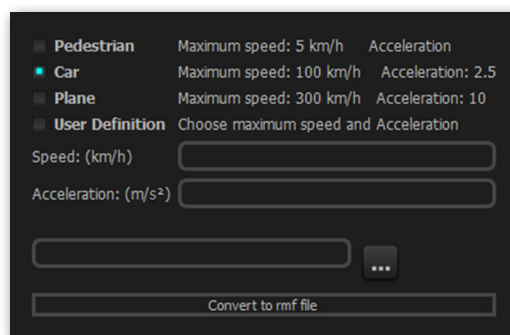
The flexibility and features of the Genos GNSS Simulator makes it ideal for product development, evaluation and testing environments. Genos can emulate the signals from one or more of the following satellite systems, as determined by the specific user license:

- GPS
- Galileo
- GLONASS
- COMPASS
- QAZZ
- SBAS
- WAAS
- EGNOS
- GAGAN



The Genos GNSS Simulator helps the user to evaluate the performance and characteristics of a GNSS receiver, including the following:

- **Time To First Fix (TTFF)**
Specifies the amount of time required for a GNSS receiver to acquire satellite signals and navigation data and then to calculate a position solution (also called a fix).
- **Acquisition Sensitivity**
Specifies the minimum signal level (dBm) at which a GNSS receiver can successfully execute a cold start TTFF within a specified timeframe.
- **Tracking Sensitivity**
Specifies the minimum signal level (dBm) at which a specific GNSS receiver can successfully maintain a location fix within a specified degree of accuracy.
- **Location Accuracy**
Specifies the deviation between the positioning information that Genos emulates and the receiver detects.



In addition to the above "out of the box" tests that you can run immediately, Genos provides you with scripting options for creating your own test configurations that start, stop, raise and lower attenuation and simulate the various dynamics indicative of cars, airplanes, pedestrians and other modes of transportation/movement. These customized test configurations can be defined using the Genos user interface or through a script file.

Hardware Specifications Signal Generator

- **Dimensions:**
45mm x 300mm x 450mm (1.8" x 12" x 18")
- **Weight:**
1.8kg (3 lbs 15 oz)
- **Operating Environment:**
+10 to +40°C (50 to 104°F) (40-90% RH, non-condensing)
- **Storage Environment:**
-40 to +60°C (-90 to 140°F) (20-90% RH, non-condensing)
- **Electrical Power:**
100-240V (4.0A) @ 48 to 66Hz
- **RF Port (Output):**
SMA coax female, 50 ohm, VSWR <1.2:1
AC coupled $\pm 50V$ DC, max Reverse RF 22dBm
- **External Frequency (Input):**
SMA coax socket, 50 ohm -5 to +10 dBm @ 10MHz
- **Internal Frequency (Output):**
SMA coax socket, 50 ohm 10MHz @ +10dBm nominal
- **Timer (Output):**
SMA coax socket, 50 ohm, TTL level compatible
Period selectable 10ms, 100ms or 1s (1PPS) Gated or un-gated to appear at start of run
- **Trigger (Input):**
SMA coax socket, 50 ohm, TTL level compatible
- **Ethernet:**
RJ-45 Ethernet interface standard

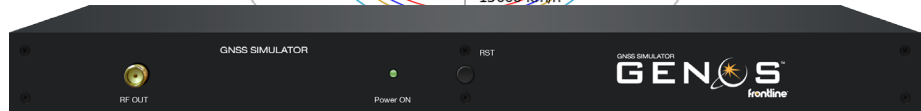
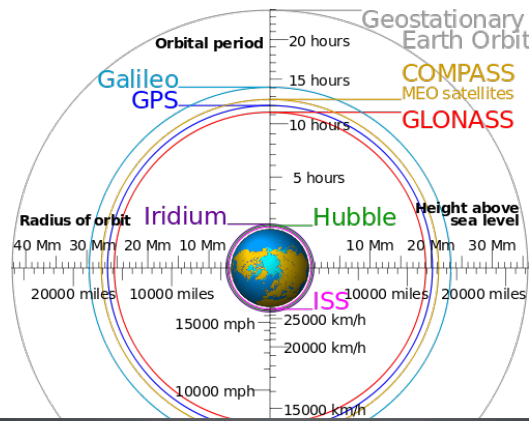
The product meets the following Safety and EMC standards:

EMC - EMC Directive 2004/108/EC

EN 61326-1:2006 Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements

Safety - Low Voltage Directive (LVD) 2006/95/EC

BS EN 60950-1:2006 Information technology equipment. Safety. General requirements



The Genos GNSS Satellite Simulator is comprised of a 1U Genos signal emulator and a Genos-dedicated PC that controls it. Both these devices come preinstalled and ready to plug-and-play. The following describes the components provided in the Genos GNSS Simulator package:

- Genos Simulator Device: 1U 19" satellite RF signal transmission device
- Genos-dedicated PC Computer: 1U 19" PC computer on which the Genos software is already installed
- Ethernet Cable: 1GbE Ethernet cable to connect between the Genos PC and the Genos Simulator device
- AC Cords: Two AC power cords one for the Genos PC and the other for the Genos Simulator
- RF Cable
- Passive antenna

Front Panel

The front of the Genos GNSS Simulator has the following features:

- **RF OUT Port:** Streams the emulated signal to receivers. This port can be connected directly to receivers via a standard RF cable. A splitter can be used in order to connect to two or three receivers. Future versions of the Genos signal emulator will enable the connection of an antenna that will transmit the emulated signal
- **Power On Indicator LED:** Indicates that the Genos firmware is properly loaded and operational.
- **Reset button**

Real Panel

The back of the GSN100 has the following features:

- **Ethernet Port:** Connects to the Genos PC via a Ethernet cable provided in the Genos GNSS Simulator package.
- **Clock OUT/IN (10MHz):** Enables the user to connect a chain of synchronized Genos Simulators to a single Genos PC.
- **Power Button**
- **Power Inlet:** Universal AC power (110-230)

To order or for more information:

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