SatGen

GNSS Simulator Software

CREATE artificial GNSS RF data
SIMULATE any dynamic, time or position
REPLAY GPS and or GLONASS RF data

SatGen v3 by **RACELOGIC** is the most cost effective **multi-constellation** Global Navigation Satellite System (GNSS) Simulation Software available.

If you are testing and developing GPS, GLONASS, Beidou receivers or applications, then you'll find **SatGen v3** makes your job easier, quicker and more effective.
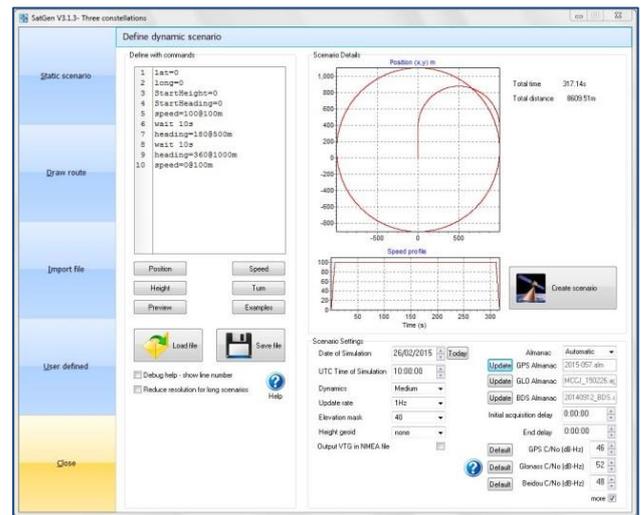
What is SatGen v3?

SatGen v3 is **RACELOGIC**'s GNSS scenario generation software which enables you to create a data file, based on a user-generated trajectory file that can be replayed on a **LabSat** GNSS Simulator. With **SatGen v3** you can generate a scenario to simulate a test anywhere in the world, with position, route, speed, date and time all defined by the user.

Why use SatGen v3 software?

You might be based in Europe, but your GPS devices will be deployed throughout the world. With **SatGen v3** you can create a test scenario based on a user-generated trajectory file for virtually any location, including hostile areas for which live-sky field testing might be impossible. This allows you to verify that your GPS equipment design performs as required, in a variety of locations that may be geographically remote from your facility.

Of course, **LabSat** can record and replay live data, but creating an artificial scenario allows you to precisely control the data content, and create a 'gold standard' file for carrying out true comparisons between receivers. From your bench you can try different acceleration levels, crossing different time zones, the equator, leap second roll-overs and many hard to replicate tests.

SatGen v3 Software User Interface

Choice of one software programme with three different variants to match your LabSat

SatGen v3 Multi Constellation 64 bit Simulation Software with one, two or three constellation scenario creation capabilities.

What constellation can I create?

RLLSSGSW03-1 **SatGen v3** Single Constellation
Create single constellation scenario files for GPS L1, GLONASS L1 or BeiDou B1.

RLLSSGSW03-2 **SatGen v3** Dual Constellation
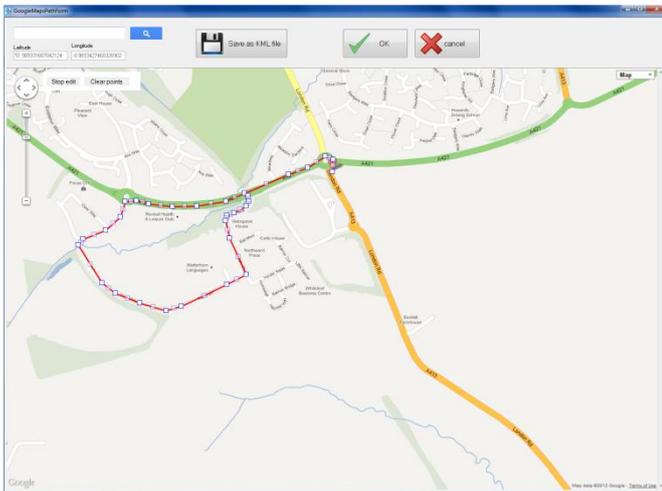Create Dual or single constellation scenario files for GPS L1, GLONASS L1 or BeiDou B1.

RLLSSGSW03-3 **SatGen v3** Triple Constellation
Create single, dual or triple constellation scenario files for GPS L1, GLONASS L1 or BeiDou B1.

How does it work?

Creating a scenario with **SatGen v3** is easy. A relatively complicated route can be defined in just a few clicks, leaving the software to automatically generate a fully realistic scenario. If you have an NMEA or KML file of your route, you can simply import this directly into the software. Alternatively you can create a scenario from scratch, either by creating a route in Google maps, or by building a unique trajectory using simple user defined commands with the **SatGen v3** software.

SatGen v3 Draw a Route Screen

Once the route and velocity profile have been defined, the software will use this data to create a **SatGen** scenario file which can be replayed on a **LabSat**, **LabSat 2** or **LabSat 3** simulator into a GNSS device under test (DUT). **LabSat** is able to play the scenario file with consistency and repeatability as part of a testing regime.

SatGen v3 scenario generation process

SatGen v3 software can also import data in a variety of formats including: Google Earth 'kml', **RACELOGIC VBOX** '.vbo' and User Defined profiles.

User defined command file feature allow for any dynamic, time or location to be defined. So for those complex trajectory or flight profiles then **SatGen v3** can easily create them. To make the process even easier a number of predefined examples are included: Acceleration, circle, square, figure of eight, airport take off, North Pole circle, South Pole circle, equator circle and circle around a set point. These examples can easily be modified to create more complex routines.

SatGen v3 Scenario Creation Diagram

SatGen v3 Technical Specifications

Constellation all variants	GPS/GLONASS/BeiDou[1]
Data Format	IF, IQ
Quantisation	1 bit, 2Bit
File Format	*.bin, *.ls2, *.ls3
File Size/Duration	Unlimited
Almanac File Format	*.ALM*.AGL
NMEA Input File Format	$GGA
Operating System	Win 7 64 bit, Win 8 64 bit

[1] BeiDou B1 special almanac included with BeiDou future satellites.

SatGen software is supplied by **RACELOGIC** Ltd., experts in the field of GPS Testing and Data Logging. Based in the UK with additional offices in Germany and the USA, **RACELOGIC** are an ISO 9001 company that supplies specialised GPS based test equipment to many well-known corporations, in over 90 countries around the world.