



GLONASS/GPS Signal Simulator

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Overview

The GLONASS / GPS signal simulator is designed to generate GPS and GLONASS navigation signals in the L1 band.

There are three configurations:

- Simulation up to 12 satellites GPS or GLONASS
- Simulation up to 12 satellites GPS or GLONASS real-time, 12 GPS and 12 GLONASS satellites simulation from pre-generated IQ file
- Simulation up to 12 satellites GPS and 12 GLONASS real-time

The software is developed in the LabVIEW graphical programming environment.

Features

- Generation with initial coordinates and initial velocity
- Trajectory generation of the script file
- The addition of amplitude modulation in the navigation signal pre-generated IQ file
- The possibility of constructing the motion path by setting the acceleration and jerk



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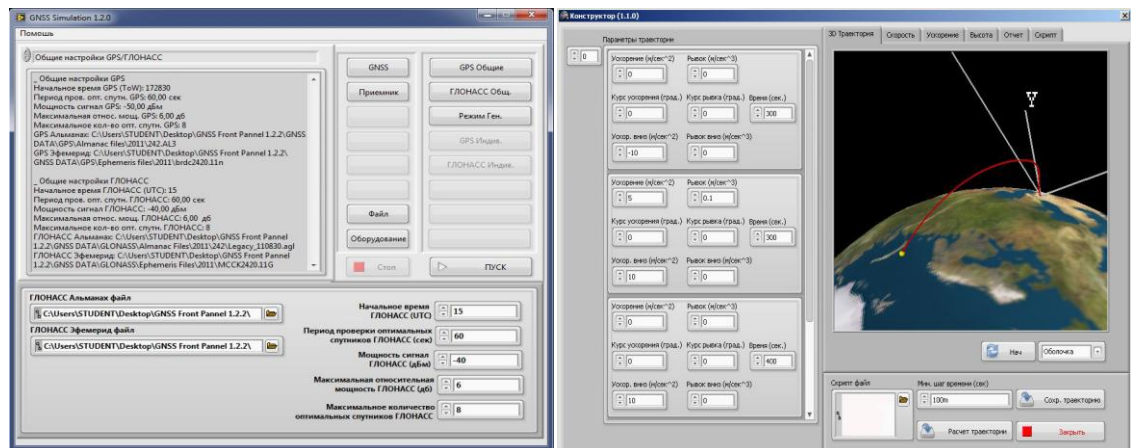
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Technical characteristics

1. Simulated navigation systems: **GPS / GLONASS L1** band
2. The number of simultaneously generated channels GLONASS: **12**
3. The number of simultaneously generated channels GPS: **12**
4. The accuracy of synchronization of the various navigation systems: **400 ppb**
5. Real-time generation of GLONASS satellite navigation signals in L1 band
6. Possibility of setting the navigation receiver paths by the user
7. The simulated speed up to **10 000 m/s** (tested)
8. Simulated height of **50 000 km** (tested)
9. The ability to create high-speed ballistic trajectories using integrated trajectory designer
10. Ability to define acceleration and jerk on different parts of the trajectory



Required hardware and software

	Hardware
1	Express Chassis
2	Express controller
3	Vector signal generator
4	Streaming Module
5	Timing Module
6	Attenuator
7	Adder
8	Receiver
9	Software

Page **2 of 2**

Rev. **0.1**