

GPSSIM14 – 14 Channel - L1, L2 C/A & P Code GPS Simulator

Hardware Description

An industrial style PC enclosure is used to house all the GPS simulator electronics consisting of a motherboard, a FPGA controller card, a RF assembly, a double-oven crystal oscillator and special power supplies. There are two power supplies, one for the standard PC electronics and one for the GPS simulator. The simulator unit itself weighs approximately 25 lbs.

Standard Hardware Configuration includes:

- **AC Power Cord, Keyboard, Mouse and LCD Display**
- **19 Inch Rack or Desk Top Installation**
- **Ethernet network connection standard**
- **Internal PCI card containing a reference GPS receiver**

Optional factory configurations include:

- **Remote Control Operation**
- **L2 P - Generates L1 and L2 channel signals with Priority code**
- **Dual RF outputs – Two isolated RF output connections on the front panel**
- **SCRAMNet Interface – Shared Common RAM Network**
- **Interactive Version (Closed Loop) – where real time or interactive interface is required, i.e., aircraft simulators, etc.**
- **Pseudolite – Ground Station**
- **ATE (Automatic Test Equipment)**
- **Automotive Card - Generates four individual wheel-ticks, gyro and forward/reverse plus accelerometer signals.**

Please contact us for a quote on any of the above options.

Figure 1 shows the GPSSIM14 with the top cover removed. Here it is possible to see some of the custom components such as the simulator control board and also the enclosed and tightly shielded RF assembly.

GPS Creations GPSS14 GPS Simulator Hardware and Software Configuration



Figure 1 – GPSSIM14 Shown With Top Cover Removed

Software Description

The GPSSIM14 GPS Simulator uses Windows® XP Operating System as the basic software platform. The GPS Simulator comes with all the unique software for running the GPS simulator and its device drivers loaded and tested. Several test scenarios are pre-loaded on the simulator. One software scenario permits running "real time" just the same as if receiving signals from the live satellites. Other scenarios supplied with the simulator provide samples of typical test routines which can be used "as is" or modified to meet other special requirements. It is also possible to generate scenarios from NMEA data collected from GPS receivers. Another software package is supplied to help in building your own new test scenarios.

The GPSSIM14 may be connected to a standard network using the internal Ethernet connection. Software for this connection is a standard Windows® configuration.

Please contact GPS Creations for questions on either hardware or software on the GPSSIM14.

GPS Creations GPSS14 GPS Simulator Hardware and Software Configuration

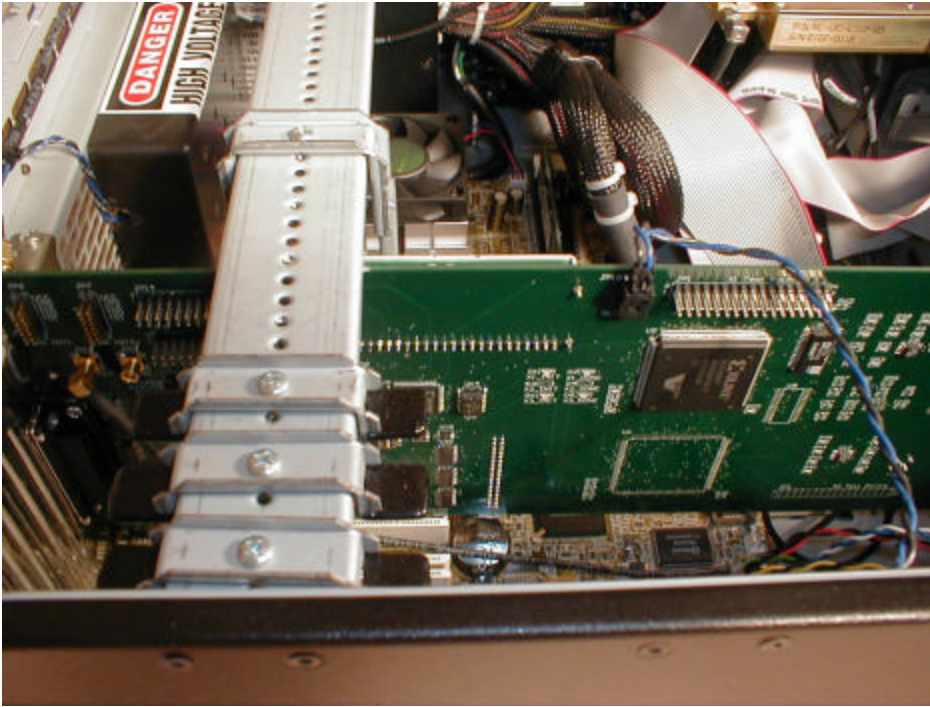


Figure 2 – FPGA Controller Board

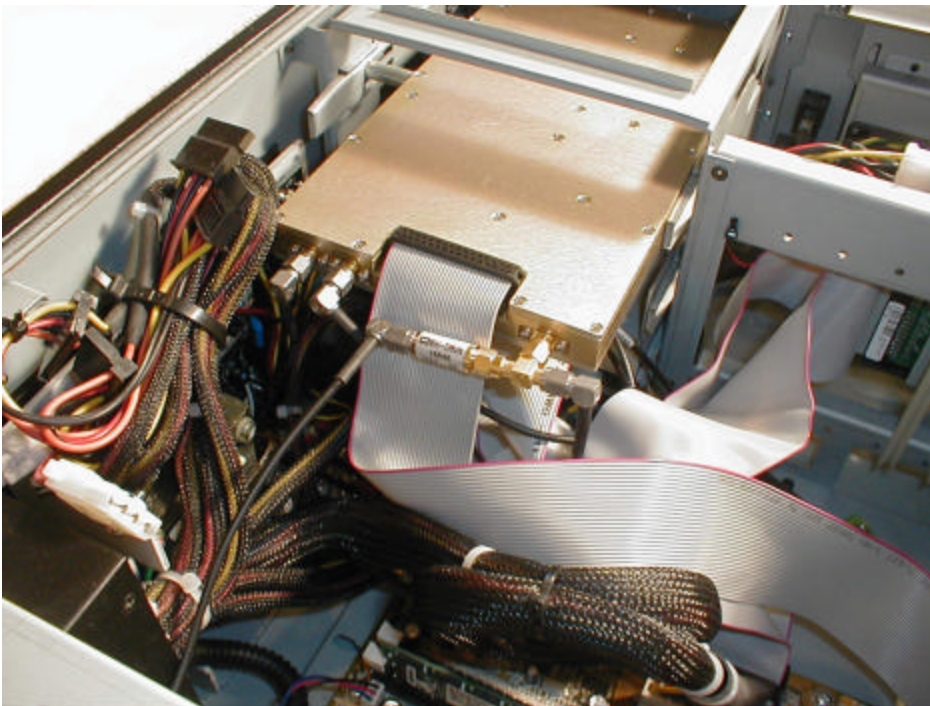


Figure 3 – View of the RF Generator