

GPS1000

OpenSource GPS Receiver

Introducing the GPS1000 OpenSource Receiver for educational, engineering, scientific and R&D applications.



Key Features

- Open Source Code
- Low Initial Investment
- Interface and Configuration Ease

Innovative Features

The all new GPS1000 OpenSource Receiver represents a new approach to GPS receiver design. It is a very different product from the vast majority of other GPS receivers on the market today. The GPS1000 allows the user to program the receivers' software to examine various functions, a feature not offered on most other commercial GPS receivers. The actual live (i.e., real-time) 50 b.p.s. data information transmitted by the satellites is available for examination and further analysis. You can see how all the satellites are synchronized together as the individual sub-frames are decoded. You can examine, even modify, the frequency and C/A code tracking loops!

Every serious student of GPS technology can learn from the GPS1000 OpenSource Receiver. The GPS1000 is chocked full of goodies for the enthusiast

wanting to gain a better understanding of how a GPS receiver works.

OpenSource Software

The GPS1000 Receiver is supplied with GPS OpenSource code. The software displays all 12 satellite channels, SV number, reception status, lat/lon/elev, sub-frame number, C/N, etc. And if there is something you don't have displayed that you would like to see - just change it in the C++ source and recompile the code to meet your requirements!

The GPS OpenSource code was written by Dr. Clifford Kelley. In addition to complete documentation on the source code, Dr. Kelley issues a certificate to purchasers of the

GPS1000 for software consultation, good for 12 months from the date of purchase should there be any questions about the GPS OpenSource code.

Applications

The GPS1000 OpenSource Receiver is ideal for a wide range of positioning applications including:

- Educational
- Engineering
- Scientific
- Research & Development



GPS Creations

GPS1000

OpenSource GPS Receiver

The GPS1000 OpenSource Receiver features a plug-in RF section called the GPSRF board. This smaller board contains two IC's, an RF chip and a GPS correlator chip. The GPSRF board has been designed to adapt to several different host board configurations. The GPSRF board is capable of being interfaced to single board computers (SBC's) or custom made host processors. Using the GPS1000 as an evaluation system will help the user gain a greater familiarity with GPS receiver design and become better equipped to utilize the GPSRF board in various applications.

What do you get? The GPS1000 OpenSource Receiver is supplied complete with the hardware and source code that makes all this possible (no kits or circuit boards to assemble). The RF section of the receiver is integrated into a PC ISA card (AT style) that installs in your PC. The PC runs the object



code you generate with the Borland C++ compiler GPS OpenSource code included with the system. And it is available at a fraction of the cost of most other educational GPS receivers!

STANDARD FEATURES

- PC based solution (Requires X486 or later, 100MHz)
- OpenSource code
- 12 parallel channels
- L1 band (1575.42MHz) operation
- C/A code (1.023MHz chip rate)
- Two serial ports implemented in hardware (not active in current version of OpenSource code)

PHYSICAL CHARACTERISTICS

Size:	203.2 x 121.9mm (PC ISA AT Card) (8.0 x 4.8 in.)
Weight:	170g (6 oz.)
Power Consumption:	250mA max @ 5 volts
Operating Temperature:	0° to 55° C

TECHNICAL SPECIFICATIONS

- RF Sensitivity: -135dBm for tracking
- TTF: <30 sec hot start (with current almanac, ephemeris, time and position)
<60 sec warm start (with current almanac, time and position)
<15m cold start (with current time and position)
- Accuracy:
Position: 25m 2dRMS without S/A
Timing: 1pps<500 Nanoseconds (1 Sigma) of GPS
- Antenna connector: SMA female (on the ISA Card)
- GPSRF plug-in board (can be used on future upgrades)
Consists of Zarlink GP2015 RF and GP2021 correlator IC's
- Warranty: One year parts and labor FOB Mission Viejo, CA
(Condition must be as original and unmodified)

ORDERING INFORMATION

ISA BUS OpenSource Receiver	Part Number - GPS1000
GPS Antenna Kit	Part Number - GPS1010



Visit us on the web at gpscreations.com for more information

GPS Creations
27231 Galvez Lane
Mission Viejo, CA 92691
Tel: 949-348-7652
www.gpscreations.com

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