

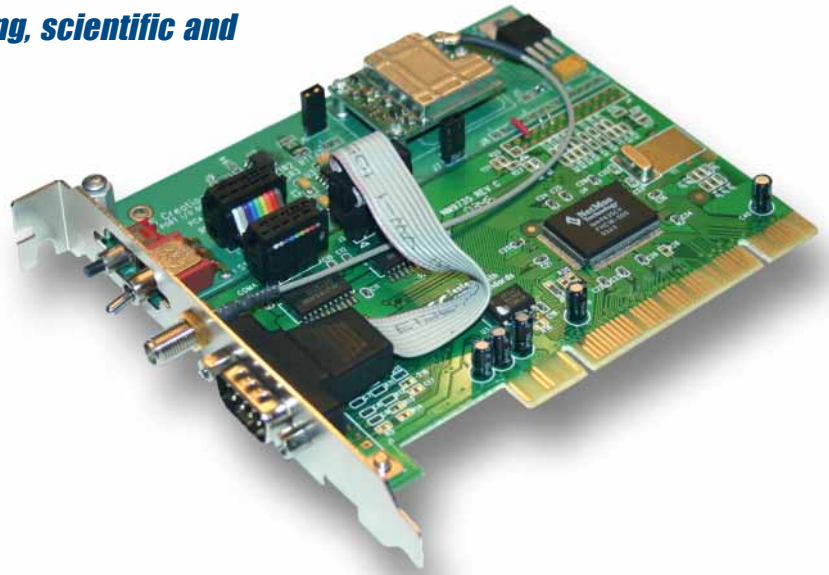
# GPS1200

## Real-Time or Post-Processing GPS Receiver

**Introducing the GPS1200 Receiver for educational, engineering, scientific and R&D applications.**

### Key Features

- Real-Time & Post Processing of Nav Solutions
- PCI Design PC/Mac Compatible
- 12 Parallel L1 C/A Channels
- Windows programming
- Interface and Configuration Ease



### Innovative Features

The all new GPS1200 receiver addresses the need for Real-time and/or Post-Processing GPS code development on current PC hardware technology using a PCI bus design. The GPS1200 receiver decodes and process signals from all visible satellites and provides raw data output permitting the user to develop custom GPS navigation and timing solutions. The raw data is available every second with sufficient time between each update for host processing to take place.

The actual real-time Pseudorange data information is available for examination and further analysis. The GPS1200 receiver automatically handles all Doppler and tracking loops, including Kalman filtering. The GPS1200 is an excellent and economical way to learn about developing GPS navigation solutions from the GPS receivers' raw data output.

### Hardware

The GPS1200 PCI bus card uses a Netmos 9835 Integrated Circuit to interface to the PC. The data from the GPS receiver is made available internal to the PC just the same as a standard serial I/O port (it is factory set to Com Port 3 @19.2KBPS, but it may be re-configured for other ports and data rates). The GPS1200 includes an external on/off switch for disabling the GPS receiver if needed as well as a momentary reset switch to reboot the GPS receiver independently from the computer. All communications and timing signals to/from the GPS receiver is by way of the serial communications port.

### Software

The GPS1200 Receiver is supplied with portions of the GPS OpenSource code (naviga-

tion solution). The software processes all 12 satellite channels simultaneously. A sample post-processing program is included, fully documented, and ready to use. The post-processing example may be used as a guide for development of a more sophisticated real-time navigation solution.

### Applications

The GPS1200 Receiver is ideal for a wide range of GPS applications including:

- Educational
- Engineering
- Scientific
- Research & Development
- Testing & Manufacturing



# GPS1200

## Real-Time and/or Post-Processing GPS Receiver

The GPS1200 Receiver features a modified version of a popular commercially available plug-in GPS receiver installed on a PCI computer bus card. The GPS receiver is composed of two custom SiRF devices. These two custom chips, together with a flash memory IC and a few other components, form a complete GPS receiver. The output of the receiver is raw data which may be used to develop custom GPS navigation and timing solutions.

What do you get? The GPS1200 Receiver is supplied complete with hardware and example source code to do post-processing of raw data. A sample executable program, ready to run, is also included. The sample source code has been developed using MicroSoft C++ version 6.0 (MicroSoft C++ compiler not

included). It is up to the user to supply whatever source code compiler is desired for further code development efforts. All information, examples, programs, documentation, PCI bus drivers, etc. is included on a CD shipped with each GPS1200.

The GPS1200 may be software commanded to output standard NMEA-0183 messages. In the NMEA configuration, all processing of GPS navigation solutions is accomplished by the GPS receiver and the data is available on the serial I/O port of the GPS1200. NOTE: It is not possible for the GPS1200 to provide raw data at the same time that it is configured for NMEA protocol.

### STANDARD FEATURES

- PC based solution (PCI bus driver requires Windows 98 or later)
- Nav solution is OpenSource code
- 12 parallel channels
- L1 band (1575.42MHz) operation
- C/A code (1.023MHz chip rate)
- 1PPS output synchronized to GPS
- Real time NMEA output available through software commands

### PHYSICAL CHARACTERISTICS

**Size:** 120 x 101mm (PCI Card)  
(4.725 x 3.95 in.)

**Weight:** 114g (4 oz.)

**Power Consumption:** 200mA max @ 5 volts

**Operating Temperature:** -20° to 75° C

### TECHNICAL SPECIFICATIONS

- RF Sensitivity: -150 dBm for tracking
- TTFF: <25 sec hot start (with current almanac, ephemeris, time and position)  
<45 sec warm start (with current almanac, time and position)  
<2m cold start (with current time and position)
- Accuracy:  
Position: 5m 2dRMS without S/A  
Timing: 1pps<250 Nanoseconds (1 Sigma) of GPS
- Antenna connector: SMA female (on the PCI Card Bracket)
- Current limiting (50 mA) voltage feed to GPS antenna (+5 volt)
- Warranty: One year parts and labor FOB Mission Viejo, CA (Condition must be as original and unmodified)

### ORDERING INFORMATION

PCI BUS GPS Receiver  
GPS Antenna Kit

Part Number - GPS1200  
Part Number - GPS1010

Visit us on the web at [gpscreations.com](http://gpscreations.com) for more information



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