

## SR1640

### PCI GPS Board

#### FUNCTIONS

##### GPS input

**3 outputs : 2x1PPS, 1x1MHz**  
**Time accuracy : 1 ms regarding UT**  
**Windows DLL and Linux driver**

The SR1640 board provides high accuracy timing operations using a highly integrated GPS receiver.

( $\pm 1 \mu\text{s}$  accuracy for UTC)

If the GPS signal is lost, the board continues the time generation using its own embedded oscillator in « Free-running » mode.

20 MHz  $\pm$  10 ppm, oscillator.

The board is compliant with PCI 33 MHz, 5V standard, with "Target" type interface.

The board also provides a 1 PPS GPS, local 1 PPS (in phase with the 1 PPS GPS signal) and 1 MHz signal. Outputs are compliant with RS422 standard.

A dating input allows tagging external signal's transitions. Input is compliant with TTL or RS422.

The board can provide 1 interruption at each second (masking mode allowed)

Information's regarding : Time, Localisation, and Board status are available through PCI bus using a Windows DLL or Linux driver provided with the board.

The front face of the board holds the connectors :

- SMB for GPS antenna input
- SubD 9 pins for 1 PPS signal outputs





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### SPECIFICATIONS

#### Miscellaneous

1PPS GPS output : RS422 level, 200 ms duration.  
1 PPS Local output : RS422 level, 200 ms duration. Ascending front synchronous with 1 PPS GPS.  
1 PPS accuracy :  $\pm 100$  ns / UTC when the receiver is in Hold mode.

#### GPS

GPS, 12 satellites, L1 C/A code  
Different antennas and cables available on request  
1 PPS GPS accuracy :  $\pm 100$  ns (Hold Mode, time receiver)  
Horizontal position accuracy :  $< 8$  m (90%)  
Altitude accuracy :  $< 16$  m (90%)  
Dynamic : speed 515 m/s, altitude : 18 Km, acceleration: 4G

#### Software

Windows NT, 2000, XP (DLL) and Linux driver  
The board provides time to the application software with an accuracy of  $1 \mu\text{s}$ , as well as a status word to check the time validity.  
Time could be read « in flight » and several applications must reach the board simultaneously.

#### Environment

Standard PCI « short card » format  
Operating Temperature:  $-40^{\circ}\text{C}/+70^{\circ}\text{C}$

#### Order Reference

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