

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



SR1640

PCI GPS Board

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 : ± 100 ns / UTC when the receiver is in Hold mode.

GPS

GPS, 12 satellites, L1 C/A code
Active antenna with 6m cable
1 PPS GPS accuracy : ± 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 μ 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

SR1640