Meinberg Radio Clocks
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GPS169PCI: GPS Clock for Computers (PCI/PCI-X Bus)

Synchronisation of computers and networks

The board GPS169PCI has been designed to synchronise the system time of computers with PCI/PCI-X bus interface.

The **Windows** driver package includes a time synchronization service which runs in the background and adjusts the Windows system time continuously and invisibly. This package also includes a monitor program to enable the user to check the status of the device and time adjustment service. If the monitor program is run with administrator rights, it can also be used to modify configurable parameters.

The **Linux** and **FreeBSD** driver packages include a kernel driver which allows the product to be used as a reference time source for the NTP daemon included in most Unix-like operating systems. This also allows the computer to be used as an NTP time server to provide accurate time to NTP clients on the network. Some command line tools can be used to modify configurable parameters and monitor the status of the clock in use.

Please contact Meinberg's Support Team for more information on using the card with other operating systems: [1]techsupport@meinberg.de.

The device's serial port is not required for operation but can be used to update the card's firmware, or to provide another computer with the current time via a serial time string.

Important Note

This product is no longer available and may have been replaced by a newer product. We will, of course, continue to provide support for units that have already been purchased and are still in use. Please contact our [2]Sales Department for further details.

This product has been discontinued and has been replaced with: [3]

Key Features

- PCI LOCAL BUS interface, 3.3V or 5V, 33MHz or 66MHz, PCI-X compatible
- 2 time trigger inputs
- Pulses per second and per minute
- Periodic interrupts
- RS-232 interface
- NEW: IRIG-B/AFNOR timecode outputs

- Plug and Play
- DCF77-simulation
- Included GPSANTv2 antenna uses downconverter technology to enable long transmission routes of up to 1100 m (1200 yards)
- DC-insulated antenna circuit
- Driver software for all popular operating systems
- Flash-EPROM with bootstrap loader
- Including GPS antenna, 20m standard cable and manual on USB key

Characteristics

Receiver Type	6 channel GPS C/A-code receiver
Status Indicators	Fail-LED shows that the internal timing has not been synchronized or that a system error occurred Lock-LED shows that the calculation of the position has been achieved after reset
Type of Antenna	Included [4]GPSANTv2 antenna with innovative downconverter technology that allows transmission routes of up to 300 m using RG58 cable, 700 m using RG213 cable, and 1100 m using H2010 Ultraflex cable
Synchronization Time	Max. 1 minute in normal operating conditions Max. 25 minutes (average 12 minutes) upon first initialization or in the absence of saved satellite data
Frequency Outputs	Frequency output 10 MHz, TTL level
Pulse Outputs	Pulse per second (TTL, RS232 level) and pulse per minute (TTL), pulse duration: 200 msec DCF77 compatible pulses (TTL level), pulse width: 100/200 msec
Accuracy of Pulse Outputs	< ± 250ns
Interface	Single serial RS-232 interface
Serial Time String Output	Baudrate: 300, 600, 1200, 2400, 4800, 9600, 19200 Baud data format: 7N2, 7E1, 7E2, 8E1, 8N1, 8N2 Time telegram: [5]Meinberg Standard-Telegram, SAT, Uni Erlangen (NTP), SPA, NMEA0183 (RMC) or [6]capture-telegramm
PWM Time Code Output	DCLS, TTL into 50 ohm (active high or active low)
AM Time Code Output	IRIG AM sine wave signal: 3Vpp (MARK), 1Vpp (SPACE) into 50 ohm
Supported Timecode Formats	**IRIG B002:** 100pps, DCLS signal, no carrier, BCD time of year **IRIG B122:** 100pps, AM sine wave signal, 1 kHz carrier, BCD time of year **IRIG B003:** 100pps, DCLS signal, no carrier, BCD time of year, SBS time of day **IRIG B123:** 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, SBS time of day **IEEE1344:** Code according to IEEE1344-1995, 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, SBS time of day, IEEE1344 expansion for date, time zone, daylight saving and leap second in Control Funktions Segment **AFNOR:** Code according to NFS-87500, 100pps, AM sine wave signal, 1kHz carrier, BCD time of year, complete date, SBS time of day

Time-Trigger inputs	Resolution: 100 nsec, triggered by falling TTL slope Time of trigger event readable via computer slot or optional second RS232-interface
Electrical Connectors	BNC female connector for antenna BNC female connector for modulated timecode 9 pin sub D male connector
Backup Battery Type	When main power supply fails, hardware clock runs free on quartz basis, almanac data is stored in RAM Life time of lithium battery min. 10 years
Operating Voltage	+5V, ca. 400mA +12V, ca. 170mA
Board type	PCI card short
Supported Temperature	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
Supported Humidity	Max. 85 % (non-condensing) at 40 °C
Options	Additional RS232 interface

Manual

The English manual is available as a PDF file: [7]Download (PDF)

Links:

[1] https://www.meinbergglobal.com/english/products/

[2] mailto:sales@meinberg.de

[3] https://www.meinbergglobal.com/english/products/gps180pex.htm

[4] https://www.meinbergglobal.com/english/products/gps-antenna-converter.htm

[5] https://www.meinbergglobal.com/english/products/specs/timestr.htm

[6] https://www.meinbergglobal.com/english/specs/capstr.htm

[7] https://www.meinbergglobal.com/download/docs/manuals/english/gps169pci.pdf