



## Meinberg Radio Clocks

Lange Wand 9  
31812 Bad Pyrmont, Germany  
Phone: +49 (5281) 9309-0  
Fax: +49 (5281) 9309-30  
<https://www.meinbergglobal.com>  
[info@meinberg.de](mailto:info@meinberg.de)

## TCR510PCI: IRIG Time Code Receiver for Computers (PCI/PCI-X bus)

Reception of IRIG-A/B or AFNOR time codes for synchronisation of computers and networks

### 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This product is no longer available and may have been replaced by a newer product.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 [1][Sales Department](#) for further details.

This product has been discontinued and has been replaced with: [2]

### Key Features

- PCI LOCAL BUS interface, 3.3V or 5V, 33MHz or 66MHz, PCI-X compatible
- Plug and play
- Periodic interrupts
- RS-232 interface
- Status LEDs
- Reception of time code formats IRIG A/B or AFNOR
- Configurable time zone
- Driver software for all popular operating systems

## Description

The board TCR510PCI has been designed to receive different IRIG-A/B and AFNOR codes. The decoded date and time can be read via the PCI/PCI-X bus interface and is also transmitted via the board's RS-232 port. The receiver's automatic gain control (AGC) allows the reception of modulated IRIG signals within an amplitude range from 600mVpp to 8Vpp. In addition, the TCR510PCI provides an optocoupler input for decoding unmodulated codes with TTL- or RS485-level for example. A buffered real time clock keeps time and date after power down.

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: [techsupport@meinberg.de](mailto: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.

## Characteristics

<b>Status Indicators</b>	3 status LEDs for indication of: detection of a correct code, synchronisation of the internal timing and holdover mode
<b>Input signal</b>	Modulated IRIG A/B or AFNOR signal, input insulated by transformer, input impedance 600 ohm (optional 50 ohm) unmodulated (DC level shift) IRIG A/B signal, input insulated by photocoupler
<b>Accuracy free run</b>	$\pm 1 \cdot 10^{-6}$ if the decoder was synchronous for at least 1 h
<b>IRIG Time Code Input</b>	IRIG-A133, A132, A003, A002, B123, B122, B003, B002 and AFNOR NFS 87-500 (other codes on request)
<b>Pulse Outputs</b>	Pulses per second (RS232/TTL level) and per minute (TTL level), pulse duration 200 msec
<b>Precision of timebase</b>	$\pm 5 \mu\text{sec}$ referred to IRIG-reference marker
<b>Interface</b>	Single serial RS-232 interface
<b>Serial Time String Output</b>	Baudrate: 300, 600, 1200, 2400, 4800, 9600, 19200, 38400 baud Framing: 7E2, 8N1, 8E1, 8N2 Output string: 32 ASCII characters with date, time and status information

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<b>Statusbyte</b>	Information about holdover mode, synchronisation since last reset and the validity of the RTC data.
<b>Electrical Connectors</b>	9 pin sub D male connector BNC female connector
<b>Computer interface</b>	33MHz- or 66MHz-PCI BUS (PCI-X) 32 Bit/3.3V or 5V card slot
<b>Backup Battery Type</b>	When main power supply fails, hardware clock runs free on quartz basis, life time of lithium battery min. 10 years
<b>Board type</b>	PCI card short
<b>Supported Temperature</b>	Operational: 0 - 50 °C (32 - 122 °F) Storage: -20 - 70 °C (-4 - 158 °F)
<b>Supported Humidity</b>	Max. 85 % (non-condensing) at 40 °C
<b>RoHS Status of Product</b>	This product is fully RoHS-compliant.
<b>WEEE Status of Product</b>	This product is handled as a B2B (Business to Business) category product. To ensure that the product is disposed of in a WEEE-compliant fashion, it can be returned to the manufacturer. Any transportation expenses for returning this product (at end-of-life) must be covered by the end user, while Meinberg will bear the costs for the waste disposal itself.

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#### Manual

The English manual is available as a PDF file: [3][Download \(PDF\)](#)

#### Links:

[1] <mailto:sales@meinberg.de>

[2] <https://www.meinbergglobal.com/english/products/tcr180pex-el.htm>

[3] <https://www.meinbergglobal.com/download/docs/manuals/english/tcr510pci.pdf>