



## Meinberg Radio Clocks

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## TCR51USB: IRIG Time Code Reader for the Universal Serial Bus (USB)

The TCR51USB is a Timecode Reader with USB interface in a compact plastic housing. This device is a perfect alternative for synchronizing computer systems or checking the output of an IRIG generator when no PCI slot or serial port is available. It supports both IRIG AM and DCLS signal types and decodes a number of different time codes.

### Key Features

- Universal Serial Bus (USB)
- Receiver status LEDs
- Buffered hardware clock
- **NEW:** Optional PPS output available
- Powered by USB (no extra power supply required)
- Connectors for IRIG AM and IRIG DCLS
- Plastic Case
- 2 years warranty

## Description

The TCR51USB shows the LOCK/HOLDOVER status via an integrated LED and uses a buffered real time clock to maintain the time while powered off. There is no power supply required, it is powered by the Universal Serial Bus.

The TCR51USB provides a professional solution to your time synchronization requirements in mobile applications like field data acquisition with a laptop/notebook and can be deployed whenever you need to synchronize a standalone PC, laptop or server when no PCI or serial port is available.

With this device a technician can check the quality and validity of an IRIG signal in the field, due to the compact package and simple cabling (only one USB connection for both power and data is required).

The TCR51USB can be ordered with an additional PPS output option (either TTL or RS232 level).

The drivers package for **Windows** contains a time adjustment service which runs in the background and adjusts the Windows system time continuously and smoothly. A monitor program is also included which lets the user check the status of the device and the time adjustment service, and can be used to modify configurable parameters.

The driver package for **Linux** contains a kernel driver which allows the board to be used as a reference time source for the NTP daemon which is shipped with most Linux distributions. This also turns the computer into a NTP time server which can also provide accurate time to other NTP clients on the network. Some command line tools can be used to setup configurable parameters and monitor the status of the board.

The Meinberg Single-Driver-Concept simplifies driver installation dramatically - there is only one driver who supports all Meinberg PCI and USB devices and if you use our free API to access your Meinberg timing device from within your own applications, you can use the same source code for both PCI and USB devices.

## Characteristics

<b>Type of receiver</b>	Integrated IRIG time code reader, supports modulated (AM) and unmodulated (DCLS) IRIG signals
<b>Synchronization time</b>	Two to three minutes after connecting an IRIG source
<b>Physical dimensions</b>	73mm x 117mm x 24mm (L x W x H)
<b>Antenna connector</b>	SMB-Subminiature-coaxial-connector
<b>Current consumption</b>	40mA
<b>Ambient temperature</b>	0 ... 50°C / 32 ... 122°F
<b>Humidity</b>	Max. 85%
<b>Scope of supply</b>	Timecode Reader, 3 m USB cable
<b>RoHS-Status of the product</b>	This product is fully RoHS compliant
<b>WEEE status of the product</b>	This product is handled as a B2B category product. In order to secure a WEEE compliant waste disposal it has to be returned to the manufacturer. Any transportation expenses for returning this product (at its end of life) have to be incurred by the end user, whereas Meinberg will bear the costs for the waste disposal itself.

**Manual**

The english manual is available as a PDF file: [1][Download \(PDF\)](#)

**Links:**

[1] <http://www.meinberg.de/download/docs/manuals/english/tcr51usb.pdf>



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## DCF600USB: DCF77 Radio Clock for the Universal Serial Bus (USB)

The DCF600USB is a DCF77 Radio Clock for USB in compact plastic housing with an integrated DCF77 antenna, an (optional) external antenna can be connected to compensate degraded reception quality. This device is a perfect alternative for synchronizing computer systems where no PCI slot or serial port is available for time synchronization.

### Key Features

- USB 2.0 (Universal Serial Bus), 5V
- Receiver status LEDs
- Buffered hardware clock
- Powered by USB (no extra power supply required)
- Connector for external DCF77 antenna
- Plastic Case
- 2 years warranty

## Description

The DCF600USB shows the reception quality via its status LED and uses a buffered real time clock to maintain the time while powered off. There is no power supply required, it is powered by the Universal Serial Bus.

The DCF600USB provides a professional solution to your time synchronization requirements in mobile applications like field data acquisition with a laptop/notebook and can be deployed whenever you need to synchronize a standalone PC, laptop or server when no PCI or serial port is available.

The drivers package for **Windows** contains a time adjustment service which runs in the background and adjusts the Windows system time continuously and smoothly. A monitor program is also included which lets the user check the status of the device and the time adjustment service, and can be used to modify configurable parameters.

The driver package for **Linux** contains a kernel driver which allows the board to be used as a reference time source for the NTP daemon which is shipped with most Linux distributions. This also turns the computer into a NTP time server which can also provide accurate time to other NTP clients on the network. Some command line tools can be used to setup configurable parameters and monitor the status of the board.

The Meinberg Single-Driver-Concept simplifies driver installation dramatically - there is only one driver who supports all Meinberg PCI and USB devices and if you use our free API to access your Meinberg timing device from within your own applications, you can use the same source code for both PCI and USB devices.

## Characteristics

<b>Type of receiver</b>	Narrowband straight receiver with automatic gain control, Bandwidth: approx. 40Hz
<b>Accuracy</b>	< +/-5 ms to UTC
<b>Synchronization time</b>	2-3 minutes after correct DCF77 signal reception
<b>Physical dimensions</b>	73mm x 117mm x 24mm (L x W x H)
<b>Antenna connector</b>	SMB-Subminiature-coaxial-connector
<b>Current consumption</b>	90mA
<b>Ambient temperature</b>	0 ... 50°C / 32 ... 122°F
<b>Humidity</b>	Max. 85%
<b>Scope of supply</b>	Radio Clock, 3 m USB cable
<b>RoHS-Status of the product</b>	This product is fully RoHS compliant
<b>WEEE status of the product</b>	This product is handled as a B2B category product. In order to secure a WEEE compliant waste disposal it has to be returned to the manufacturer. Any transportation expenses for returning this product (at its end of life) have to be incurred by the end user, whereas Meinberg will bear the costs for the waste disposal itself.

**Manual**

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[1] <http://www.meinberg.de/download/docs/manuals/english/dcf600usb.pdf>



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## MSF600USB: MSF Radio Clock for the Universal Serial Bus (USB)

The MSF600USB is a MSF Radio Clock for USB in a compact plastic housing with an integrated MSF antenna, an (optional) external antenna can be connected to compensate degraded reception quality. This device is a perfect alternative for synchronizing computer systems where no PCI slot or serial port is available for time synchronization.

### Key Features

- USB 2.0 (Universal Serial Bus), 5V
- Receiver status LEDs
- Buffered hardware clock
- Powered by USB (no extra power supply required)
- Connector for external MSF antenna
- Plastic Case
- 2 years warranty

## Description

The MSF600USB shows the reception quality via its status LED and uses a buffered real time clock to maintain the time while powered off. There is no power supply required, it is powered by the Universal Serial Bus.

The MSF600USB provides a professional solution to your time synchronization requirements in mobile applications like field data acquisition with a laptop/notebook and can be deployed whenever you need to synchronize a standalone PC, laptop or server when no PCI or serial port is available.

The drivers package for **Windows** contains a time adjustment service which runs in the background and adjusts the Windows system time continuously and smoothly. A monitor program is also included which lets the user check the status of the device and the time adjustment service, and can be used to modify configurable parameters.

The driver package for **Linux** contains a kernel driver which allows the board to be used as a reference time source for the NTP daemon which is shipped with most Linux distributions. This also turns the computer into a NTP time server which can also provide accurate time to other NTP clients on the network. Some command line tools can be used to setup configurable parameters and monitor the status of the board.

The Meinberg Single-Driver-Concept simplifies driver installation dramatically - there is only one driver who supports all Meinberg PCI and USB devices and if you use our API to access your Meinberg timing device from within your own applications, you can use the same source code for both PCI and USB devices.

## Characteristics

<b>Type of receiver</b>	Integrated MSF long wave radio receiver 60kHz ([1] <a href="#">MSF website</a> )
<b>Synchronization time</b>	2-3 minutes after signal reception has been established
<b>Physical dimensions</b>	73mm x 117mm x 24mm (L x W x H)
<b>Antenna connector</b>	SMB-Subminiature-coaxial-connector
<b>Current consumption</b>	90mA
<b>Ambient temperature</b>	0 ... 50°C / 32 ... 122°F
<b>Humidity</b>	Max. 85%
<b>Scope of supply</b>	Radio Clock, 3 m USB cable
<b>RoHS-Status of the product</b>	This product is fully RoHS compliant
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### Manual

The english manual is available as a PDF file: [2][Download \(PDF\)](#)



**Links:**

[1] <http://www.npl.co.uk/time/msf/>

[2] <http://www.meinberg.de/download/docs/manuals/english/msf600usb.pdf>



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## WVB600USB: WWVB Radio Clock for the Universal Serial Bus (USB)

The WVB600USB is a Radio Clock that receives the WWVB long wave time signal and synchronizes a PC or laptop using a USB connection. The compact plastic housing includes an integrated antenna, an external antenna can be connected as an option to improve reception quality in noisy environments.

This device is a perfect alternative for synchronizing computer systems where no PCI slot or serial port is available for time synchronization.

### Key Features

- USB 2.0 (Universal Serial Bus), 5V
- Receiver status LEDs
- Buffered hardware clock
- Powered by USB (no extra power supply required)
- Connector for an external antenna
- Plastic Case
- 2 years warranty

## Description

The WVB600USB shows the reception quality via its status LED and uses a buffered real time clock to maintain the time while powered off. There is no power supply required, the radio clock is powered by the Universal Serial Bus.

This USB clock offers a professional solution for your time synchronization requirements in mobile applications like field data acquisition with a laptop/notebook. It can be deployed whenever you need to synchronize a standalone PC, laptop or server with the WWVB time signal broadcasted by the U.S. National Institute for Standards and Technology (NIST).

The drivers package for **Windows** contains a time adjustment service which runs in the background and adjusts the Windows system time continuously and smoothly. A monitor program is also included which lets the user check the status of the device and the time adjustment service, and can be used to modify configurable parameters.

The driver package for **Linux** contains a kernel driver which allows the board to be used as a reference time source for the NTP daemon which is shipped with most Linux distributions. This also turns the computer into a NTP time server which can also provide accurate time to other NTP clients on the network. Some command line tools can be used to setup configurable parameters and monitor the status of the board.

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## Characteristics

<b>Type of receiver</b>	Integrated WWVB long wave radio receiver 60kHz ( <a href="#">[1] WWVB website</a> )
<b>Accuracy</b>	< +/-5 ms to UTC
<b>Synchronization time</b>	2-3 minutes after signal reception has been established
<b>Physical dimensions</b>	73mm x 117mm x 24mm (L x W x H)
<b>Antenna connector</b>	SMB-Subminiature-coaxial-connector
<b>Current consumption</b>	90mA
<b>Ambient temperature</b>	0 ... 50°C / 32 ... 122°F
<b>Humidity</b>	Max. 85%
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**Links:**

[1] <http://www.meinberg.dehttp://tf.nist.gov/stations/wwvb.htm>

[2] <http://www.meinberg.de/download/docs/manuals/english/wwb600usb.pdf>