



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

IMS-PZF: PZF (DCF77) Correlation Receiver (Eurocard)

This product is only compatible with Meinberg's line of modular **IMS LANTIME** systems.
Visit the [1][IMS Information Page](#) to learn more.

High accuracy DCF77 correlation receiver for generation of standard frequencies and pulses.

Key Features

- High accuracy DCF77 correlation receiver for generation of standard frequencies and pulses Oscillator Options: OCXO-SQ, OCXO-MQ, OCXO-HQ
- Pulses per second and per minute
- RS-232 interface

Description

By evaluating the pseudo-random sequence (PZF), which is part of the DCF77 signal in addition to the amplitude modulation, the PZF clock is capable to reproduce a time pattern in the range of microseconds. This allows generation of high precision pulses and an accurate adjustment of the main oscillator of the system.

Besides various standard frequencies, the board provides a programmable frequency output. Additional features of IMS-PZF clock are pulses per second (PPS) and per minute (PPM) and IRIG timecode outputs.

Characteristics

Receiver	<p>Quadrature receiver for optimized evaluation of the DCF signals (amplitude and phase modulation)</p> <p>Accuracy of pulse outputs: Time delay between two systems with max. distance of 50 km: typ. 20 µsec, max 50 µsec Time shift of successive pulses: max 1.5 µsec</p>
Status Indicators	<p>Status info by 4 LED light indicators (2mm light pipes)</p> <ul style="list-style-type: none"> * Init - blue: while the receiver passes through the initialization phase * Field - green: minimum field strength needed for the correlation reception is detected * Ant Fail - red: antenna faulty or not connected * Fail - red: time is not synchronized
Type of Antenna	DCF77 outdoor antenna AW02
Synchronization Time	2
Frequency Outputs	Frequency Synthesizer for arbitrary frequencies between 0.125 Hz and 10 MHz, adjustable phase, output via external modules such as [2] IMS-BPE modules
Pulse Outputs	Pulse per second (PPS) and pulse per minute (PPM). TTL level, pulse width: 200 msec
Accuracy of Pulse Outputs	Better than +/- 50
Interface	Single serial RS-232 interface
Serial Time String Output	<p>COM 0: Baudrate: 300, 600, 1200, 2400, 4800, 9600, 19200 Baud Data Format: 7N2, 7E1, 7E2, 7O1, 7O2, 8E1, 8N1, 8N2, 8O1 Time telegram: [3]Meinberg Standard Time String , SAT, Uni Erlangen (NTP), COMPUTIME, SPA, RACAL, ION or [4]Capture String</p>
Switch outputs	<p>Four TTL outputs can configured independently for the following modes:</p> <ul style="list-style-type: none"> - free programmable cyclic or fixed impulses - timecode - timer mode; three 'ON'- and three 'OFF'-states can be setup per day <p>The switch states can be inverted for all three outputs, the impulse lengths are configurable. The impulse output can be configured for all channels together to 'always' or 'ifsync'.</p>
Supported Timecode Formats	<p>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 IRIG B006: 100 pps, DCLS Signal, no carrier, BCD time-of-year, year IRIG B126: 100 pps, AM sine wave signal, 1 kHz carrier frequency, BCD time-of-year, Year</p>

IRIG B007: 100 pps, DCLS Signal, no carrier, BCD time-of-year, year, SBS time-of-day

IRIG B127: 100 pps, AM sine wave signal, 1 kHz carrier frequency, BCD time-of-year, 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 Functions segment

C37.118: Like IEEE1344 - with inverted sign bit for UTC offset

AFNOR: Code according to NFS-87500, 100pps, AM sine-wave signal, 1kHz carrier, BCD time-of-year, complete date, SBS time-of-day

Antenna Connector	BNC connector
Backup Battery Type	CR2032 (lithium button cell) In the event of loss of power to the main system, this battery powers the real-time clock and also ensures that GNSS almanac data is properly buffered in RAM. Lifetime of lithium battery: Min. 10 years
Cable Type	Coaxial cable RG58 indoor or outdoor usage (BNC-, N-Norm-connector)
Operating Voltage	+5 V DC
Current Draw	+5 V 1,1 A to 1,4 A (depends on oscillator option)
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
Warranty	Three-year warranty
Options	Synthesizer 1/8 Hz up to 10 MHz (TTL level, sine wave 1.5V _{eff} , open drain) 4 programmable TTL outputs and timecode generator (IRIG-B, AFNOR)
RoHS Status of Product	This product is fully RoHS-compliant.
WEEE Status of Product	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.

Manual

The English manual is available as a PDF file: [5][Download \(PDF\)](#)

Links:

[1] <https://www.meinbergglobal.com/english/products/modular-sync-system.htm>

[2] <https://www.meinbergglobal.com/english/products/ims-output-modules.htm>

[3] <https://www.meinbergglobal.com/english/specs/timestr.htm>

[4] <https://www.meinbergglobal.com/english/specs/capstr.htm>

[5] <https://www.meinbergglobal.com/download/docs/manuals/english/ims-pzf-receiver.pdf>