



DOWR

White Rabbit GNSS Receiver

High performance GPS grandmaster clock and network time server capable of distributing GPS Time or UTC using White Rabbit networks with sub-nanosecond accuracy over long-distance fiber links (typically hundreds of km).

Built as a white box solution, including timing integrity monitoring of the GPS navigation data.

Provides raw GPS data for the calculation of a precise antenna position and for legal traceability to UTC(k) laboratories.

GPS and White Rabbit come fully calibrated from factory for the provided antenna cable.

Additionally, the DOWR distributes time to other equipment via **standard protocols** such as PTP, NTP and IRIG-B.



Technical Specifications / DOWR

GNSS Receiver

Type of receiver All-in-view GPS receiver
GPS L1 C/A

Processor

SoC Xilinx Zynq XC7Z015 with Dual ARM®
Cortex™-A9 MP@ 866MHz

Front Panel

Ethernet Ports 10/100/1000 Base-T RJ45
2x SFP cages (double stack)

IN/OUT 10 MHz
PPS

Back Panel

Ethernet 10/100/1000 Base-T RJ45
RF IN GNSS antenna for L1 signals
USB USB-UART configuration



Physical Specification

Dimension 65 x 110 x 128 mm
Color Black (Metallic)

Certification

Soldering IPC-A-610 Rev E Class 2
Others ISO-9001, ISO-14001, RoHS

Power Supply

Input 12Vdc 1.5A

Environmental Conditions

Temperature -10°C ~ +50°C
Humidity 0% ~ 90% RH

HIGHLIGHTS


- ✓ White-box GPS receiver
- ✓ GPS working modes: Free Position, Fixed Position and Survey-in
- ✓ GPS timing integrity monitoring
- ✓ GPS raw data for the calculation of a precise antenna position for traceability to UTC(k) labs
- ✓ Full GPS and White Rabbit calibration for the provided antenna cable
- ✓ GPS timing error < 15 ns under normal ionospheric conditions (± 2 ns time-pulse jitter)
- ✓ Sub-nanosecond accurate time distribution for long distance networks
- ✓ White Rabbit, IEEE 1588v2 & NTP
- ✓ User-friendly web management interface
- ✓ Optional oscillator for extended hold-over (1.5 μ s after one day)

Software

OS Linux (Kernel v3.19)

Timing Protocols WR-PTP (next IEEE-1588v2.1 High Accuracy profile)
IEEE 1588 PTPv2, NTP, IRIG-B

Other Protocols SSH, SNMPv3

GPS Timing Integrity Monitoring Powered by  **gmv**
INNOVATING SOLUTIONS

User-Friendly Web Interface

