

MODULAR • SCALABLE • RESILIENT
PNT

OPEN TIME APPLIANCE

GRANDMASTER CLOCK PLATFORM



KEY FEATURES

- Up to 3 units per 1RU of rack space
- Flexible protocol selection: NTP, PTP, PPS, SyncE & Frequency distribution
- 1GbE built-in network port
- OCXO and Rubidium oscillator options
- Full multi-band GNSS receiver, full constellation support
- Frequency Output: 1Hz – 1GHz
- Linux Operating System
- Anti-jam & Anti-spoof technology

QUICK SPECIFICATIONS

- Ethernet switch: IEEE1588 Transparent Clock, SFP & RJ45, SyncE client/server
- Clock generator: Programmable outputs incl. differential LVDS, low phase noise
- LFFO oscillator: 2 Rubidium specs (1 μ s–200ns/24hr holdover), Quartz (1.5 μ s/24hr)
- GNSS module: Ublox LEA-F9T (2.5ns accuracy to UTC)
- Clock Ensemble: UTC verification and clock ensemble techniques for secure, resilient PNT

BENEFITS

Simple and effective sync solution with hardware and software fully supported. Compliance and performance data can be hosted in cloud or on-premises. Modular-by-design — if you have your own chassis, servers, operating system or monitoring system, we won't force you into another ecosystem. We manufacture the specialised hardware for timekeeping; we leave making PCs to HP, Dell, Supermicro.

PTP

NTP

PPS

SyncE

Rubidium

OCXO

Anti-Jam/Spoof



INDUSTRY APPLICATIONS

OPEN TIME APPLIANCE

PRECISION TIMING ACROSS INDUSTRIES

APPLICATIONS

Telecom

Critical 5G and IoT applications with time-sensitive requirements, like autonomous vehicles and industrial sensors, demand precise and reliable time synchronisation.

Finance

The financial trading sector necessitates precise, dependable, and well-documented synchronisation to gain a competitive edge and adhere to regulatory standards.

Defence

Amidst rising GPS/GNSS threats, national defense communication networks must protect against disruptions. Adopting robust PNT solutions is essential.

Broadcast & Media

Precise and reliable time synchronisation is crucial for time-series data, interactive sports analytics tools, and cloud-based mobile TV.

PRODUCT IMAGE

BACK



FRONT



PRODUCT SPECIFICATIONS

OSCILLATOR
OPTIONS

RUBIDIUM & QUARTZ OCXO

● RUBIDIUM BLACK

Frequency	10 MHz
Frequency Stability	$\leq 5 \times 10^{-11}$ at 1s
Holdover Capability	<500ns / 24 hours
Allan Deviation ($\tau=100s$)	$\leq 5 \times 10^{-12}$
Aging (Daily)	$\leq 5 \times 10^{-12}$
Power Consumption	6W (max) on start-up

● RUBIDIUM BLACK+

Frequency	10 MHz
Frequency Stability	$< 1.5 \times 10^{-11}$ at 1s
Holdover Capability	<120ns / 24 hours
Drift Rate	$< 2 \times 10^{-11}$ Hz/Hz/Month
Warm-up Time	<4 minutes
1PPS Output Jitter	<1ns (100s Avg)
Frequency Offset	$< \pm 5 \times 10^{-11}$ Hz/Hz
Retrace	$< \pm 5 \times 10^{-11}$ Hz/Hz
Power Consumption	20W (max)

● QUARTZ OCXO

Frequency	10 or 20 MHz
Frequency Stability	± 0.5 ppb over temp range
Holdover Capability	± 1.5 μ s (1,500 ns) / 24 hours
Warm-up Time (to ± 10 ppb)	8 minutes
Compensated Aging	± 0.02 ppb/day
Retrace	± 5 ppb (24h on, 24h off, 1h on)
Power Consumption	1.5 to 3.5 W

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