

Overview

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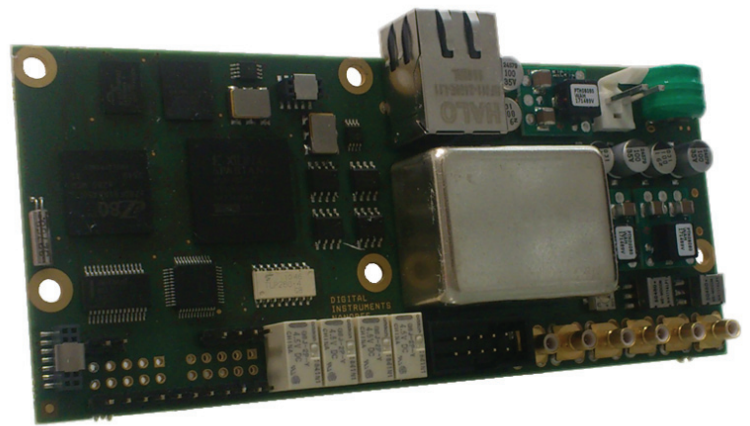
Nanoref is the best cost effective Time & Frequency solution to generate ultra stable Time (NTP & PTP IEEE 1588-2008, TTL customized Time Codes) and frequency (10 MHz, 2.048 MHz, E1 synchronization signals).

The unit is a multi reference input equipment that can accept PTP Time Protocol E1 synchronization signals and 2.048 MHz as well as GPS

The unit is available as OEM board ready to be integrated on OEM equipments or as stand alone with 1U/19" chassis ready to be integrated on 19" rack.

Due to the ultra stable dual Oven OCXO, Nanoref provide high level performance in terms of Hold-over and in terms of Phase Noise on frequency output.

Furthermore the unit is managed via SNMP or via a user friendly GUI on web Interface.



Features

- » Internal high stability OCXO aging rate of $\pm 1 \cdot 10^{-10}$ /day
- » 12 channels GPS receiver with automatic tracking and timing error management system.
- » New generation DPLL fast lock
- » Multi reference inputs
- » 1x Ethernet interface for NTP and/or PTP synchronization
- » 1x 10 MHz Low Noise output /2.048 MHz/E1(T1) with SSM input, Customized TTL Time code output
- » 1 x 1 PPS output
- » Size: 1U/19" – depth 300 mm (connector excluded) – weight 1,5 Kg
- » Certification CE.

Gps Section

· Receiver	1.575,42 MHz - 12 channels
· Tracking	12 satellites correlation
· PPS accuracy	< 50 ns
· Antenna connector	TNC
· Acquisition time	4 minutes
· Local oscillator	OEXO
· Stability when locked	To GPS $1 \cdot 10^{-12}$ (after 24 hours) – Ageing in holdover $\pm 1 \cdot 10^{-10}$ day

PTP Section

· Protocol	IEEE1588-2008 (PTPv2)
· Role	Grandmaster Clock Source (with GPS) or slave

NTP Section

· Protocol	NTPv4
· Role	Role: Master Clock Stratum 1 (with GPS)

IRIG Section

· Format	B
· Modulation	Pulse width modulated
· Frequency	DC
· Sent Information	TOY (BCD), Year (BCD)
· Connector	BNC (electrical)

Auxiliary I/O

input: E1 (with SSM management) 1 / 2 / 2.048 / 5 / 10 MHz, PPS
output: E1 (with SSM management), Customized TTL Time Code

Low Noise Output

10 MHz sine wave (-125 dBc/Hz @ 1 kHz)

PPS Output

1 PPS signal – 100 μ sec duty, - 5Vpp

Serial Connection

1 x RS232 over DB9 connector
User defined as controller or time telegram provider

Network Interface

1 x 10/100 BaseT Ethernet

Supported Protocols

IPv4, PTP/IEEE 1588-2008, NTP, SNTP, HTTP, SYSLOG, SNMP, TIME

Status Info

5 status led's, RS232, WEB Interface, SNMP (Simple Network Management Protocol)

Power Supply

2 x Independents PSU (if boxed on 1U/19" chassis)
AC: 95 – 240 VAC
DC: 36 - 72 VDC
Power Consumption <50W