HOPTROFF TIME

Grandmaster clocks

The heartbeat of the data centre

The HT-GMC is an IEEE 1588 (PTP) high-accuracy clock for timestamping and synchronization applications.

HT-GMC accepts primary timing signals from GPS, GLONASS, PTP or NTP network sources, NPL/NIST fibre link. An Caesium 133 atomic clock or Oven Controlled crystal Oscillator (OCXO) provides primary clock de-jitter and, in the event of primary signal loss, holdover.

HT-GMC acts as a Grandmaster clock or a Boundary clock serving time to IEEE 1588 clients across a 1GBe or 10Gbe network. In addition, a 10MHz disciplined frequency reference, three 1PPS outputs and a 1PPS input are available.

HoptroffTime™ grandmaster clocks were developed for financial markets, specifically designed for delivering Grandmaster timing to trading servers within a data centre environment.

HoptroffTime™ grandmaster clocks can also be used as the timekeeping systems in timing, frequency generation and synchronization applications in Telecoms, Broadcast, Power Generation and Defence

Specifications

Primary sources
- GPS / GLONASS / PTP / Fibre / 1PPS options
- Single digit nanosecond accuracy

Local clock options
- Caesium atomic 1-month 100µs holdover, 1000s ADEV 8 × 10^{-12}
- OCXO 10-day or 4-day 100µs holdover

Network options
- Single 1Gbe or 10Gbe port (1U unit)
- Dual 1Gbe and/or 10GBe ports (2U unit)
- Up to eight 1Gbe and/or 10GBe ports (3U unit)

Analog I/O
- Active GNSS antenna, 1PPS inputs
- 1PPS and 10MHz outputs

Display
- Time and date and location
- Primary source status
- Local clock status
- Time error estimate (patent pending)

Physical
- Linepower 30W (125mW @ 230VAC)
- Operating temperature -10°C to +70°C
- Mean time before failure 10 years

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