



TIME LOADER

Data Sheet

PN/ 1004030-FT



Rugged Deployed "Time – Loader" for rapid & tactical installations for Sync/timing units which are part and/or Embedded on Sensor systems like: UAV, Radar/EO, Missile Defense system and any Ground, Naval and Airborne system which needs Real-Time TOD (Time of Day) and 1PPS external Sync – in denied GPS/GNSS Environments.

The emerging era of rapid deployments of Defense systems such as COMINT, Missiles Defense and UAS batteries in the field, in deny and/or jammed GNSS tactical deployments, sets new challenges for real-time and accurate ToD (Time of Day) aligned to the UTC or GNSS.

The tactical deployed field operations stresses the need for field deployed "Suitcase" like portable or hand carried Time loader to activate tactical systems on rapid cold-start and/or first time deployed sensors.

Features

- Generates a GPS L1-C/A code RF-output as if the signal were coming from a Live-Sky GPS antenna. Full-constellation GPS output
- Compatible to external GNSS receivers
- Encodes time with nanosecond accuracy for GPS Timing Receivers

About Focus Telecom

Focus Telecom is a global provider of time synchronization solutions since 1995, offering consulting, cyber defense and synchronization solutions. Our end-to-end timing solutions generate, distribute and apply precise time for multiple industries: Defense and Gov. prime Corp. in the field of : Missiles Defense & ISTAR programs and National EW & Cyber protection. We enable our customers to build more reliable networks and systems supporting today's precise timing standards.

Want to learn more?

Contact Focus Telecom to find the right products and technologies for your timing and synchronization needs.
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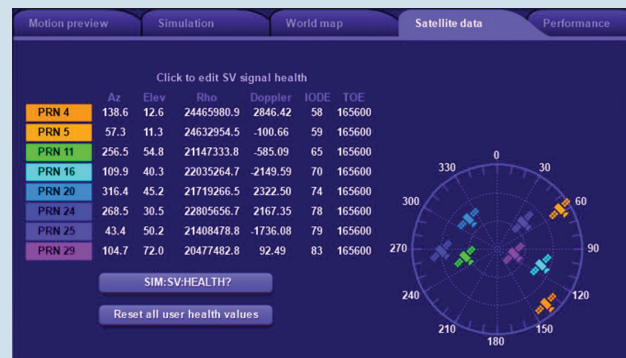


The Time Loader incorporates four fully integrated components: GPSDO, GPS Simulator, Li-Ion Battery & Charger

- The **GPSDO** - fundamental requirement and GPS Generation in denied jammed Env.
- The **MAC-SA53/55 GPSDO** provides excellent UTC accuracy with outstanding Hold Over Rubidium clock performances as described below with only 24 hours early GPS lock before entering into Hold-over mode: 67.40 hours; 2.808 days; 196.5nsec/day; 545.8 nsec was observed after 2.8 days.
- Utilizing the **GPS Simulator** provides real-time extremely accurate RF GPS like signals in 24 hours denied/ jammed Environment. 18-Channel Full-Constellation GPS Simulator is the industry's first fully-self-contained, miniature GPS Simulator module. The GPS Simulator is fully self-contained and stores location/time/date data in internal NV memory, or by storing complex vector data to simulate highly dynamic scenarios. The GPS can also be used to transcode NMEA or SCPI position/ velocity/time (PVT) data into GPS RF signals.

- The **TIMER LOADER** hardware is a portable unit equipped as a Turn-Key integrated system generates Sync signals such as 1PPS In/Out, 10MHz, 1PSS/RS422 format, GPS RF output and ToD/RS232 Communication. Packaged within a Rugged Pelican carrying case with external rugged lap-top (optional) and rechargeable Li-Ion Battery & Charge.

GPS Simulator SW monitor



Field Deployed, High Performance, Time Loader

Applications

- Synchronizes GPS receiver in an environment without satellite signal.
- Backup for GPS signal loss
- Plug And Play- connect the Time Loader to GPS receiver and the receiver will see it as a valid GPS signal.

Frequency Output Accuracy and Stability

- <1x10⁻¹² at 1 day locked to GPS

Description

The Time-Loader is a portable and durable device that is able to provide accurate time GPS signal when there is no GPS signal available

Specifications

- GNSS Receiver/Antenna
- 72 parallel channel GNSS receiver
- GPS time traceable to UTC (USNO)
- GNSS Galileo/GLONASS/BeiDou/SBAS/QZSS support in addition to GPS

Time Accuracy

- <10 ns RMS to UTC
- After one day locked to GPS

Oscillator Aging (Monthly)

- <1x10⁻¹⁰
- After one month of continuous operation without GNSS (Zero aging with GNSS)

Temperature Environment:

Operating Temperature -40°C to +70°C baseplate temperature
Storage Temperature -55°C to +90°C

Holdover Stability

<±0.16us over 24 Hour Period @ +25.0°C after 30 days with GPS lock.

Frequency Output Accuracy and Stability

- <1x10⁻¹² at 1 day locked to GPS

Inputs

- GNSS Antenna
- 1PPS CMOS/TTL
- 1PPS RS422

Outputs

- GPS RF Tx
- 1PPS CMOS
- 10 MHz Buff
- 10 MHz Unbuff x2
- 1PPS RS422
- TOD NMEA RS232
- Tx RS422
- 10 MHz RS422

Power (Vdd)

+8V to +36V max
Power supply input =110-220VAC
Opt. Supply Voltage

Dimensions

- Length: 50 Cm
- Width: 38 Cm
- Height: 16 Cm
- Weight: 7Kg

