



Model TTGM-101B TimeTap Grandmaster

GPS/Time Code Synchronized IEEE-1588 PTPv2 Grandmaster, SNTP Server and Time Code Generator



Features:

- Synchronizes to GPS
- Synchronizes to IRIG Time Codes
- Default Profile for PTPv2
- SNTP Time Server
- SNMP operation
- AM and DCLS Time Code Outputs
- Precise 1PPS Output
- N1 Rate Synthesizer
- 1PPS Time Interval Measurement
- LED Status Indicator
- OLED Time Display
- RJ-45 100base-T port for PTPv2
- Rugged / Portable case
- Windows and Network GUI for Setup and Control and Time Interval Measurement Display

General Product Description

The Model TTGM-101 GPS/Time Code Synchronized PTP Grandmaster, SNTP Server and Time Code Generator is ideal for applications utilizing GPS or time code input to generate IEEE-1588 PTPv2, SNTP or various time codes. Time and rate outputs are precisely referenced to GPS or time code input. The TTGM will also synchronize to a 1PPS input. In addition to PTPv2 and SNTP operation, IRIG A, B, G and NASA36 time code outputs, time is available on the USB port. Limited SNMP trap operation is also standard on this versatile unit.

The TimeTap will synchronize to the selected reference to less than 1 microsecond and can provide local or daylight savings time with settable timing offsets. The TimeTap can also provide the IRIG time codes to drive external time displays. This unit can be paired with the TT-101 for PTP synchronization over a network as well as time code synchronization. Computer synchronization can be accomplished with Domain Time II software available through ORCA Technologies.

This versatile product also has a 1PPS Time Interval Measurement feature that will graph the difference between the TTGM 's 1PPS and an external 1PPS rising edge.

The TTGM-101 PTP implementation is compatible with and has partial compliance to the IEEE-1588 PTPv2 standard.

For additional information contact your ORCA Representative at 949-361-0212 or via email at sales@orcatechnologies.com www.orcatechnologies.com

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TTGM-101B GPS/Time Code Synchronized Generator, PTPv2 Grandmaster, SNTP Server

Product Specifications

General Specifications

- Timing Accuracy:
 - < 100 nanoseconds to UTC (GPS)
 - < 1 microsecond to DCLS Time Code or 1PPS
 - < 5 microseconds to AM Time Code reference
- Internal Oscillator: 50MHz Crystal Oscillator
1PPM, DDS steering

Standard Inputs

- GPS Input: 1.575 GHz L1 C/A Code GPS
Receiver: 12 parallel channels Internal
Oscillator disciplined to GPS Antenna: L1
GPS with 5-meter SMA cable Connector:
SMA labeled GPS ANT
- AM Serial Time Code Input
Format: IRIG A, B, G; NASA36
Amplitude: 1-6 Vpp
Connector: SMA labeled CODE INPUT
- DC Level Shift (DCLS) Serial Time Code Input
Specification: IRIG A, B, G; NASA36
Amplitude: TTL levels
Connector: DB-15 multi-pin, pin 9
- 1PPS Reference Input
Amplitude: TTL levels
Connector: DB-15 multi-pin, pin 9
- 1PPS Time Interval Input
Amplitude: TTL levels
Connector: DB-15 multi-pin, pin 7

Standard Outputs

- PTPv2 Default Profile
Ethernet II, IPv4, UDP Multicast,
Two-step PTPv2 packets
Connector: RJ-45
Limited PTPv2 compliance
- SNTP
Unicast protocol only
Hardware Timestamps
With accurate, low latency responses
- AM Serial Time Code Output
Format: IRIG A, B, G; NASA36
Amplitude: 3 Vpp into 50 ohms
Ratio: factory set to 3:1
Connector: SMA labeled CODE OUTPUT
- DC Level Shift (DCLS) Serial Time Code Output
Format: IRIG A, B, G; NASA36
Amplitude: 3.3V logic
Connector: DB-15 multi-pin, pin 10

- 1PPS Output
Logic Level: 3.3V logic into 50 ohms
Timing: Positive edge on time
Duty Cycle: 50%
Connector: DB-15 multi-pin, pin 5
- N1 Rate Synthesizer x2 Outputs
Logic Level: 3.3V logic
0 to 16,777,215 PPS with 1PPS steps
Timing: Locked to the internal clock
Duty Cycle: 50%
Connector: DB-15 multi-pin, pins 3 and 6
- Selectable Output
3.3V Logic, 1 of these signals: Buffered DC Input,
1PPS 50%, 1PPS 20us, N1(A), N1(B), DCLS Time Code,
Decade pulse rates to 10MPPS, 5MPPS
Connector: DB-15 multi-pin, pin 8
- USB Port
Output Data: Time and Status
FTDI Virtual COM Port
Connector: Micro USB
Supplies 5V unit power, Command Line Interface I/O,
Time once per second
- DC Power Level: 5 Vdc < 500 mA
powered through the USB Bus or DB-15 multi-pin
- AC Power via AC to DC converter module

Environmental/Mechanical

- Physical Dimensions
Size: 4.72" length X 4.07" width X 1.20" height
Weight: 1 pound
OLED Display: 2 lines, variable intensity
Operating Temperature: 0 to 50 degrees C
Storage Temperature: -40 to +80 degrees C
Humidity: To 95% non-condensing
- Antenna
Size: 1.81" length X 1.81" width X .50" high
Weight: < 1 pound
Operating Temperature: -40 to +70 degrees C
Storage Temperature: -40 to +85 degrees C
Connector: SMA
Cable Length: 5 meters (Longer lengths available)

Ships with x2 SMA to BNC converter cables

Options

- Breakout cable for DB-15 multi-pin connector
- Domain Time II software

Rear Panel



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(Specifications Subject to Change—170116)