



TimeTap Test Set

Model TS-101



Features:

- Compares input time to reference
- Input can be PTP, IRIG-B or 1PPS
- Reference synchronized to GPS
- Reference can be IRIG-B or 1PPS
- Resolution to better than 1 usec
- Front panel measurement
- Graphical User Interface
- LCD display
- Rugged / Portable case
- Windows GUI for setup, control and time interval measurement display

General Product Description

The Model TS-101 is a portable and rugged test set that measures an external time signal (PTP, IRIG-B or 1PPS) to UTC via a GPS Synchronized Receiver. Once synchronized to GPS the first measurement is instantaneous and can continue to be made whether or not the TS-101 is synchronized to GPS. Measurements can be made to a resolution of less than 1 microsecond.

The TS-101 can also be synchronized by an external IRIG-B or 1PPS to measure the relative synchronization between two external time sources.

Comprising a fully functional TimeTap Grandmaster (model TTGM-101) and TimeTap (model TT-101), this test set also functions as a Synchronized Time Code Generator with PTP Grandmaster and slave capabilities.

The TS-101 is powered through a provided AC Adapter, an external USB connection from a laptop or other similar source or an external battery.



TS-101 TimeTap Test Set

Product Specifications

General Specifications

- Timing Accuracy:
 - < 1 microsecond to GPS, DCLS Time Code or 1PPS
 - < 5 microseconds to AM Time Code reference
- Internal Oscillator: 50MHz Crystal Oscillator
50PPM, 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
- PTPv2 Default Profile
Ethernet II, IPv4, UDP Multicast,
Two-step PTPv2 packets
Connector: RJ-45
Limited PTPv2 compliance
- AM Serial Time Code Input
Format: IRIG A, B, G; NASA36
Amplitude: 1-6 Vpp into 50 ohms
Connector: SMA labeled CODE IN
- 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

Standard Outputs

- PTPv2 Default Profile
Ethernet II, IPv4, UDP Multicast,
Two-step PTPv2 packets
Connector: RJ-45
Limited PTPv2 compliance
- 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 OUT

- 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
- 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

Environmental/Mechanical

- 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
- Physical Dimensions
Size: 4.72" length X 4.07" width X 2.09" height
Weight: 1 pound
LCD Displays: Two of 2 line X 20 character - backlit
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

Rear Panel



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

934 Calle Negocio, Suite B—San Clemente, CA 92673

(Specifications Subject to Change—161101)