OVERVIEW
Time synchronization creates a platform for an entire system comprising a wide range of applications to operate in synchronous with time.

The demand for improving the effectiveness of any system in place is met with a time synchronization system deployed in the field. Troubleshooting is simplified by the application of time synchronization in the event of fault analysis.

Sertel manufactures GPS based Time Synchronization System which generates precise time stamp signals that synchronize various network of electrical, computer, communications devices such as DCS, PLCs, LANs, Computer Buses, RTUs etc.

Equipped with high precision and high stability OCXO, T-GPS-300 is capable of performing with greater accuracy and tenacity during temporary signal loss.

The time stamps in the signal could be transmitted over long distances maintaining synchronization in the whole network.

OPERATION
The signal from the satellite is collected by T-GPA-014-S15, an active antenna, and transmits the signal to T-GPS-300 GPS Receiver.

Time base pulses as that in the UTC or the atomic clock in the GPS satellites are generated.

Master Clock is provided for continuous functioning of the system.

Pulses can be generated for every second, minute, ½ minute, hour, day etc which are configurable.

LC display upfront shows the Julian Day, date, time and geographical location. These can be viewed with the help of keypad upfront.

Status LED indication can also be seen displaying the operating conditions of the receiver.

Highly precise and stable OCXO compensates for any interferences or loss of signal from the satellite thus making the operation of the receiver reliable.

KEY FEATURES
- Compact size.
- 12 Channel GPS Receiver and 8 Channel Continuous Tracking.
- Equipped with high precision OCXO crystal for frequency maintaining micro second level accuracy.
- Accuracy of 187 nanosecond with GPS Signal.
- LCD Display : 2 x 16 characters
- Highly customizable Output configurable as per requirement.
- Configured to work as Stand Alone Time server.
- Offset adjustment.
- Universal Power Supply.
- Output Integrated to 3 decimal of frequency in Hz.
- Drive any number of Slave Clocks / Digital Clocks. (Customizable)
- Provides time/ date stamping through RS232 serial port in SERTEL format (Customizable).
- Low cost maintenance with durable performance.
- Propagation delay is better than 1µs.
TECHNICAL SPECIFICATION

GPS ANTENNA

- Model: T-GPA-014-S15
- Receiving Frequency: 1575.42 MHz +/- 1 MHz
- Tracking code: ‘L’ Band CA code
- Geodetic System: WGS – 84
- No. of Channels: 08 Channel / Parallel
- Type: Helical
- Axial Ratio: <4 Db
- Supply Voltage: 5V DC (Internal)
- Gain: Over 42 db
- Noise Figure: Less than 1.3 db
- Operating Temp.: 0 °C to +55 °C
- Connector: TNC/BNC
- Mounting: Wall Mounting

INPUTS

- GPS Antenna input.
- Power Supply: 90 – 260 V AC/DC

OUTPUTS

- Dual NTP/SNTP outputs for NTP Client access (Default IP: 192.168.1.254) through RJ-45. (Customizable)
- IRIG-B AMoutput.
- Status information for GPS reception, fault, loss of signal.
- Julian days, HH-MM-SS, DD-MM-YYYY, Latitude, Longitude,Time Zone (+5.30), No of Satellites in LC Display
- Please refer ordering code for customizable outputs.

ENVIRONMENT

- Operating Temperature: 0 to +55°C
- Humidity: 0 – 95% RH, non-condensing

MECHANICAL SPECIFICATION

- Dimensions: 1U(h) x 485(w) x 325(d) mm
- Mounting: 19” rack mountable

TEST AND STANDARDS

- Dry Heat Test: IEC 60068-2-2
- Damp Heat (Steady State) Test: IEC 60068-2-3
- Sinusoidal Vibration Test: IEC 60068-2-6
- Bump Test: IEC 60068-2-29
- Dielectric Strength Test: IEC 60255-5-0
- Shock Test: IEC 60255-21-2
- Radiated Emission: CISSP 11 Class A, 2006
- Radiated RF Power Disturbance: CISSP 14.1, 2005
- Electrostatic Discharge Immunity Test: IEC 61000-4-2, 2001
- Radiated Susceptibility Test: IEC 61000-4-3, 2006
- Electrical Fast Transient Immunity: IEC 61000-4-4, 2004
- Conducted RF Immunity Test: IEC 61000-4-6, 2004
- Power Frequency Magnetic Field Test: IEC 61000-4-8, 2001
- Damped Oscillatory Wave Immunity: IEC 61000-4-12, 2001

STANDARD INFORMATION

<table>
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<tr>
<th>Operating Characteristics</th>
<th>Ordering Code</th>
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<tr>
<td>NTP-2/IRIG-B(AM)-1/IRIG-B(TTL)-1/RS 232-1</td>
<td>T-GPS-300-S09</td>
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<tr>
<td>NTP-2/IRIG-B(AM)-1/IRIG-B(TTL)-1/RS 232-1/Freq-1</td>
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<td>IRIG-B (TTL) – 1 / PPS (FO) - 4</td>
<td>T-GPS-300-S30</td>
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<td>NTP-4/IRIG-B(AM) - 8/TTL-8/DCF-77-2</td>
<td>T-GPS-300-EU</td>
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