Overview

The TymServe 2100L Network Time Server addresses the need for an inexpensive, local source of international standard time within the firewall of Enterprise Network installations. The TymServe 2100L acquires time from the Global Positioning System, GPS, orbital clock constellation, and distributes this time to network workstations using the TCP/IP Network Time Protocol, NTP. Time Synchronization over the network is typically 1 to 5 milliseconds.

The TymServe 2100L is a complete Stratum one time server in a convenient, self-contained, 1U height, rack mountable configuration. Connections consist of a GPS antenna (supplied) port, ethernet 10BaseT network port and RS-232 port for configuration.

Remote resource management is an important requirement within Enterprise Networks which is addressed by multiple protocols, in addition to NTP, supported by the TymServe 2100L. These network management tools include Simple Network Management Protocol (SNMP), HTML Status Page via HTTP, TELNET for remote access, Dynamic Host Configuration Protocol (DHCP), and Bootstrap Protocol (BOOTP).

Security of time synchronization operations is enhanced with MD5 authentication. The TymServe 2100L can be put in an Authenticate Only Mode or Standard Mode. In the Authenticate Only Mode, only time request packets for authenticated clients are serviced. Clients can verify authenticity of time service packets returned by the TymServe 2100L with its supplied MD5 authentication.

The TymServe 2100L is a valuable Electronic Commerce tool. Within the security firewall of an enterprise LAN, time stamps, accurate to UTC time within 1 to 5 milliseconds can be acquired and applied to transactions and electronic documents.
Specifications

ELECTRICAL SPECIFICATIONS

Input/Output Connections
- Network: 10BaseT Ethernet
- Serial Port A: RS-232 / DB9 DTE, Sysplex Timer
- Serial Port B: RS-232 / DB9 DCE, Configuration and status

Front Panel
- Status Indicators: LED, 'Locked', 'Tracking', 'Power'

Timing Accuracy
- Network: 1-10 milliseconds, typical
- GPS Receiver: < 2 microseconds, relative to UTC
- Internal Clock: < 10 microseconds (relative to UTC, GPS tracking)

GPS Input
- GPS Receiver: Eight (8) channel, C/A code

NTP Client Software
- http://www.eecis.udel.edu/~ntp/
- http://www.polygon.com

If synchronization of local peripherals with time code, 1 PPS, or 10 MHz signals is required, please refer to the TymServe 2100 data sheet.

ENVIRONMENTAL & PHYSICAL SPECIFICATIONS

Power Requirements
- 85-264 VAC, 48-440 Hz, 20 W

Dimensions
- Inches: 1.75, 17, 9.5, 10
- Cm: 4.45, 43.18, 24.13, <4.5

GPS Antenna
- Inches: 2.94, 3.04
- Cm: 7.47, 7.72

Supported Network Features
- TCP/IP
- NTPv2 (RFC 1119)
- NTPv3 (RFC 1305)
- & NTPv4 (RFC 2030)
- SNTP (RFC 1361)
- Daytime Protocol (RFC 867)
- Time Protocol (RFC 868)
- SNMPv1 w/ Custom MIB II Extension
- MD5 Authentication (NTP)
- BOOTP, DHCP & TFTP
- Telnet
- HTTP/HTML Status Page

<table>
<thead>
<tr>
<th>Option</th>
<th>Option P/N</th>
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<tbody>
<tr>
<td>100-ft Belden 9913 Antenna Cable (N/N)</td>
<td>TS Opt 20A</td>
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<tr>
<td>AC200 - 200' Belden 9913 Antenna Cable</td>
<td>TS Opt 20B</td>
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<tr>
<td>AC300 - 300' Belden 9913 Antenna Cable</td>
<td>TS Opt 20C</td>
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<tr>
<td>AC400 - 400' Belden 9913 Antenna Cable</td>
<td>TS Opt 20D</td>
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<tr>
<td>AC500 - 500' Belden 9913 Antenna Cable</td>
<td>TS Opt 20E</td>
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<tr>
<td>LTNG1 - Lightning Arrestor + 25 ft. Cable</td>
<td>TS Opt 21A</td>
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<tr>
<td>LTNG2 - Lightning Arrestor + 50 ft. Cable</td>
<td>TS Opt 21B</td>
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<tr>
<td>BIAST - Bias-T Filter (DC Block - factory installed)</td>
<td>TS Opt 24</td>
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<tr>
<td>Rack Mount Slides</td>
<td>TS Opt 25</td>
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<tr>
<td>HGANT - High-Gain Antenna</td>
<td>TS Opt 26B</td>
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Specifications subject to change without notice.