



TymServe 2100LD

GPS Network Time Server

KEY FEATURES

- Stand-Alone Time Server
- Network Time Protocol (NTP) Support
- Ethernet 10BaseT Interface
- Independent Time Acquisition From GPS Satellite
- Telnet and RS-232 Remote Interface
- Serial Sysplex Timer Output
- Network Management Tools Include:
 - Simple Network Management Protocol (SNMP) with Custom MIB II Extension
 - Hyper Text Transfer Protocol (HTTP) to Custom HTML Status Page
 - Supports Dynamic Host Configuration Protocol (DHCP)
 - MD5 Access Authentication for Security
- Furnished With GPS Antenna and 50-foot Cable
- Rack Mount, 1U Height

The TymServe™ 2100LD network time server addresses the need for an inexpensive, local source of international standard time within the firewall of Enterprise Network installations. The TymServe 2100LD 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 10 milliseconds.

The TymServe 2100LD is a complete Stratum 1 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 2100LD. 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 2100LD 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 2100LD with its supplied MD5 authentication.

The TymServe 2100LD is a valuable Electronic Commerce tool. Within the security firewall of an enterprise LAN, time stamps, accurate to UTC time within 1 to 10 milliseconds can be acquired and applied to transactions and electronic documents.



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TymServe 2100LD 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
 - Front panel status: LED, 'Locked', 'Tracking', 'Power'
 - Front panel display: LCD, 2x40 characters
- Timing accuracy
 - Network: 1-10 milliseconds, typical
 - GPS receiver: <2 microsecond, relative to UTC
 - Internal clock: <10 microseconds (relative to UTC, GPS tracking)
- GPS input
 - GPS receiver: Eight (8) channel, C/A code

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	Cm
Height:	1.75	4.45
Width:	17	43.18
Depth:	9.5	24.13
- Weight: <10 lbs <4.5 kg
- Operating temperature: 0° to 50° C
- Relative humidity: 0 to 95% (non-condensing)
- GPS antenna

	Inches	Cm
Height:	2.94	7.47
Diameter:	3.04	7.72
Antenna operating temp.:	-40° to +85° C	
Acquisition:	<5 minutes	
Cable type:	50 ft; 15.25cm / RG58	

NETWORK PROTOCOLS

TCP/IP
NTPv2 (RFC 1119)
NTPv3 (RFC 1305)
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

CLIENT SOFTWARE

- An NTP client/daemon is required for client-side synchronization with any network time server, including the TymServe 2100LD. Included with the 2100LD is Symmetricom's SymmTime™ NTP client for Windows 95/98/NT/2000/XP. Comprehensive time client, server & management software for easy distribution, management and monitoring of time across the network is also available.

PRODUCT INCLUDES

- TymServe 2100LD Network Time Server, L1 GPS antenna, 50 ft. (15 m) RG-58 antenna cable, power cord, manual, MIB II software, SNTP client software, 1 ft. (30 cm) antenna mast, two (2) mounting brackets.

OPTIONS

- | | Part No. |
|--|------------|
| • 100-ft Belden 9913 antenna cable (N/N) | TS Opt 20A |
| • AC200 - 200' Belden 9913 antenna cable | TS Opt 20B |
| • AC300 - 300' Belden 9913 antenna cable | TS Opt 20C |
| • AC400 - 400' Belden 9913 antenna cable | TS Opt 20D |
| • AC500 - 500' Belden 9913 antenna cable | TS Opt 20E |
| • LTNG1 - Lightning arrestor + 25 ft. cable | TS Opt 23A |
| • LTNG2 - Lightning arrestor + 50 ft. cable | TS Opt 23B |
| • BIAST - Bias-T filter (DC Block - factory installed) | TS Opt 24 |
| • Rack mount slides | TS Opt 25 |
| • HGANT - High-gain antenna | TS Opt 26B |
| • NTP Network Time Displays | |
| 2" (5 cm), 6 digit, red LEDs | ND-2 |
| 4" (10 cm), 6 digit, red LEDs | ND-4 |



Rear View of TymServe 2100LD



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