



# NTP Ethernet Time Server

## Model 9288



- **Stratum 1 NTP v2, v3, v4 Time Server via RS-485 from a NetClock**
- **Stratum 2 (up to 15) via NTP servers**
- **High bandwidth NTP performance**
- **Ideal for synchronizing a separate LAN segment**
- **IPv6**
- **NTP capabilities – Peering, Stratum 2, Autokey**
- **Supports centralized user authentication (LDAP, RADIUS)**
- **Supports centralized logging – Syslog**
- **Meets regulatory compliance standards including Sarbanes-Oxley, HIPAA, Gramm-Leach-Bliley and OATS**
- **Supports internal audits, including: audit trails, time stamping records, log files and data archiving**
- **Ethernet 10/100 Base-T**
- **Web-based user interface**
- **Remote diagnostics, flash upgrades, configuration, and control**
- **Automatic adjustment for local time, daylight saving time and leap second**
- **Security Features: SSL, SNMP v3, SSH, SCP, SFTP**
- **Free software updates**
- **5-Year Limited Warranty**

Share accurate time from a Spectracom NetClock throughout your network using the new NTP Ethernet Time Server Model 9288. The Model 9288 provides Network Time Protocol (NTP), allowing to allow you to share time in the same way you share other networked resources.



The Model 9288 uses an embedded Linux v2.6 operating system and a high-speed processor. It is synchronized from a NetClock via RS-485 once-per-second over twisted pair, or via NTP from a NetClock (or other NTP device).

Each RS-485 port on a NetClock can support up to 32 Ethernet Time Servers to synchronize physically separate networks.

The Ethernet Time Server offers multiple standard security features, including host restriction on SNMP to ensure operational integrity.

The combination of a NetClock and one or more Ethernet Time Servers is ideal for delivering system-wide, split-second timing information to computer network devices, network log files, and databases. Such a combination enables computer networks to synchronize all elements of network hardware and software (including system logs) to the millisecond over LANs or WANs—anywhere on the planet.



## PERFORMANCE

### TYPICAL ACCURACY:

When connected to a NetClock® unit:

RS-232/RS-485: Time code  $\pm 100$  microseconds to  $\pm 1$  millisecond of UTC, format dependent  
Ethernet NTP: Output jitter within  $\pm 50$  microseconds relative to UTC typical

### OUTPUTS:

Type	Connector
Ethernet 10/100 Base-T	RJ45 (auto sensing)
RS-232 Serial Comm. <sup>1</sup>	DB9 female
RS-485 Once-per-Second <sup>1</sup>	3.81 mm Terminal Block
Alarm Outputs	3.81 mm Terminal Block
Programmable Timer Output	3.81 mm Terminal Block

<sup>1</sup> Serial time code formats: 0, 1, 2, 3, 4, 7, 8, 90, IBM Sysplex

### NETWORK PROTOCOLS:

- NTP v2, v3, v4: Conforms with or exceeds RFC 1305 and 4330. Supports Unicast, Broadcast, MD5 encryption, Peering, Stratum 2, Autokey
- HTTP: Browser-based configuration and monitoring
- Telnet: Remote configuration
- FTP Server: Access to logs
- SNMP: Supports v1, v2, v2c, and v3 (no auth/auth/priv) with Enterprise MIB
- IPv4/IPv6: Dual stack
- DHCP/DHCP6: Automatic IP address assignment
- LDAP: Authentication
- RADIUS: Authentication
- Syslog: Logging
- Time (RFC868)
- Daytime (RFC867)

### SECURITY FEATURES:

- Enable/block protocols
- Set SNMP community names and network access
- Password protected
- SSL Web Based Interface: Web UI uses SSL to allow the use of the secure HTTPS protocol to access configuration and status web pages.
- SSH: utilizes SSL and data compression technologies to provide a secure and efficient means to control, communicate with, and transfer data to or from the master clock remotely.
- SCP: is used to securely transfer files to and from the time server over an SSH session.
- SFTP: is an FTP replacement that operates over an encrypted SSH transport.
- SNMPv3 (no auth/auth/priv): allows remote configuration and management over an encrypted connection.

### INPUTS:

Type	Connector
RS-485 Once-per-Second <sup>2</sup>	3.81 mm Terminal Block
RS-232 Serial Set-up Interface <sup>3</sup>	DB9 female
Power	2.5 mm male, center positive

<sup>2</sup> Accepted serial time code formats: 0, 2, 8

<sup>3</sup> Serial set-up interface configures network settings. The port works at 9600 baud, 8N1, and can be accessed with a PC terminal emulator.

### POWER:

90-240 VAC, 47-63 Hz from supplied external CE/UL/CSA approved power supply with IEC 320 universal power cord connector. Re-order number: PS06-OEOJ-DT03. North American power cord included. Alternate type line cords or adapters may be obtained locally. Unit operates from 12 VDC nominal (+9.5 – +30 VDC) @ 1.0 amps.

### FRONT PANEL:

- Ethernet port
- Status Indicators: "Power" and "Sync" multi-color LED

## PHYSICAL & ENVIRONMENTAL

### SIZE/WEIGHT:

- EIA 19" rack mount W x 1.75" H x 11.0" D/4.8 lbs. (483 mm W x 44 mm H x 305 mm D/2.2 kg)
- Rack Mount hardware included (assembly required)

### ENVIRONMENTAL:

Operating Range: 32°F to 122°F [0°C to 50°C]  
Storage Range: -40°F to +185°F [-40°C to +85°C]  
Relative Humidity: 10%–95%, non-condensing

### AGENCY APPROVALS:

CE Mark: EN60950, EN55022, EN55024  
FCC: Part 15  
UL/CSA: listed power adapter

## WARRANTY

### FIVE-YEAR LIMITED WARRANTY

- Extended warranty is available.

## ORDERING INFORMATION

1. NTP Ethernet Time Server  
NTP Ethernet Time Server, Model 9288

## ADDITIONAL OPTIONS AND ACCESSORIES

2. Master Clock/Network Time Server  
NetClock GPS, Model 9283  
NetClock GPS, Model 9289
3. Software  
Contact the Sales department for more information. Presentense Server and Client, NTP Auditor, and Lan Time Analyzer NTP software are available.
4. Time Distribution  
TimeTap® Adapter, Model 8179T, RS-485 to RS-232, one per device, includes 12 VDC power supply.  
TimeBurst, Model 8185, broadcasts time to wireless devices over existing radio systems.
5. Redundant Systems  
TimeGuard® Monitor/Selector, Model 8145, protects against single time server failure.
6. Display Clocks  
TimeView® digital and analog clocks
7. Service Options  
Premium Support Package  
Extended Warranty