SyncServer S200
Enterprise Class GPS Network Time Server

Overview

The SyncServer® S200 GPS network time server synchronizes clocks on servers for large or expanding IT enterprises and for the ever-demanding high-bandwidth next generation network. Accurately synchronized clocks are critical for network log file accuracy, security, billing systems, electronic transactions, database integrity, VoIP, and many other essential business applications.

The S200 is the easiest to set-up and maintain network time server in the world. The front panel is designed to quickly bring the time server online with a few front panel keystrokes or DHCP. To fully configure the unit, use the very intuitive web interface.

The S200 is also the first network time server to offer step-by-step wizards for the most common operations. The state-of-the-art user interface offers the network administrator ease-of-use and remote access, with intuitive web pages and full control of the server via a standard browser interface.

Once online, the S200 provides reliable and secure network synchronization technology by combining multi-port, high-speed / high-capacity network interfaces and versatile GPS timing receiver technology. It supports a wide range of network protocols including IPv4 and IPv6 for easy management and seamless integration into your existing and future network.

The high availability and throughput of the three Ethernet ports translates into the support of hundreds of thousands of network clients while maintaining microsecond caliber NTP timestamp accuracy. They also provide the flexibility needed to easily adapt to different and changing network topologies and security requirements.

The Stratum 1 level S200 derives its time directly from the atomic clocks aboard the GPS satellite system. By using the integrated, 12-channel GPS receiver, every visible satellite can be tracked and used to maintain extremely accurate and reliable time.

If the GPS reference signal is ever lost, the S200 can automatically revert to a Stratum 2 mode and retrieve time from other user-designated time servers. Another option is the S200 can be upgraded to an internal Rubidium atomic oscillator that keeps the S200 accurate to 25 microseconds per day.

The SyncServer S200 is your answer to bringing perfect timing to your network.

Front

Back

Key Features

- High-bandwidth NTP time server
- Stratum 1 operation via GPS satellites
- 3 independent Ethernet ports
- High-resolution display
- Full numeric keypad
- IPv6 and IPv4 compliant
- Secure web-based management
- SSH, SSL, SCP, SNMP v3, custom MIB, HTTPS, Telnet, and more
- Stratum 2 operation via NTP servers
- Nanosecond time accuracy to UTC
- Dedicated sysplex timer output
- Email alerts for alarms or errors
- Single satellite timing
- Two-year warranty
- Rubidium and OCXO oscillator upgrades

Key Benefits

- Synchronize thousands of client, server and workstation clocks
- Very reliable and secure source of time for your network
- Extremely accurate time source for network synchronization
- Improve network log file accuracy to speed network fault diagnosis and forensics
- Very easy to install and maintain
- Multiple NTP ports for easy network configuration and adaptation
- Intuitive web interface for easy control and maintenance
- IPv6 compliance future proofs your network

Microsemi

Microsemi Corporate Headquarters
One Enterprise, Aliso Viejo, CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Sales: +1 (949) 380-6136
Fax: +1 (949) 215-4996
email: sales.support@microsemi.com
www.microsemi.com

S200 3/15

Specifications

Network Protocols

NTP (v2 - RFC1119, v3 - RFC1305, v4 - RFC5905)
NTP Unicast, Multicast, Broadcast
SNTP Simple Network Time Protocol (RFC4330)
TIME (RFC868)
DAYTIME (RFC867)
HTTP/SSL/HTTPS (RFC2616)
SSH/SCP (Internet Draft)
SNMPv3 (RFC3584)
Custom MIB
DHCP (RFC2131)
Telnet (RFC854)
MD5 Authentication (RFC1321)
SMTP Forwarding
Syslog 1 to 8 servers
IPv4
IPv6
Key management protocols can be individually disabled.
LAN 1: Management & Time protocols: LAN 2 & LAN 3: Time protocols only.

Server Performance

- Stratum 1: 3200 NTP requests per second while maintaining an overall time stamp accuracy of 14 microseconds to UTC with a variation of less than 33 microseconds typical. This accuracy is inclusive of all NTP packet delays in and out of the SyncServer as measured at the network interface. Client synchronization accuracy to server on a LAN is 0.5 - 2 milliseconds (typical). The SyncServer easily supports many hundreds of thousands of NTP clients.
- Stratum 2: Peering can be used as the primary mode of operation or as a back up mode in case the GPS reference signal is lost. Time stamp accuracy depends on NTP peer server(s). NTP request handling capacity remains the same regardless of stratum level.
- Holdover Accuracy
  TCXO (standard): 21 milliseconds/day
  OCXO (optional): 1 milliseconds/day
  Rubidium (optional): 25 microseconds/day

GPS Receiver/Antenna

- 12 channel parallel receiver
- Minimum number of satellites for time: 1 intermittently
- GPS time traceable to UTC (USNO)
- Accuracy: <50 ns RMS, 150 ns peak to peak to UTC, ≥4 satellites tracked.
- Maximum Belden 9104 cable length: 150' (45 m). For longer cable runs see options.

Mechanical/Environmental

- Size: 1.75" x 17" x 11.25" (4.5 cm x 43.2 cm x 28.6 cm) 1U rack mount
- Power: 100-240 VAC, 50-60 Hz, 25 watts (45 watts with Rb osc.), IEC 60320 C14 connector, power switch.
- Operating temperature: 0°C to +50°C 0°C to +45°C with Rubidium option
- Storage temperature: -10°C to +70°C
- Humidity: To 95%, noncondensing

- Certifications: FCC, CE (RoHS), UL, PSE, China RoHS
- Server weight alone: 8 lbs (3.6 kgs)
- Shipping package weight: 15 lbs (6.8 kgs)

Front Panel

- Display: Sharp, high-resolution 32x256 dot-matrix vacuum-fluorescent. 1, 2 or 4 line.
- Keypad: 0-9 numeric, up, down, left, right, ENTER, CLR, TIME, STATUS, MENU.
- LEDs (tri-color green/red/orange)
  Sync: Time reference status
  Network: Network connection status
  NTP: NTP activity
  Alarm: Fault condition
- Serial: DB9-F 9600, N, 8, 1
- USB: (2x) ports for back up, restore, and upgrade operations via the front panel.

Rear Panel

- Network (3x): RJ-45 10Base-T/100Base-TX Ethernet
- Sysplex: DB9-M RS-232
- GPS: BNC L1, 1575 MHz

Client Software

- An NTP client is required for client-side synchronization with any network time server, including the S200. Comprehensive time client, server & management software for easy distribution, management and monitoring of time across the network is available.

Product Includes

- S200 Network Time Server, L1 GPS antenna, 50' (15 m) Belden 9104 coaxial cable, 1 ft. antenna mounting mast (30 cm) with two clamps, category 5 patch cable, DB9-M to DB9-F RS-232 extension cable, manual, Enterprise MIB software, powercord, and rack mount ear kit. Two-year warranty [Part 1520R-S200].

Options

- Rubidium or OCXO oscillator upgrade for extended holdover (OCXO on select models only) [Entire Server sold as Part 1520R-S200-RB or 1520R-S200-OCXO]
- ±40-60 Vdc power supply [Entire Server sold as Part 1520R-S200-DC]
- Window mounted antenna [Part 500-140-619]
- GPS antenna in-line amplifier for cable runs to 300' (90 m) [Part 150-200]
- GPS antenna down/up converter for cable runs to 1500' (457 m)
- Lightning arrestor [Part 150-709 or 150-710]
- Comprehensive time client, server & management software for easy distribution, management and monitoring of time across the network is also available.
- IEEE 1588 / PTP see SyncServer S300 or S350