SyncServer® S80 Time Server

Ruggedized and Secure Network Time Server

Key Features

- Security-hardened Stratum 1 NTP server
- Fully ruggedized and integrated GPS/GLONASS receiver, NTP server and PoE network interface
- Secure NTP Reflector technology
- 100-nanosecond timestamp accuracy
- 500 NTP requests per second standard, 1000 optional
- Hardware-based timestamps
- GbE interface with IPv4/IPv6/SNMP/DHCP support
- Stationary or moving platforms
- Mounting hardware included

Key Applications

- Ideal for physical security networks isolated from the Internet that need accurate timestamps
- GbE PoE for easy installation and integration with existing physical security networks
- NTP Reflector technology for secure NTP operations compared to vulnerable open-source-based NTP servers
- Environmentally hardened for all weather installations
- Ruggedized and Secure Network Time Server

Ruggedized Stratum 1 NTP Server

The SyncServer® S80 time server is a fully integrated GPS/GLONASS antenna, receiver, NTP server and PoE interface that easily integrates into existing PoE infrastructure to immediately be the source of accurate, secure and reliable timestamps for all network connected devices. Network-isolated physical security systems benefit as the ruggedized Stratum 1 network time server is ideal for synchronizing the time on IP security cameras, access control devices and digital/network video recorders. The S80 is also suitable for synchronizing the time on small enterprise networks.

Security Hardened

For robust and secure NTP operations, the SyncServer S80 time server is equipped with our security-hardened NTP Reflector technology with 100% hardware-based NTP packet processing. Unlike other NTP servers that use the open-source NTP daemon with its documented vulnerabilities, the NTP Reflector also works as a CPU-protecting firewall, with bandwidth filtering and limiting of all non-NTP traffic. NTP packet processing is capable of 500 NTP requests per second, and optionally 1000 NTP requests per second, all the while protecting the CPU from excessive NTP request loading that negatively affects timestamp accuracy, reduces the availability of timestamps, and increases susceptibility to CPU freezing or system reset. The NTP Reflector supports the NTP mode 3 client requests for time. All timestamps are accurate to 100 nanoseconds to UTC, keeping network elements precisely synchronized and ensuring high-integrity timestamps for video records and log files.

Modern Reliability

The S80 represents the latest in NTP Stratum 1 time server technology. By fully integrating the GPS/GLONASS receiver, antenna and time server in a single unit, the mean time between failure is more than 40 years. Coupled with the GbE network interface, SNMP notifications, DHCP and IPv4/IPv6 support, the S80 provides a long-term solution as the surrounding network environment changes over time.

Physical Security Network Ready

Whether the physical security network is stationary or moving, the S80 is ready for plug-and-play delivery of accurate and secure NTP timestamps. Both static and dynamic modes are available to accommodate fixed land-based installations or mobile applications such as seaborne or land mobile. The PoE interface makes the SyncServer S80 time server ready to plug into the nearest PoE switch or midspan. A few simple commands are all that are needed to configure the SyncServer S80 time server for set-and-forget NTP network timing services.

Specifications

GPS Receiver/Time Accuracy

- 72-channel GPS/GLONASS receiver, time traceable to UTC
- <100 nanoseconds RMS to UTC (USNO)
- Operational modes Static: fixed location, non-moving
- Dynamic: automotive (altitude ≤6000m, speed ≤60 miles/hour); sea (altitude ≤500m, speed ≤45 miles/hour)

NTP Server Performance

- 500 NTP requests per second, optionally 1000 NTP requests per second
- Stratum 1 through GPS: overall server time stamp accuracy of <100 nanoseconds RMS to UTC (USNO)
- All NTP timestamps are hardware based and have real-time hardware compensation for internal asymmetric delays.
  - The accuracy is measured at the network interface.
  - NTP is UTC timescale by definition

Network Protocols

- NTP v3/v4 mode 3 NTP client time requests
- CLI over SSHv2
- SNMP v2/v3 (traps only)
- DHCP
- IPv4/IPv6
- All non-NTP packets are provided to the CPU on a filtered, bandwidth-limited basis

Mechanical

- Size Diameter: 6 in. (15.24 cm) Height: 6 in. (15.24 cm)
- Connector RJ-45 1000BASE-T
- Power PoE Class 3 input, <12.5W
- Installation Pole mount on roof, wall and outdoor fixtures
- Directives: LVD 2014/35/EU, EMC 2014/30/EU, Safety 2006/95/EU, RTT&E 2014/53/EU
- Safety certifications: UL 60950-1/CSA C22.2, IEC 60950-1:2005 (2nd ed)/AM 1:2009/AM 2:2013, EN 60950-1: 2ed. 2006/A11:2009/A1:2010/A12:2011/A2:2013

Environmental

- Storage ETSI 300 019-2-1/T1.2, –40°C to 85°C
- Transportation ETSI 300 019-2-2/T2.3, –40°C to 85°C
- Operational ETS 300 019-2-4/T4.1E Class 4M3, –40 °C to 70°C
- Humidity <5% to 100% with condensation
- Seismic Zone 4, salt fog exposure, IP66 compliant and flammability rating of 5VB

Electromagnetic Compliance EMC

- EN 300386 v1.6.1; CISPR 32: 2012, Class B limits; CISPR 24: 2010; EN 55032: 2012/AC2013, Class B limits; EN 55024: 2010; FCC Title 47 Part 15, ICES-003, AS/NZS, Class B limits; VCCI V-3/2015.04/V-4/2012.04, Class B limits; KN 55032/35, Class B limits; K.20; BSMI

Product Includes

- The SyncServer S80 time server with outdoor PoE connector, mounting mast, mounting bracket, clamps, nuts and washers
- One-year hardware warranty

Ordering Information

- Part number: 090-15200-080, UPC 040232683602
- Optional 1000 NTP requests per second: 920-15201-081
- Outdoor PoE Surge Protector: PD-OUT/SP11
- Shipping container size: 21.375” × 13.75” × 11.125” (54.29 cm × 34.93 cm × 28.26 cm)
- Shipping weight: 9 lbs. (4.08 kg)