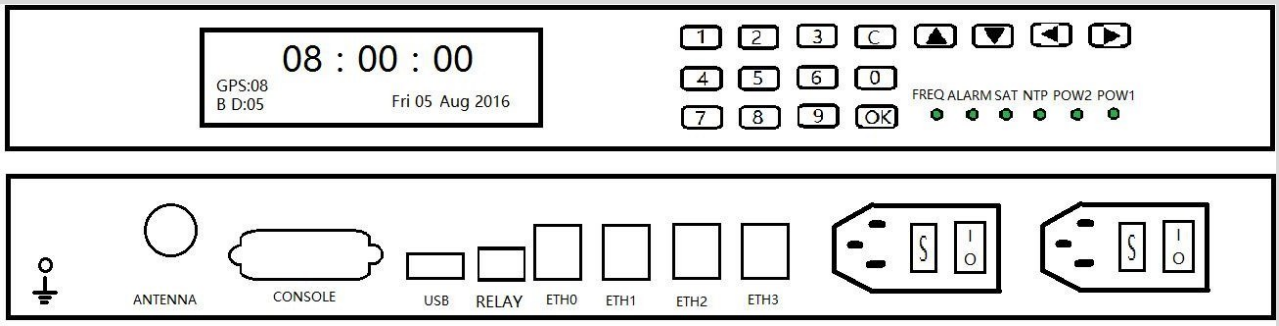
Network Time Server

NTS100 (1 LAN Port)

NTS200 (2 LAN Ports)

NTS400 (4 LAN Ports)



Product Introduction

The NTP (Network Time Protocol) time server is based on signals from global positioning satellites (GPS and BDS) as the reference source. The time reference in the GPS/BDS satellite signal is synchronized with Coordinated Universal Time (UTC), and the long-term frequency stability reaches the level of 10^{-13} of cesium atomic clocks, equivalent to slowing down by only one second every 300,000 years. Using this signal as a time reference to adjust the local time can eliminate the accumulated deviation caused by the lower accuracy of the local clock, greatly improving the timing accuracy of the server. The NTP time server uses a professional GPS/BDS timing receiver, which has fast signal acquisition and reliable lock-in.

The NTP protocol is an internationally recognized network timing protocol. Its principle is that the client initiates a time poll to the server at intervals. Based on certain filtering algorithms, the time deviation between the server and the client, as well as the propagation delay caused by network transmission, are calculated, and the client's local time is adjusted according to these two parameters to synchronize it with the server. Compared with other time calibration protocols, the NTP protocol can eliminate the impact of network propagation delay and therefore provide high-precision timing services. The specific protocol description can be found in the latest standard documents RFC1305 and RFC2030. The NTP time server can be compatible with various versions of NTP v2/v3/v4 simultaneously.

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Features

- 12 Channel Satellite operation
- One/two/four standard Ethernet ports, all with patented NTP hardware time stamping. The LAN port ETH0 is the management port and cascade port. All ports support SSH/ SNMP/HTTP/HTTPS/NTP.
- Web-based management with high security cipher suite, supports HTTP/HTTPS. Supports CLI configuration. Keyboard can be used for easy and fast configuration.
- Exceptional time accuracy to UTC.
- Extended environmental specifications.
- Real time clock with minimum 3 Hrs backup
- GPS Antenna – Dual support, Frequency of operation: GPS L1, GLONASS L10F, NavIC, Coverage :360 Degree, Ingress Protection: IP67
- GPS Receiver - Dual support, Timing Accuracy: < 10 ns with GPS Receiver (Receiver is locked on fixed position), Position Accuracy: 10mt, Holdover Accuracy (When GPS signal lost) : drift rate should be <10 milliseconds/day time for 24 hours after signal is lost. Sensitivity: -166 dBm (tracking), -148 dBm (cold start), Locking Time: <5 Min, Anti-jamming technology, Input Frequency: GPS L1, GLONASS L10F, NavIC, The NTP server will continue to serve Stratum 1 time if GPS reference signal is lost using TXCO/OXCO oscillator
- NTP Server Performance: 20000 NTP requests per second while maintaining accuracy associated with reference time source.
- Uses RFC1119/1305 NTP (Network Time Protocol)
- Supports RFC1769/2030 SNTP (Simple Network Time Protocol)
- Supports SNMP, with a serial port for to log in; supports syslog, with iptables security protection.
- Supports trace log. With a second development interface.
- IPv6/IPv4 on all ports. Supports multiple ports BONDING and multiple routes.
- MTBF: 90000 Hours.
- Optional TOD/1PPS/10MHz/PTP/IRIG-B output
- Optional Rubidium atomic clock or TCXO / OCXO oscillator upgrade for extended holdover
- Network Service: IPv4, IPv6, NTP v2, v3 and v4 with unicast , Broadcast and Multicast modes, SNMP v1, v2 and v3

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- Security Features: Configurable MD-5 based encrypted passwords for SSH, Telnet and webserver access, NTP v3, v4 MD 5 authentication with symmetric and auto key Management Network security features SNMPv3 – SHA/MD5 authentication, SNMP v3 with SHA/MD5 authentication and option for no auth/auth/priv security. Security conscious users can disable any or all of the key risky protocols such as HTTPs, Telnet and Time and Day time or restrict access to specific hosts

Software support

- Firmware is field upgradable with free for the life time of the product
- USB soft and firmware updates
- Software and tools for installation

Network Protocols

- RFC 1119 1305 NTP v2/v3/v4
- RFC 1769 2030 SNTPv2/v3/ v4
- SNMP v1/v2 SSH HTTP/HTTPS SFTP
- SSH/Telnet/ and more with console access
- Uses RFC1119/1305 NTP (Network Time Protocol)
- Supports RFC1769/2030 SNTP (Simple Network Time Protocol)

Mechanical/Environmental

- Size: 44cm x 28.6cm x 4.4cm,1U rack mount, including BNCs.
- Power: 10W, 110-230V AC, 50Hz-60Hz, dual power supplies (with dual-corded connectors and load sharing)
- Indicators: Indications for Dual Power supply, Indication for Satellite Locked /Sync, Indications for Alarm/Error, Front panel must have provision to display time in 6 digit in *HH:MM:SS*
- Operating temperature: -10℃~65℃
- Storage temperature: -40℃~85℃
- Operational humidity: 0~90%, non-condensing, c) Ingress Protection IP20 enclosure, IEC 60068-2-78Cb, IEC 60068-2-30Db

Warranty: 2 Years

Specific Performance Index

GPS/BeiDou receiver

64 channel GPS receiver

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Supports GPS/BeiDou frequency band

Cold-start time: 50 seconds

Hot-start time: 2 seconds

Sensitivity: -162dBm

1PPS accuracy: 15ns (1 sigma)

*Depends on the location of the antenna

Timing performance

Server Time Level: Stratum 1

Server time precision: 1ms

Precision of client time: 10ms

Timing capacity: >20000 times per second

Compliance

CISPR/CE/ FCC/ RoHS/ ISO9001

Packing List

Time servers with console, power cords, 2 antenna kits, 2 X 50 mts cables, lightning arrestors.

Applications

• Synchronizes hundreds of thousands of NTP clients.

• Security-hardened for peace-of-mind time service operations.

• Multiple GbE NTP ports for easy network configuration and adaptation.

• Best-in-class time accuracy for improved log file timestamp precision and usability.

• Very reliable and easy-to-use network time appliance for modern networks and business operations.

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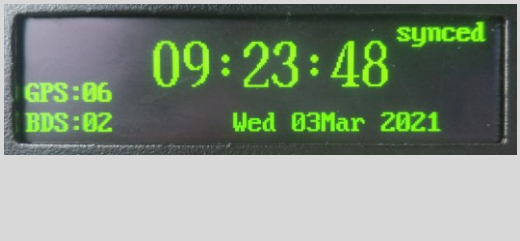

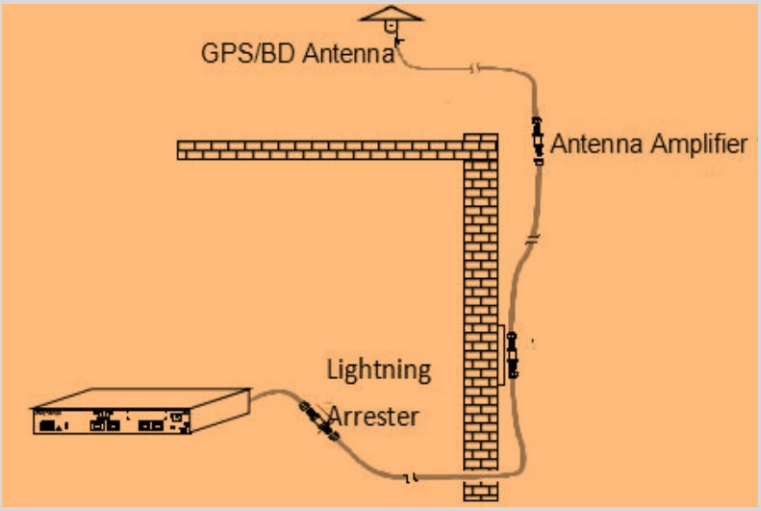

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