

Network Time Server



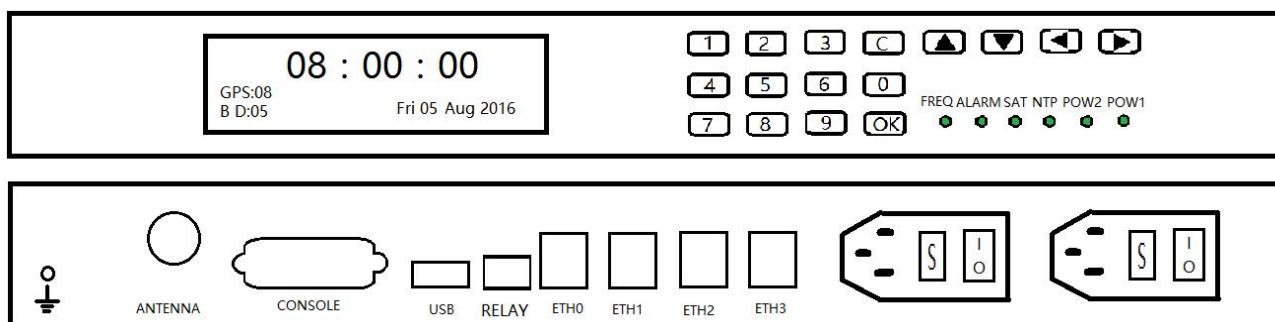
GTT100 (1 LAN Port)



GTT200 (2 LAN Ports)



GTT400 (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.

Features

- Stratum 1 operation via GPS/BeiDou satellites, can also be set as a stratum 2 time server to synchronize with host time server
- One/two/four standard GbE ports, all with patented NTP hardware timestamping. 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
- 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 tracelog. With a second development interface.
- IPv6/IPv4 on all ports. Supports multiple ports BONDING and multiple routes.
- GLONASS/Galileo option
- MTBF: 90000 Hours
- **Optional TOD/1PPS/10MHz/PTP/IRIG-B output**
- **Optional Rubidium atomic clock or OCXO oscillator upgrade for extended holdover**

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

Network Protocols

RFC 1119 1305 NTP v2/v3/v4

RFC 1769 2030 SNTPv2/v3/ v4

SNMP v1/v2

SSH

HTTP/HTTPS

SFTP

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)
- Operating temperature: -10°C~65°C
- Storage temperature: -40°C~85°C
- Operational humidity: 0~90%, non-condensing, IEC 60068-2-78Cb, IEC 60068-2-30Db

Specific Performance Index

GPS/BeiDou receiver

36 channel GPS receiver

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

Oscillator Aging (yearly)

OCXO: 1E-7

Rb: 1E-9

Compliance

CE FCC RoHS ISO9001

Packing List

Time servers, power cords, antenna kits, cables, lightning arrestors

We reserve the right to make changes at any time.