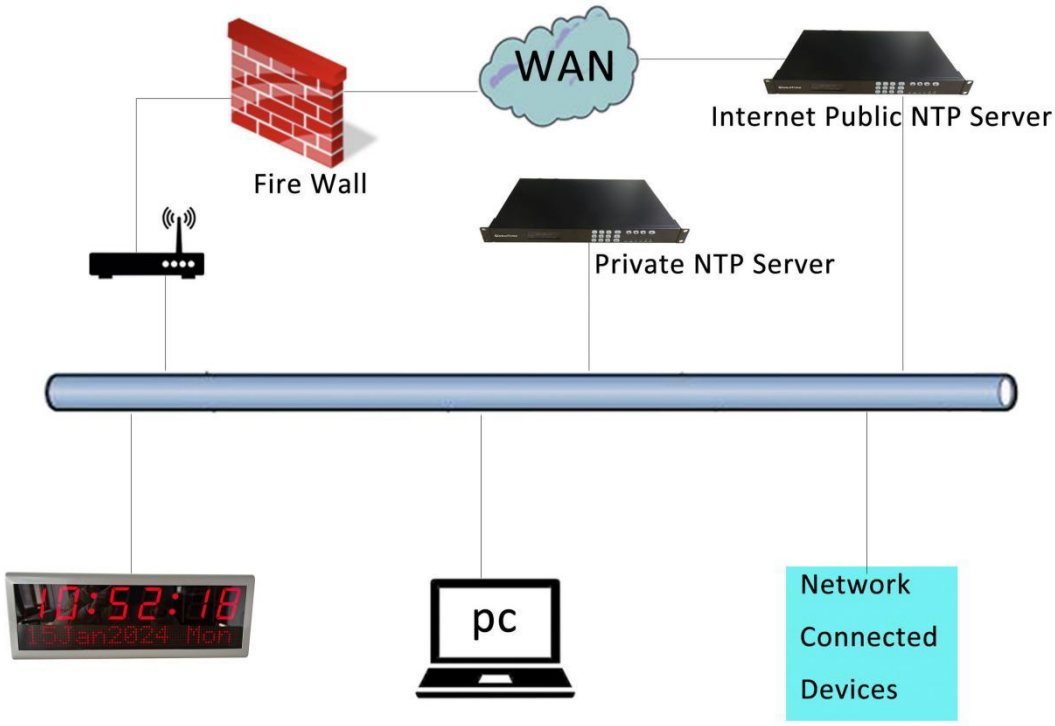
Catalog



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1. GlobalTime Introduction

GlobalTime was founded in the year 2003 in Shanghai, China. It is a professional manufacturer of synchronized clock systems. We strive towards innovation and reliability. We feature a complete line of NTP servers (GPS servers) and synchronized Clocks. With outstanding R&D team, GlobalTime offers a wide range of NTP servers and NTP clocks, radio clocks, CDMA clocks. By providing accurate, real-time information, we keep schools, hospitals, airports, train stations, media houses, offices, financial institutes, military bases, public security bureaus and other governmental institutes informed and on the same stage.
Our clocks are widely used in more than 60 countries or regions over the world. Please contact us if you have any questions about our NTP products.

2. NTP Introduction

Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched, variable-latency data networks. NTP is the most popular time synchronization protocol in current use.
NTP is intended to synchronize all participating computers to within a few milliseconds of Coordinated Universal Time(UTC). It uses the intersection algorithm, a modified version of Marzullo's algorithm, to select accurate time servers and is designed to mitigate the effects of variable network latency. NTP can usually maintain time to within tens of milliseconds over the public Internet, and can achieve better than one millisecond accuracy in local area networks under ideal conditions. Asymmetric routes and network congestion can cause errors of 100 ms or more.

3. The Advantages of Power over Ethernet(PoE)

PoE is a network standard based on IEEE 802.3af that delivers DC power and data to Ethernet connected devices. PoE is fully compatible with powered and non-powered 10/100BaseT Ethernet devices.
PoE clocks utilize Power over Ethernet (PoE), the same technology that powers IP phones. The PoE clock receives its power and data from a standard CAT5 patch cable via a PoE injector or switch. By simply using a Windows-based application, the user can view and/or change existing configuration of the entire system. The clock will receive its time from a SNTP time server for accurate timekeeping, thus eliminating the need of a master clock.

4. NTP Server



GTT100 (1 LAN Port)



GTT200 (2 LAN Ports)



GTT400 (4 LAN Ports)

4.1. Difference of GTT100, GTT200, GTT400

The difference of the three models is at the quantity of LAN Ports, and only with more than 1 LAN Port, bounding is available. So GTT100 doesn't support bounding, GTT200 & GTT400 support bounding.

4.2. 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 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.
- 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.
- GLONASS/Galileo option. GlobalTime servers use GPS&Beidou by default. One unit of server can choose any two types of satellites among GPS, Beidou, GLONASS and Galileo.
- MTBF: 90000 Hours.
- Optional TOD/1PPS/10MHz/PTP/IRIG-B output
- Optional Rubidium atomic clock or OCXO oscillator upgrade for extended holdover

5. Digital NTP Clocks

5.1. 4" Digital NTP PoE Clock GTD368-Series

Features

- Available with 4" digits, 4 digit display or 6 digit display.
- Red display standard; Optional green, amber, yellow displays.
- Black plastic case standard; Optional iron case in white/ black/ gray, stainless steel case in gray.
- Time is automatically set by Simple Network Time Protocol(SNTP)- no master clock or serial connection required.
- Uses PoE (Power over Ethernet) for easy installation and operation.
- Static IP or DHCP addressing.
- 12 or 24 hour display.
- Automatic Daylight Saving Time change (if applicable)
- Adjustable brightness (brilliant, bright, normal, dim, off)
- Capability to receive realtime countdown command.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- The clock features time loss notification by having a light on on the right lower corner.
- Can be single sided (has one display) or double sided (has two displays)



Single-sided



Double-sided



Ceiling Mounting



Wall Mounting

Optional

Capable of interface with:

• Temperature sensor or humiture sensor

• Built-in bell relay

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5.2. 2.3" Digital NTP PoE Clock with Date/Text Display-GTD366



Features

- Available with 2.3" digits, can display calendar or English text (less than 64 bytes).
- Red display standard.
- Black iron case standard; Optional iron case in white/ gray, stainless steel case in gray.
- Time is automatically set by Simple Network Time Protocol(SNTP)- no master clock or serial connection required.
- Uses PoE (Power over Ethernet) for easy installation and operation.
- Static IP or DHCP addressing.
- 12 or 24 hour display.
- Automatic Daylight Saving Time change (if applicable).
- Adjustable brightness (brilliant, bright, normal, dim, off).
- Capability to receive realtime countdown command.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- The clock features time loss notification by having a light on on the right lower corner.

Optional

Capable of interface with:

• Temperature sensor or humiture sensor

• Built-in bell relay

5.3. 2.3" Rack-mounted NTP Clock- GTD362



Features

- Available with 2.3" , 6 digit display.
- Red display standard.
- Time is automatically set by Simple Network Time Protocol(SNTP)- no master clock or serial connection required.
- Static IP or DHCP addressing.
- 12 or 24 hour display.
- Automatic Daylight Saving Time change (if applicable).
- Adjustable brightness (brilliant, bright, normal, dim, off).
- Capability to receive realtime countdown command.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- The clock features time loss notification by having a light on on the right lower corner.

5.4. Digital NTP Wi-Fi Clocks- GTD369 Series

Features

- Available with 4" digits, 4 digit display or 6 digit display.
- Red display standard; Optional green, amber, yellow displays.
- Black plastic case standard; Optional iron case in white/ black/ gray, stainless steel case in gray.
- Time is automatically set by Simple Network Time Protocol(SNTP)- no master clock or serial connection required.
- Supports Wi-Fi- **no need of network cable distribution.**
- Static IP or DHCP addressing.
- 12 or 24 hour display.
- Automatic Daylight Saving Time change (if applicable).
- Adjustable brightness (brilliant, bright, normal, dim, off).
- Capability to receive realtime countdown command.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- The clock features time loss notification by having a light on on the right lower corner.
- Can be single sided (has one display) or double sided (has two displays)



Single-sided



Double-sided



Ceiling Mounting



Wall Mounting

Optional

Capable of interface with:

• Temperature and/ or humidity sensor

• Built-in Bell Relay

6. Analog NTP Clocks

6.1. Analog NTP PoE Clocks- GTD360 Series

Features

- Time is automatically set by Network Time Protocol(NTP)- no master clock or serial connection required.
- Uses PoE (Power over Ethernet) for easy installation and operation.
- DHCP addressing.
- Automatic Daylight Saving Time change (if applicable).
- With a stepping (ticking) second hand.

6.2. Analog NTP Wi-Fi Clocks- GTD361 Series

Features

- Synchronization by an NTP server in an IPv4 network.
- Automatic acceptance of network configuration (IP address, gateway address, subnet mask, NTP server address) using DHCP.
- Automatic daylight saving time adjustment (where applicable).
- Applicable for any time zone.
- Signalization of missing NTP synchronization after 3 times continuous failure in synchronization by setting the second hand to the 6:00 position.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- With silent sweeping second hands.

7. GPS Clocks

Appearance



2.3" digit, with date display



4" Digit



2.3" digit, Rack-mounted

Features

- Supports GPS, GLONASS, Galileo, BD. The system automatically selects and synchronizes with the satellites. If synchronization fails, a dot will light up in the bottom right corner of the clock within 2 minutes.
- Accuracy: +/- 20 milliseconds.
- Timezone management.
- Automatic daylight saving time change (where applicable).
- Adjustable brightness settings (brilliant, bright, normal, dim, off).
- Supports 24-hour or 12-hour display format. When in 12-hour format, a dot will appear in the top left corner of the display to indicate PM.

Optional

Capable of interface with:

• Temperature and/ or humidity sensor

8. NTP Master Clock & Slave Clock

Appearance





NTP Master Clock(Backside)



Slave Clock(Backside)

Features

- Available with 2.3" digits, can display calendar or English text (less then 64 bytes).
- Red display standard.
- Black iron case standard; Optional iron case in white/ gray, stainless steel case in gray.
- Time is automatically set by Simple Network Time Protocol(SNTP). Slave clocks can synchronize with the NTP master clock.
- NTP master clock uses PoE (Power over Ethernet) for easy installation and operation
- Static IP or DHCP addressing
- 12 or 24 hour display
- Automatic Daylight Saving Time change (if applicable).
- Adjustable brightness (brilliant, bright, normal, dim, off).
- Capability to receive realtime countdown command.
- If connection to NTP server is lost the clocks will continue to run on the built-in time base. When the connection is restored it will synchronize automatically.
- The clock features time loss notification by having a light on on the right lower corner.
- With a built-in wireless transceiver module, the effective communication range can be 2-3km in the open.

We reserve the right to make changes at any time.

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