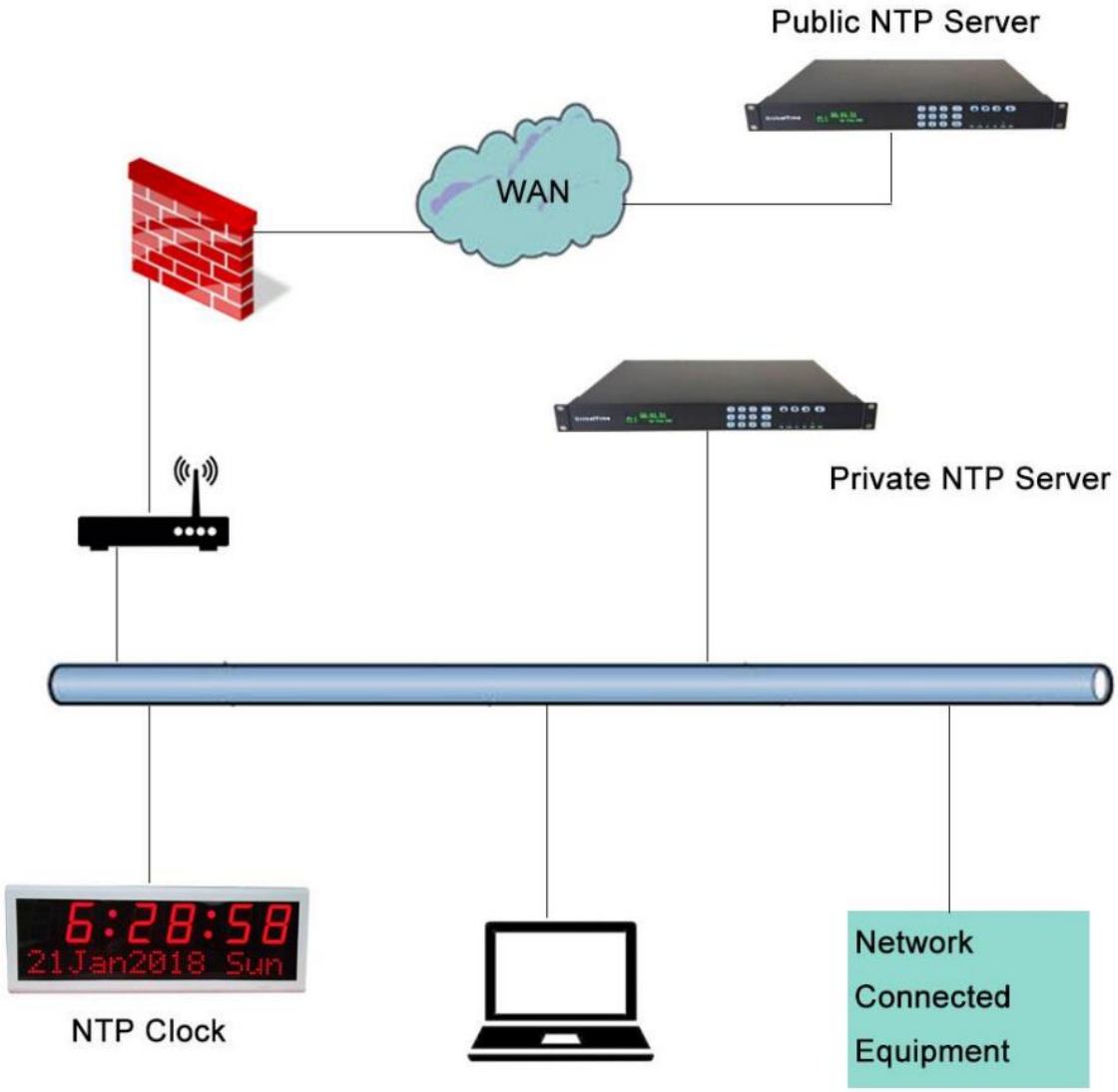
GlobalTime Electronic Co., Ltd

Synchronized time has never been this simple!



GFClock Yasapersada

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1. GlobalTime Introduction

GlobalTime is 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. In operation since before 1985, NTP is one of the oldest Internet protocols in current use.

NTP is intended to synchronize all participating computers to within a few milliseconds of Coordinated Universal Time(UTC).[1]:3 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. POE Introduction

Power over Ethernet or PoE describes any of several standard or ad-hoc systems which pass electric power along with data on twisted pair Ethernet cabling. This allows a single cable to provide both data connection and electric power to devices such as NTP clocks, wireless access points, IP cameras, and VoIP phones.

There are several common techniques for transmitting power over Ethernet cabling. Two of them have been standardized by IEEE 802.3 since 2003.

4. NTP Server

GTT100

GTT200

GTT400

4.1. Features

- Stratum 1 operation via GNSS satellites
- One two four standard GbE ports, all with patented NTP hardware timestamping
- Security-hardened NTP Reflector™ with firewall protection
- Web-based management with high-security cipher suite
- Exceptional time accuracy to UTC
- Extended environmental specifications
- IPv4 on all ports
- Rubidium atomic clock or OCXO oscillator upgrades

- Single power supply or dual power supply option
- GLONASS BeiDou SBAS option
- Can be set as a slave time server to synchronize with host time server
- One 10M 100M 1000M adaptive network interface
- NTP Reflector option: 20000 NTP client mode three requests per second
- TOD/1PPS/10MHz out
- MTBF: 90000 Hours

4.2. 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

4.3. Network Protocols

RFC 1119 1305 NTP v2/v3/v4
RFC 1769 2030 SNTP v2/v3/v4
TIME
DAYTIME
SNMP v1/v2/v3
SSH
HTTPS
FTP

4.4. Mechanical/Environmental

- Size: 44cm x 28.6cm x 4.5cm, 1U rack mount, including BNCs
- Power: 10W, 110-230V AC
- Operating temperature: -10℃~65℃
- Storage temperature: -40℃~85℃
- Operational humidity: 0~90%, non-condensing, IEC 60068-2-78Cb, IEC 60068-2-30Db

4.5. Comparison Chart of Different Models

Model		GTT100	GTT200	GTT400
Time Source		GPS/GLONASS	GPS/GLONASS	GPS/GLONASS External Serial Port
No. of 10M 100M Adaptive Interface		1	2	4
Built- in Clock		Rubidium oscillator	Rubidium oscillator	Rubidium oscillator
Terminal Support		60000	60000	60000
Keyboard		Yes	Yes	Yes
Protocol Support	SNMP	Yes	Yes	Yes
	HTTPS	Yes	Yes	Yes
	TIME	Yes	Yes	Yes
	DAYTIME	Yes	Yes	Yes
Options	TOD 1PPS 10MHz	Yes	Yes	Yes
	IRG-B	Yes	Yes	Yes
Heartheat Detection		No	Yes	Yes

5. Digital NTP Clocks- GTD368 Serials (PoE Version)

 GTD368-4SR	 GTD368-6SR3	 GTD368-6SR4
 GTD368-4SB	 GTD368-6SB3	 GTD368-6SG4
 GTD368-4SW	 GTD368-6SW3	 GTD368-6SW4
 GTD368-4SG	 GTD368-6SG3	 GTD368-6SG4

5.1. Specifications

Accuracy		+/- 20 milliseconds	
Operating Temperature		-10℃ to 60℃	
Operational Humidity		90% maximum, non-condensing	
Viewing Distance		50 meters	
Mounting Options		Surface, Double Sided	
Power Supply		IEEE 802.3 af (PoE) Compliant, less than 13 Watts	
		DC	
Network Interface		10/100 M, RJ 45	
Display Face		4/ 6-digit, 7 segment LEDs	
Cabinets		High strength plastic in black Metal case in black is optional for 6-digit clocks.	
Color		Red, Green, Blue, White, Amber	
MTBF		50000 hours	
Warranty		One year.	
4" 4- digit, Single-sided		4" 4- digit, Double-sided	
Dimensions	30.2cm*15.7cm*5.7cm	Dimensions	30.2cm*15.7cm*8cm
Weight	0.7kg	Weight	1.2kg
4" 6- digit, Single-sided		4" 6- digit, Double-sided	
Dimensions	43cm*15.7cm*5.7cm	Dimensions	43cm*15.7cm*8cm
Weight	0.9kg	Weight	1.5kg

5.2. Features

- Uses PoE (Power over Ethernet) for easy installation and operation
- Hundreds of clocks can be configured from a single PC
- Display time in 12 or 24 hours format
- Automatic Daylight Saving Time after setting once
- Environmentally Friendly: 4 adjustable brightness levels, automatic turn-off setting
- Time Synchronized using NTP
- Static IP or DHCP Addressing
- An indicator light appears when network problem is detected
- Self adjusting after power disruption
- Can be single sided (has one LED face) or double sided (has two LED faces)
- Supports Countdown function
- **Wi-Fi function is optional**
- **Alarm Function is optional**
- **Temperature & Humidity display is optional**

6. Digital NTP Clocks-GTD368 Serials (WiFi Version)

6.1. Specifications

Picture		
Model	GTD368-6SR5	GTD368-4SR5
Dimensions	77cm*29cm*5cm	66.8cm*20cm*4.4cm
HH:MM:SS	5"	5"
YYMMDD	2.3"	
Weight	4.1kg	3.3kg
Cabinets	Aluminum in Black	Aluminum in White
Viewing Distance	150+ feet (50+ meters)	150+ feet (50+ meters)
Accuracy	+/-20 milliseconds	+/-20 milliseconds
Operating Temperature	-10℃ to 70℃	-10℃ to 70℃
Operational Humidity	90% maximum, non-condensing	90% maximum, non-condensing
Mounting Options	Surface	Surface
Power Supply	15V DC/2A	15V DC/2A
Certification	CE, FCC, RoHS	CE, FCC, RoHS

6.2. Features

- Time is automatically set by NTP- no master clock or serial connection required
- Supports Wi-Fi- no need of network cable distribution
- Provides complete control over web configuration- no need of APP
- Automatic Daylight Saving Time.

7. Rack-mounted NTP Clock- GTD362

7.1. Features

- Size: 44cm*18cm*8.8cm, 2 U Rack-mounted, weight: 2.78kg
- 2.3" seven segment LEDs, digit color is available in red, blue, green, white, and amber
- Standard chassis color is black powder coat
- Viewing Distance-: 50 feet - 15 meters

- Power Supply: 110-240V AC/ 0.7A
- Time display in 12 hour or 24 hour format - HH: MM: SS
- Automatic daylight saving time
- Synchronizes to an external or a local NTP source for accurate traceable time
- Software to monitor and configure the device
- Supports countdown function

8. Digital NTP Clock-GTD366

8.1. Specifications

- Case: Metal in Black or White
- Size: 43cm*15.5cm*6.3cm, Weight: 2kg
- Display: 2.3" digit (56mm character), 8*8 dot matrix(38mm high)
- Viewing Distance: 50 feet - 15 meters
- Mounting Options: Surface

8.2. Features

- Can display date or text
  - Maximum static text display: 13 characters
  - If text is over 13 characters, choose to roll, or alternate
- Uses PoE (Power over Ethernet) for easy installation and operation
- Hundreds of clocks can be configured from a single PC
- Display time in 12 or 24 hours format
- Automatic Daylight Saving Time
- Environmentally Friendly: 4 adjustable brightness levels, automatic turn-off setting
- Time Synchronized using NTP
- Static IP or DHCP Addressing
- An indicator light appears when network problem is detected
- Supports countdown function.
- Self adjusting after power disruption

9. Analog NTP Clock-GTD360 (PoE Version)

9.1. Features

- Classic style
- Different formats of cock face
- Aluminium or plastic case
- Time is automatically set by NTP
- Power over Ethernet (PoE)
- DHCP or Static IP addressing
- Simple configuration-make it convenient to obtain accurate time
- Daylight saving time
- Client software for configuration
- Accuracy: +/- 0.5 seconds
- No master clock required
- OEM, ODM, Customized

10. Analog NTP Clocks- GTD360 (Wi-Fi Version)

Picture	
Model	GTD360
Dimensions	Diameter: 39.7cm, Height: 5cm
Weight	1.3kg
Cabinets	Aluminum in Silvery
Accuracy	+/- 1 second
Operating Temperature	-10℃ to 70℃
Operating Humidity	90% maximum, non-condensing
Mounting Options	Surface
Certification	CE, FCC, RoHS

10.1. Features

- Time is automatically set by NTP- no master clock or serial connection required
- Supports Wi-Fi- no need of network cable distribution
- Provides complete control over web configuration- no need of APP
- Automatic Daylight Saving Time after setting once