GlobalTime Electronic Co., Ltd

Analog NTP Clock - GTD360 (NTP PoE)

Table of contents

1. Introduction of NTP and PoE....1
2. Safety Instructions....1
3. Power Supply....1
4. Operation Status....1
4.1. Localization....1
4.2. Standstill....2
4.3. Adjustment....2
4.4. Normal Operation....2
4.5. Loss of synchronization....2
5. Configuration....2
5.1. Configuring an IP Address....2
5.2. Management Software “ClockSniffer”....3
5.2. 1. IP Configuration....3
5.2.2. Basic Information and settings 4
6. Troubleshooting....4
6.1. The cock shows incorrect time....4
6.2. The management software fails to search out the clock....4
6.3. The clock can not synchronize with any time server....4
7. Warranty and Maintenance....4
7.1. Warranty....4
7.2. Repair and Returns....5

1. Introduction of NTP and PoE

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.

PoE (Power over Ethernet) is an exciting and relatively new technology that allows devices to get both power and data over standard network cabling. It is the same technology that powers Voice over Internet Protocol (VoIP) phones.

2. Safety Instructions

- To prevent injury, damage to the unit, or other harm, read this manual in its entirety before installing or operating the clock.
- Observe normal safety precautions and use appropriate safety equipment (safety glasses, gloves, ladders, etc.) when installing this product.
- Never install wiring during a lightning storm.
- Never install data jacks or electrical wiring in wet locations unless the equipment is specifically designed for that purpose.
- Be sure that mounting hardware is suitable for the mounting surface and sufficient to support the weight of the clock.
- Observe all local codes when installing the product.
- This product is not a toy! Please keep it out of the reach of children.
- Operation of this product in a manner inconsistent with the instructions in this manual may result in personal injury and damage to the product and will void the warranty.
- Do not use harsh cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing injury or damage.

3. Power Supply

If the local network supports PoE, only one network cable is needed; If not, a 5V/1A power adapter with a micro USB connector and a network cable is necessary.

Note:

We inserted a pin on the movement to avoid clocks hands shaking during delivery. It is necessary to remove this pin before you power on the clock.

We can not connect the clock to both PoE and power adapter at the same time, otherwise the MCU of the clock will be damaged.

4. Operation Status

The operation status of NTP analog clock includes localization, standstill, adjustment, normal working, loss of synchronization.

4.1. Localization

When the clock is powered on, they system will find out the initial position if the three hands(at 12:00) by rotating as a result from unknowing the current position of the hands.

4.2. Standstill

The hands will pause if the system can't get the present time from networks due to certain factors, such as malfunctioned networks, improper configuration after the status of localization and so on.

4.3. Adjustment

The clock system will synchronize itself with the target time by a certain way after obtaining the present time. The hour and minute hands can adjust themselves by chasing and waiting. It will wait only when the adjusted target time lags the present time within several minutes. Under other conditions, it will synchronized with the target time by chasing. However, the seconds hand can only adjusts itself by waiting.

4.4. Normal Operation

It refers to the status that hands can run normally within a certain range of time accuracy.

4.5. Loss of Synchronization

The seconds hand will jump two seconds per time if the clock system does not synchronized with the network for a long time after it steps into the status of normal working.

Note:

1) Under normal conditions, the analog clock will start localization immediately as soon as it is powered on, then it starts adjustment instantly once it obtains the present time from network.

2) On condition that the clock fails to obtain the present time from the network because of malfunctioned networks or the improper configuration, all hands will stop at 12:00 after localization.

3) If the time zone is modified or the Daylight Saving Time is valid or canceled under the normal working condition, the clock will start adjusting. Then it goes to the status of normal working.

5. Configuration

5.1. Configuring an IP Address

There are two options to for configuring an IP Address to each GlobalTime clock:

- DHCP (Factory Default)
- Assigned Static IP v4 Address. The default IP of the clock is 192.168.2.55.

5.2. Management Software “ClockSniffer”

Download Link:

（1）GlobalTime Website: https://www.ntpclock.com/manuals

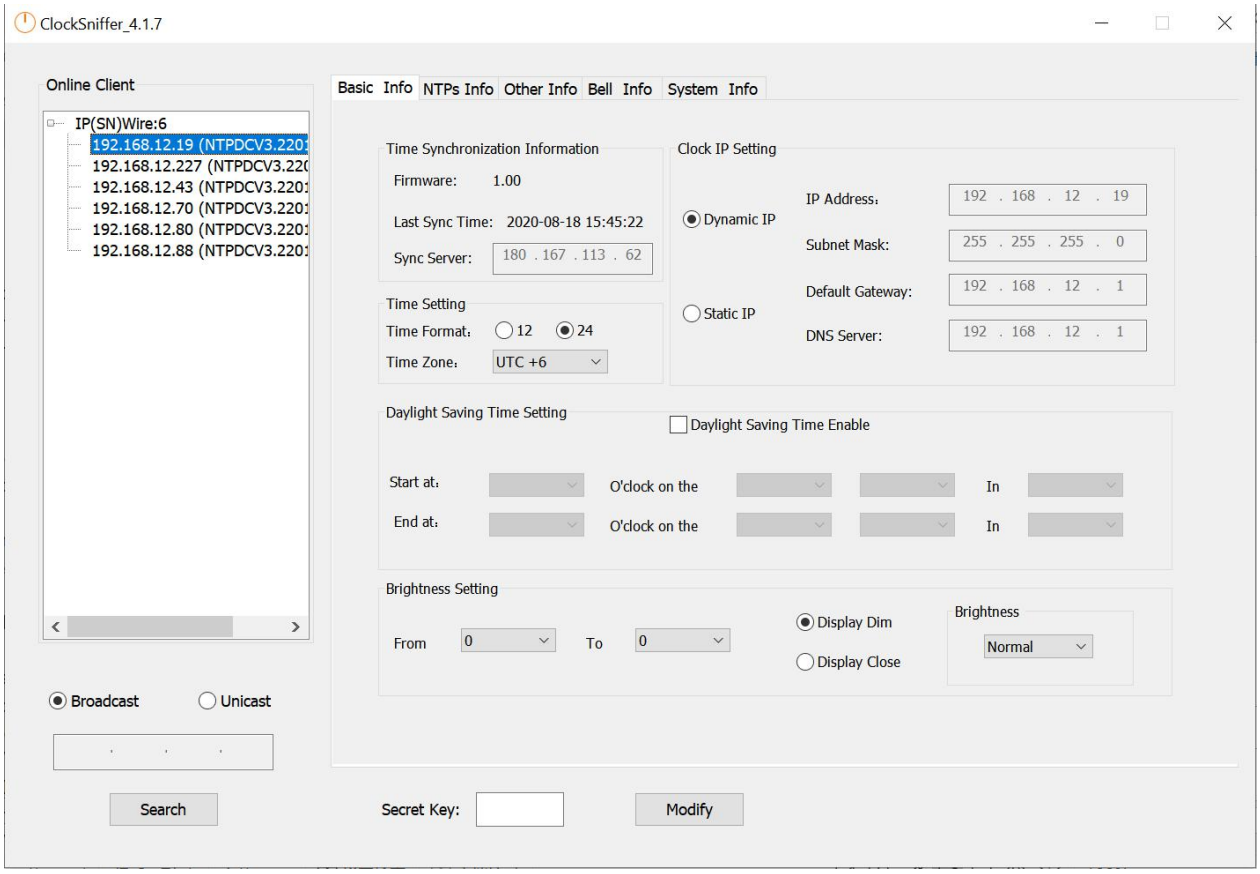
（2）GoogleDrive

For 64-bit windows computer :

https://drive.google.com/file/d/168vkhi23dQMvaRjxhVmGFeOpWzutgI5w/view

For 32-bit windows computer:

https://drive.google.com/file/d/1_rGsEmQM4RIwWY4L_pbP_mkSbkThj7IR/view



Note:

(1) Run the software as administrator

(2) The default login password is **Admin@GTC**. It can be reset via the software.

(3) After setting, please just click “Modify”, no need to enter the secret key if you have not set one.

(4) By default, the clock is configured to use DHCP. The default IP is 192.168.2.55. Whatever we use DHCP or Static IP, we must ensure that our PC and the clock are in the same network, then we can see the clock on the software.

5.2.1. IP Search

The management software supports both Broadcast (255.255.255.255) and Unicast way to search out online client clocks. Broadcast is factory default.

- Broadcast

Select Broadcast, and click search, the software will automatically search online clock in the subnet, and group IPs based on different subnets.

- Unicast

Select Unicast, and input initial IP you want in the bar, then click Search, the software will search from the initial IP to the last one. For example, to search all clocks in subnet 192.168.3.0, you can input 192.168.3.001, and then search one by one till 192.168.3.254.

5.2.2. Basic Information and Settings

Basic Setting

- ✓ Time Zone and Time Format
- ✓ Clock IP Setting
- ✓ NTP Setting
- ✓ Daylight Saving Setting
- ✓ User Password Setting

6. Troubleshooting

6.1. The cock shows incorrect time.

Check the host IP configuration and verify the network can communicate with the time server preset.

6.2. The management software fails to search out the clock.

Make sure that the user's computer and the clock are in the same subnet and the firewall is set correctly.

6.3. The clock can not synchronize with any time server.

The user should make sure that his network can visit the internet time source, and the time server is running its NTP service successfully.
GlobalTime has a software to help the user check that, if you need, please contact with us.

7. Warranty and Maintenance

7.1. Warranty

GlobalTime warrants the clocks to be free from defects in material and workmanship during a one-year period. The Warranty begins on the date the unit is shipped from GlobalTime. Extended warranties are available via certain agreements.
GlobalTime' liability under this Warranty is limited to repairing or replacing, at GlobalTime' option, the defective equipment and providing upgrade version changes for firmware. In case of repair, the product must be returned to an authorized GlobalTime Service Center.

This Warranty does not apply if repairs are required due to acts of nature beyond GlobalTime' control such as, but not limited to, lightning strikes, power surges, misuse, damage, neglect, or if repairs/ modifications have been made or attempted by anyone other than personnel authorized by GlobalTime.

In no event will GlobalTime be liable for any indirect, special, incidental, or consequential damages from the sale or use of this product. This disclaimer applies both during and after the term of the warranty. GlobalTime disclaims liability for any implied warranties, including implied warranties of merchantability and fitness for a specific purpose.

7.2. Repair and Returns

To obtain service under this warranty, contact GlobalTime at +86-21 36531186 or at the address below during the warranty period to receive a Return Material Authorization (RMA) number and shipping instructions. Then ship the product, transportation prepaid, for inspection.

Ship to: GlobalTime
Attn: RMA XXXXXX
Floor 7, Building 4, No. 651, Wanfang Road, Minhang District, Shanghai, China / 201112
Tel: +86-21 3653 1186

Typical equipment repair or replacement time is seven (10) business days, plus shipping times. One-way shipping is the Customer's responsibility. GlobalTime will return ship the equipment by the same means it was received.

GlobalTime will not be responsible for dismounting and remounting of the GlobalTime clock, for unauthorized returns or for returns that do not list the RMA number and quantity returned on a packing list attached in plain view on the outside of the shipping container.

We reserve the right to make changes at any time.