NTP Clock User Guide

1. Introduction

NTP (Network Time Protocol) introduces a high-precision and convenient way to obtain time from the network. Using an NTP time source is both convenient and of low-cost.

POE (Power over Ethernet) utilizes the technology that delivers DC power to Ethernet connected devices. POE can be enabled to get both data and power simultaneously over standard network cable. This clock incorporates POE technology to get data and power over the same network cable, which improves precision and eliminates the cost of dedicated clock wiring.

2. Technical Specifications

Accuracy	+/- approximately 20 milliseconds		
Operating Temperature	-10℃ to 60℃		
Viewing Distance	50 meters		
Operating Humidity	90% maximum, non-condensing		
Installation options	Surface, Pendant, Cantilever		
Certifications	CE/FCC		
Power Supply	IEEE 802.3af Compliant,less than 13watts, Power over Ethernet(PoE)		
Network interface	10M RJ45		
Warranty	One year		
Display Face	4-digit, Red or white 7-segment LEDs		
MTBF	50 thousand hours		
Single-sided		Double-sided	
Dimensions	302mm×155.5mm×58.6mm	Dimensions	302 mm×155.5mm×80mm
Cabinet	high-strength black plastic	Cabinet	high-strength black plastic
Weight	0.7kg	Weight	1.2kg
Display Face	6-digit, Red or white 7-segment LEDs		
Single-sided		Double-sided	
Dimensions	450mm×155.5mm×58.6mm	Dimensions	450mm×155.5mm×80mm
Cabinet	high-strength black plastic	Cabinet	high-strength black plastic
Weight	0.9kg	Weight	1.55kg

3. Installation

3.1 Packing List

Single-sided: One clock base, one display
Double-sided: One clock base, two displays

3.2 Power Supply

One network cable allows the device to operate from the local area Power over Ethernet.
If the local area network does not support POE, a power injector or AC adapter is available.

3.3 Configuration

You can set the local time zone and hours display mode with a command button. If the network supports DHCP, the local time zone and hours display mode will show correct local time due to the time source preset.
In the state of time display, press the configuration button for 3 seconds and the screen will display 12 or 24. Loosing the button and then pressing again, it will switch between 12 and 24. The configuration will take effect in 5 seconds after loosing the button. Then the screen will display the time.
However, in the same state, if the configuration button is pressed for 6 seconds, the screen will display the present time zone with the range from -14 to +14. Then release it. If you press again shortly thereafter, the time zone will display 15 minutes more. If you press the button continuously, it will increase 4 times per second. The order adjusts from 0 to +14, and then switches from 0 to -14, over and over again. After adjusting the value required, release the button and it will be effective after 5 seconds. The screen will display the time adjusted the time zone.

3.4 Mounting

A variety of mounting methods are available including ceiling hug, ceiling pole, and end mount for hallway clocks.

4. Operation

When power is supplied, there are three states in proper operation:

- Self-inspection
- IP address
- Time display

4.1 Self-inspection

All the LED segments illuminate. You can determine if there is something wrong by observing the display to be normal or not. In proper operation, all the figures are displayed, just as the above photo.

4.2 IP address

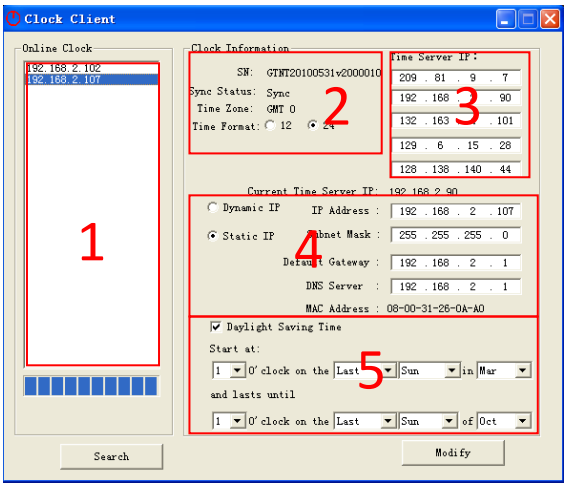
When you set the static IP address, the figures are shown for 4 times. When you set dynamic IP address (DHCP), “dHCP” is shown while waiting for an IP address. Then the IP address will be displayed. If the DHCP server is fail to be found in the scheduled time, the IP address will be defaulted and displayed as 192.168.2.121.

4.3 Time Display

The first time the clock is powered on it is displayed with 00:00+ time zone offset. If it is not synchronized with the external time source, it will keep running following the time displayed. After synchronizing with the network time server, it will display the time received.

5 Configuration

You can set the clock parameters using the client control program. Install and run the program. Enter the default password: BRGprecision. After running the program, click “search” and the IP address will be displayed in part 1. Then choose one IP address, the present configuration will be shown in the other 4 parts on the right side.



5.1 IP display window of the client control program

Click “search the clock” button and the clock IP will be shown in the window. Then click the IP address you need. The configuration information will be shown in the corresponding screen on the right side.

5.2 Show the serial number “SN”of the equipment.

Synchronous state:
Display whether the present time shown is synchronized with the external time source or not. “Sync” represents the time is synchronized while “Unsync” indicates that the clock has not synchronized with the network time server for a period of time.

Time zone and clock hours display mode: Display the present time zone and hours display mode (12/24). The mode is optional.

5.3 Time server display window:

Display the synchronized time server with the clock. The comfiguration is defaulted by the factory. It can be modified.

5.4 The basic network configuration:

Show the present IP configuration and MAC address. It can be set either dynamic IP address (DHCP) or static IP address.

5.5 The daylight saving time configuration:

Set the daylight saving time rule.

6. Troubleshooting

6.1 The clock shows incorrect time.

Check the host IP configuration and make sure the network can accept NTP time requests using port 125.

6.2 The contents shown is constant.

Check if the configuration button can return to normal after pressing down. Verify that it displays the time zone configuration for a long time.

6.3 Display the default IP address of the clock

The host configuration is DHCP. Verify that there is DHCP server on the network. If the operating host can not get the IP address from DHCP server for a long time, it will apply the default IP: 192.168.2.121.

6.4 Some LED segments are dark.

Power up and reboot the device. Check whether there are dark segments again. If there are still dark segments, the display is likely defective and will need to be returned for repair or replacement.

6.5 The user program can not find the clock on the network.

Verify that the user's computer and the client 's computer are in the same subnet. Moreover, verify that the firewall setting is correct.

6.6 The digital clock face is dark.

Verify that the network switches support PoE.

6.7 The bottom right decimal point is always on.

This means that the host can not derive time from the time server preset. Check the network configuration and the running state of the time server.

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