

# **NTP-100S**

## *Private Network Time Server*

User's Manual  
First Edition

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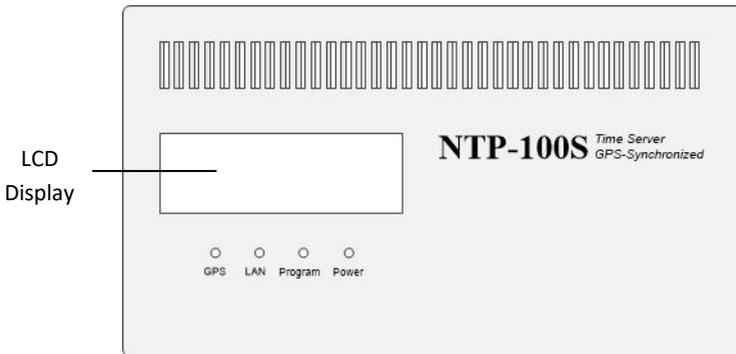
## Package Contents

QUANTITY	ITEM DESCRIPTION
1	NTP-100S
1	GPS Receiver with 10 meters long PS2 cable
1	RJ-45 Network Cable
1	Power Adapter
1	Installation CD

If any item is missing or broken upon opening of the package, please contact your dealer immediately.

# Panel Descriptions

## Top Panel



LED	Color	Status	Indicating
Power	Green	- Solid - Off	- Power On - Power Off
Program	Green	- Solid - Off	- System is ready - System is not ready
LAN	Green	- Solid - Flashing - Off	- Network link established - Network data activity - Network link not established
GPS	Green	- Solid - Off	- GPS signals is acquired - Acquiring GPS signal or GPS not found

## Rear Panel



**LAN:** RJ-45 Ethernet jack

**RS-232:** Pin5 & Pin9 output 1PPS signals for time correction

**Reset:** Reset to factory settings

**GPS Ant.:** GPS Receiver input jack

**DC 12V:** Power jack

## GPS Receiver



## Connection Diagram

Connect the NTP-100S to the network as shown in the following diagram.

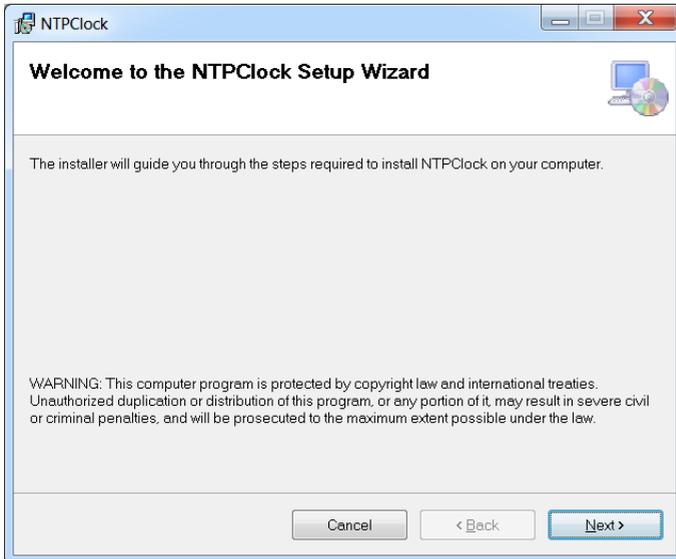


The NTP-100S Time Server is designed to provide very accurate time obtained from GPS satellites, so that all PCs in the same network can be precisely synchronized without accessing any outside NTP servers.

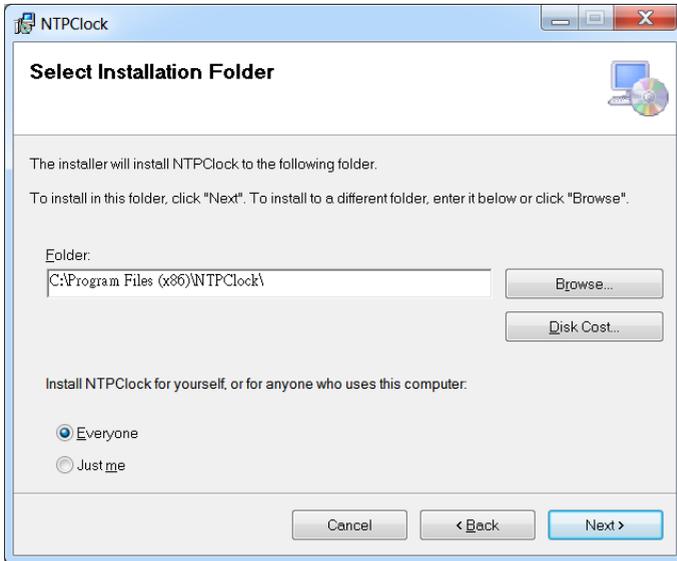
## Installing NTPClock Client Software

In order to obtain time from the NTP-100S, the PC needs to have the NTPClock client software installed.

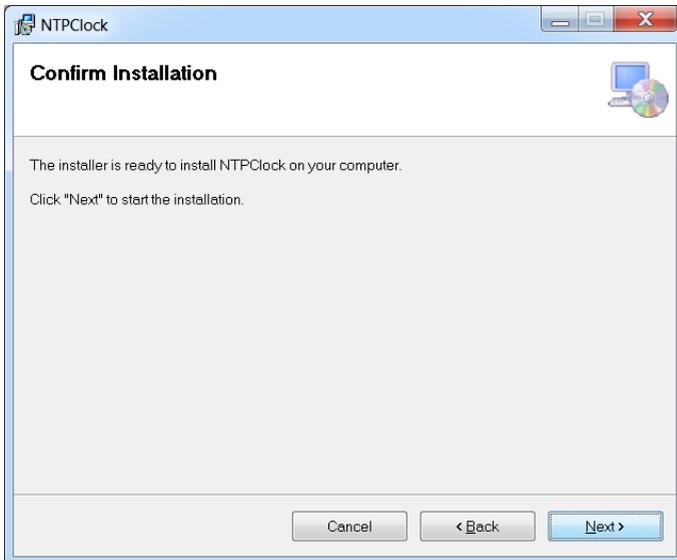
1. Insert the installation CD and open the NTP Clock folder. Double-click setup.exe. The following dialog box will appear:



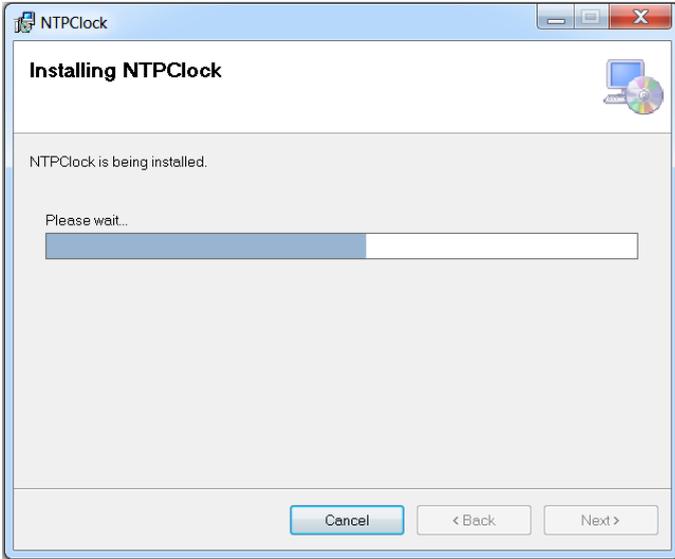
2. Click Next.



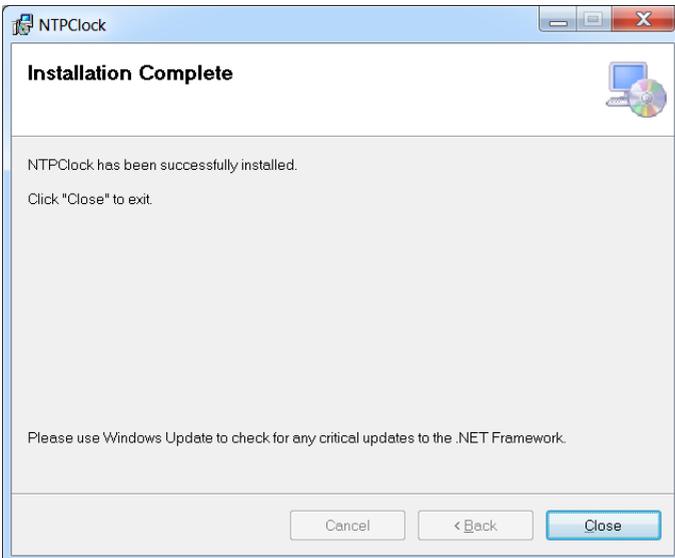
3. Click Next.



4. NTPClock is installing..



5. Click Close to finish the installation.

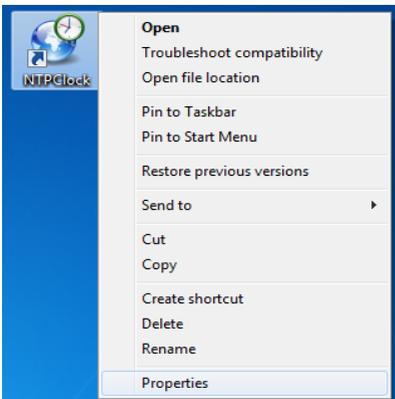


6. After installation, a NTPClock icon will be created on the Windows desktop.



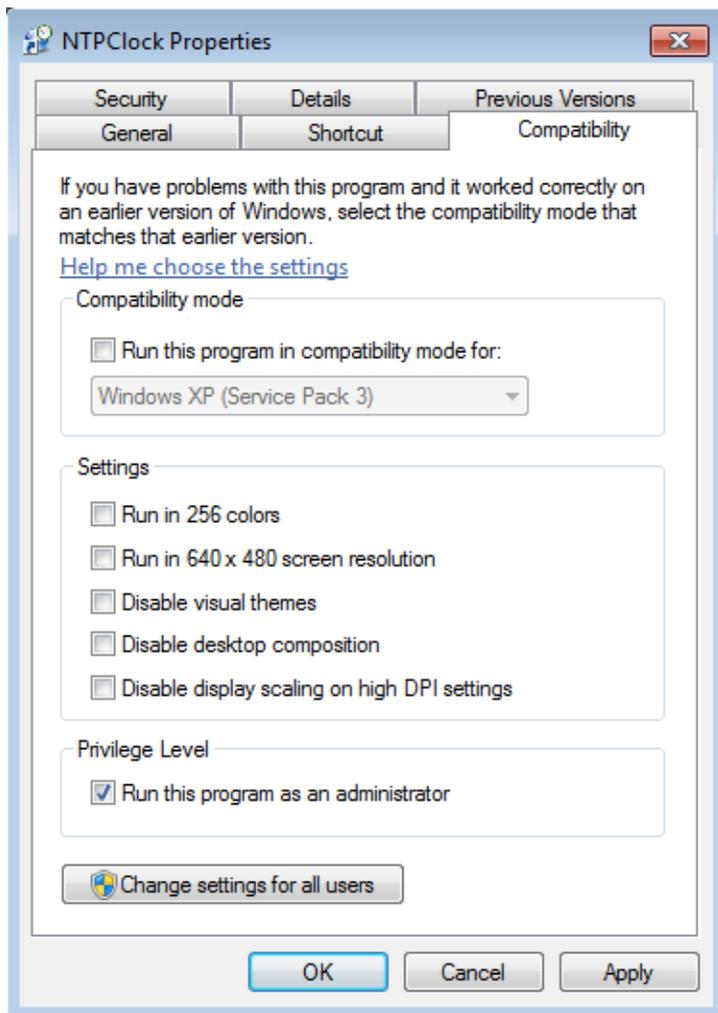
7. Execution of the NTPClock program requires administrator privilege. If you are not logged in as administrator, you must do the following:

Right click on the NTPClock icon and select Properties.



When the following dialog box opens, select the Compatibility tab. Check the box for “Run this program as an administrator”, then click OK.

Note that the dialog box may look different on your PC due to different Windows versions.



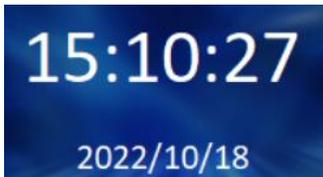
8. Double-click the icon and a clock icon will appear:



A red clock indicates that the PC has not linked with the NTP-100S.

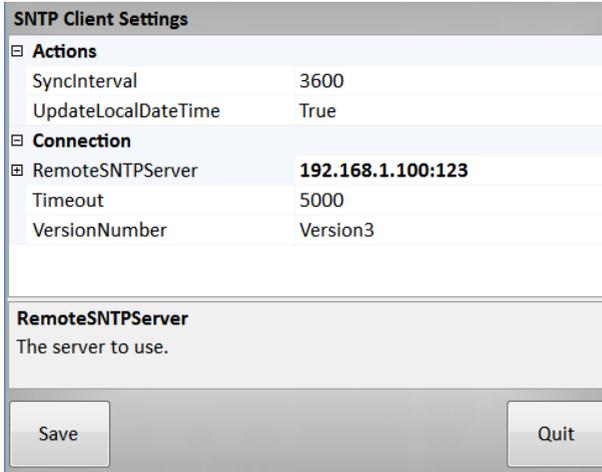


A yellow clock indicates that the PC has linked with the NTP-100S but the GPS is not working properly.



A white clock indicates that the PC has linked with the NTP-100S and the GPS is working properly.

9. Right-click the clock. The following dialog box will appear:



**SyncInterval** : The time synchronization interval between the PC and the NTP100. Default is 3600 second (1 hour), minimum setting is 1 second.

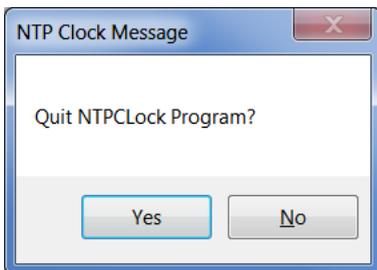
**UpdateLocalDateTime** : If set to False, time synchronization will be disabled but the color of the clock will remain white as long as the PC can maintain communication with the NTP-100S.

**RemoteSNTPServer** : Enter the IP address and port number of the NTP-100S.

**Timeout** : If the PC fails to get a response from the NTP-100S within this period then the color of the clock icon will turn red. The default is 5000 milliseconds (5 seconds).

**VersionNumber** : The Internet Protocol Version to be used. Version3 is for IPv4 and Version4 is for IPv6.

10. To stop communication with the NTP-100S, double-click the clock icon and quit the NTPClock program. Time synchronization will also be stopped.



## LCD Information

Power up the NTP-100S, the following screens will appear.

```
System Starting...
```

A few moments later the following screen will appear showing current Internet protocol version and IP address.

```
Local IPV4  
192.168.1.100  
PORT  
123
```

About 30 seconds later, following screen will appear showing NTP-100S is searching for GPS signal.

```
UTC  
#GPRMC,,U,,,,,,,,,N  
Local Time
```

Following screen will appear when GPS signal is locked

```
UTC  
#GPRMC,020921.463,U,  
Local Time
```

A few moments later the following screen will appear showing UTC and local date and time.

```
UTC *  
2022/08/23 23:14:56  
Local Time  
2022/08/24 07:14:56
```

## Device Configuration

The NTP-100S has a default IP address of 192.168.1.100. In order for the NTP-100S to be accessible to a PC, its IP addresses must be changed (if necessary) to be in the same subnet as the PC's.

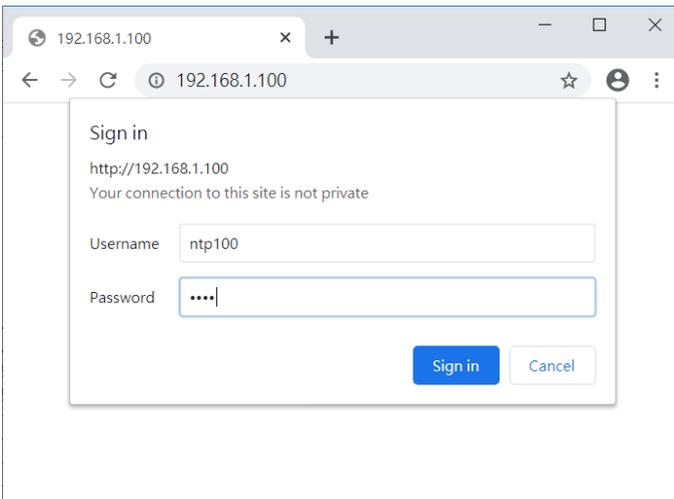
The first step is to change your PC's IP address to 192.168.1.xxx, so you can log in the NTP-100S and change its IP address. If you are not sure how to change your PC's IP address, please consult with your IT personnel.

## Device Login

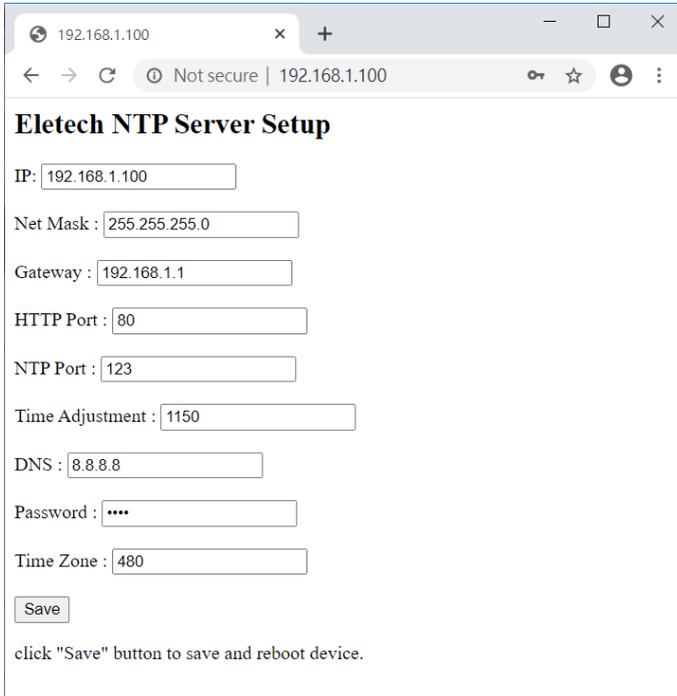
1. On web browser, type the NTP-100S's IP address and press Enter.



2. Enter user name (default = ntp100) and password (default = 1234) then click OK.



3. The following screen will appear.



**Eletech NTP Server Setup**

IP:

Net Mask :

Gateway :

HTTP Port :

NTP Port :

Time Adjustment :

DNS :

Password :

Time Zone :

click "Save" button to save and reboot device.

### **IP Address (IPv4)**

The factory default value is “192.168.1.100” which needs to be changed if it is not in the same subnet as the LAN where the device is to be installed.

### **Net Mask**

The default subnet mask is “255.255.255.0” which works well in most cases.

### **Gateway**

The gateway address should be set to the router’s IP address. Consult with your IT personnel if you are not sure.

### **Http Port**

The port 80 is standard port used and recommended for most installations.

### **NTP Port**

The port 123 is standard port used and recommended for most installations.

### **Time Adjustment**

Default setting is 1150, If PC time faster than local standard time, try to adjust the value to 1100 or if PC time slower than local standard time, then adjust the value to 1200

**DNS**

Please leave it as default.

**Password**

Changing the password from default is recommended.

**Time Zone**

Enter an offset value (in minutes) based on your time zone. For example, the time zone for Singapore, which is 8 hours east of UTC, has an offset of +480

## Appendix A:

GPS Receiver Specifications		
<b>Chip</b>	MediaTek MT3337 (Rom Version)	
<b>Frequency</b>	GPS, GALILEO, QZSS: L1 1575.42MHz, C/A code	
<b>Channels</b>	Support 66 channels	
<b>Update rate</b>	1Hz default, up to 10Hz	
<b>Sensitivity</b>	Tracking	-162dBm, up to -165dBm (with external LNA)
	Cold Start	-143.5dBm, up to -148dBm (with external LNA)
<b>Acquisition Time</b>	Hot Start (Open Sky)	< 1s
	Cold Start (Open Sky)	< 38s
		< 18s 7 with AGPS
<b>Position Accuracy</b>	Autonomous	5m (2D RMS)
	SBAS	2.5m (depends on accuracy of correction data)
<b>Max. Altitude</b>	< 18,000 m, up to 50,000m by request	
<b>Max. Velocity</b>	< 515 m/s	
<b>Protocol Support</b>	NMEA 0183	9600 bps, 8 data bits, no parity, 1 stop bits (default)
		1Hz: GGA, GLL, GSA, GSV, RMC, VTG
<b>Dimensions</b>	55.0mm * 46.0 mm * 14.5mm ±0.2mm	