DYNATEK INSTRUMENTS PRIVATE LIMITED

327/325, Diamond Industrial Estate, Near Check-Naka,
Ketkipada, Dahisar (East), Mumbai - 400 068.
022 - 401 402 70 / 73
9224384341 / 9869514355
dynatekindia@gmail.com / sales@dynateksystems.com
www.dynatekindia.com

NTP MASTER CLOCK MANUAL

Model No. NTP GPS Digital Clock (NMC-1)

DYNATEK

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INTRODUCTION

1.0.1 DESCRIPTION :

NTP MASTER CLOCK designed for the applications where accurate synchronize time is required.
Accurate time clock plays an important role to improve productivity of your work place, Increase employee accountability for managing time, Increase efficiency with employees starting and ending their day on time, Improve time –tracking accuracy, even throughout multiple facilities.

DYNATEK NTP MASTER clock is capable for the time synchronization requirements in various industries like Pharmaceutical, Power, IT, Process, Telecommunication, Studios and many other sectors.

DYNATEK NTP MASTER CLOCK has a 20 x 4 LCD display for viewing of time parameters i.e LTC and UTC, status of GPS receiver Connected or Not connected, discrete LEDs in front panel provide status information. The GPS Clock is based with highly accurate built-in RTC chip backed up with on board “Lithium battery” to maintain time during power loss and instant recovery on power resumption.

DYNATEK NTP MASTER CLOCK is connected to GPS through GPS antenna. It receives “Time stamp” from satellite and correct the time of RTC.

DYNATEK GPS clock is a Stratum1 GPS based full featured NTP Server for synchronizing all types of NTP and SNTP clients in LAN i.e. PCs, SNTP/NTP slave clock, Weighing scale, Differential Relays,

NTP MASTER Clock provides secured access for device configuration through Window based utility. Through that user can configure all NET related parameters i.e. IP address, Sub netmask, Gateway, Device Name.

Features:

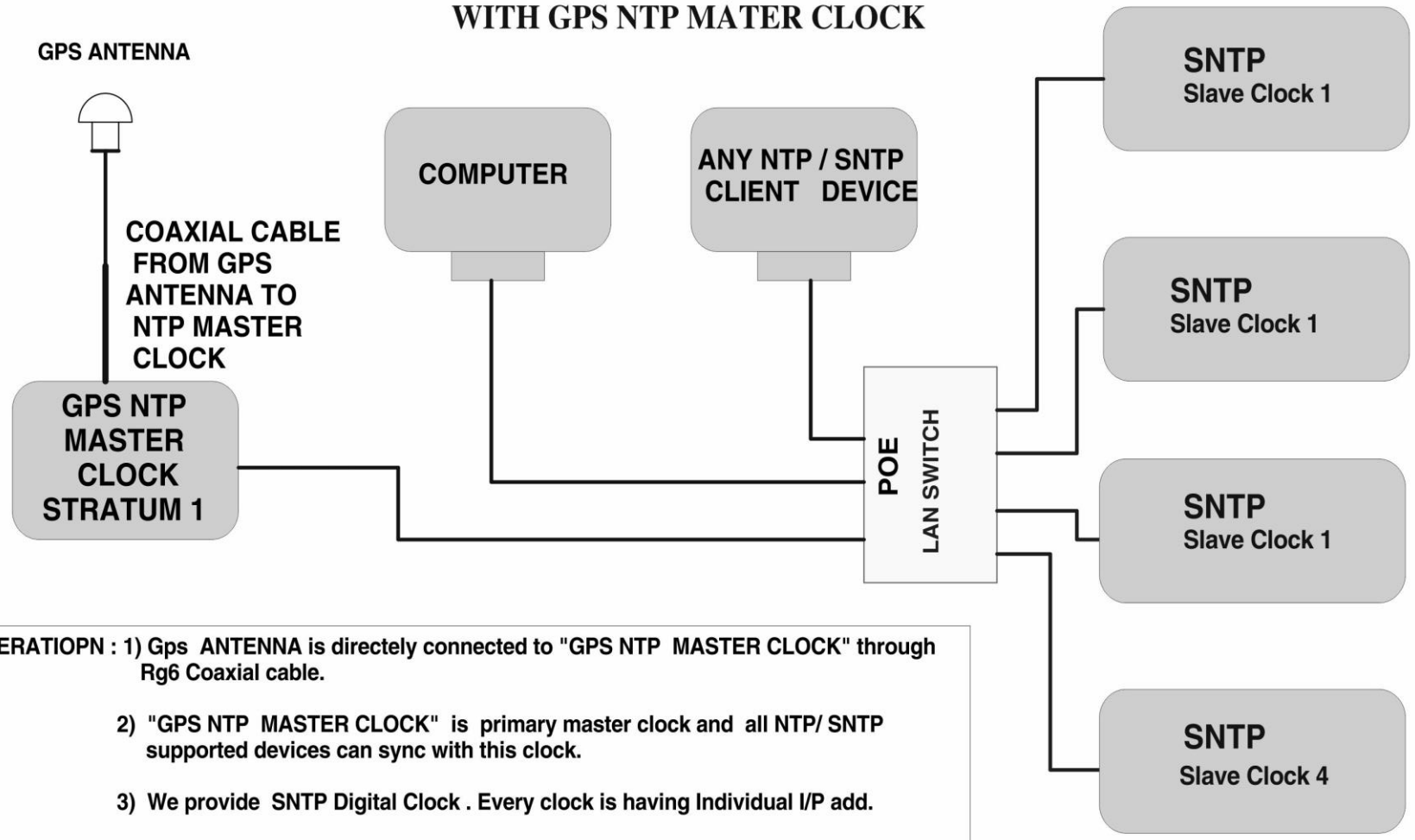
- 12 Satellite parallel tracking
- 20 x 4 LCD Display with Status LED's
- USB Port.
- Universal Time-zone and Local Time zone
- Supports synchronization NTP/SNTP protocol
- Universal (AC/DC) Power Supply
- Highly accurate RTC with Lithium Battery Backup
- All weatherproof GPS Antenna
- NTP Client Synchronization software
- Supporting Timing Protocols: SNTP/NTP

Application:

Time synchronization of:

- Sequence of event recorders, Disturbance recorders
- Numerical relays,
- Windows servers PC
- PC /PLC/DCS/SCADA, ABT metering
- Telecommunication
- EMS system, Fault locator
- NTP/SNTP slave clock

SYNCRONISE DIGITAL CLOCK SYSTEM WITH GPS NTP MATER CLOCK



OPERATIOPN : 1) Gps ANTENNA is directely connected to "GPS NTP MASTER CLOCK" through Rg6 Coaxial cable.

2) "GPS NTP MASTER CLOCK" is primary master clock and all NTP/ SNTP supported devices can sync with this clock.

3) We provide SNTP Digital Clock . Every clock is having Individual I/P add.

4) In POE slave clock power to slave clock will be supply by POE LAN switch.

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TECHNICAL SPECIFICATIONS

GPS Receiver: -

Timing Accuracy < 30 µs with GPS Receiver (Receiver is locked on fixed position)
Horizontal Position Accuracy (Autonomous) < 5 micron
Input Frequency: 1575.42 MHz L1 C/A code
Tracking Satellites reception capability: 12 parallel channels
Acquisition time Hot Start < 1 sec, Warm Start < 30 sec,
Cold Start < 35 sec
GPS, GLONASS

NTP MASTER CLOCK

Display : 4 x 20 Character backlit LCD Display
Displayed data : Local / UTC time and date, Day of the week
Status of the GPS receiver

Status LEDs : 1. GPS Locked
2. Antenna Connection
3. Power Blinking Watchdog

Time signal outputs : 1) NTP / SNTP for slave clock
2) RS 232

Network interface : 10BaseT / 100BaseTX (IEEE 802.3),
Connection: RJ45 Auto-negotiation / manual,
IPv4 / IPv6
Hour settings for Display : (12 or 24 format), UTC/LOCAL time display

Time accuracy with GPS receiver : +/- 50 µs

Real-Time Clock accuracy : +/- 1.2 min/ year 0º c to 40º c
+/- 2 min / year -40ºc to 85º c

Power Supply

Input : 100-240VAC / 50 Hz.
Consumption : 12 W (max)

This system Consists :

1) Hardware : 1) NTP MASTER Clock
2) EATHERNET SWITCH

2) Soft wear : 1) SNTP MS Utility (setup1.msi)

Installation of Hardware :

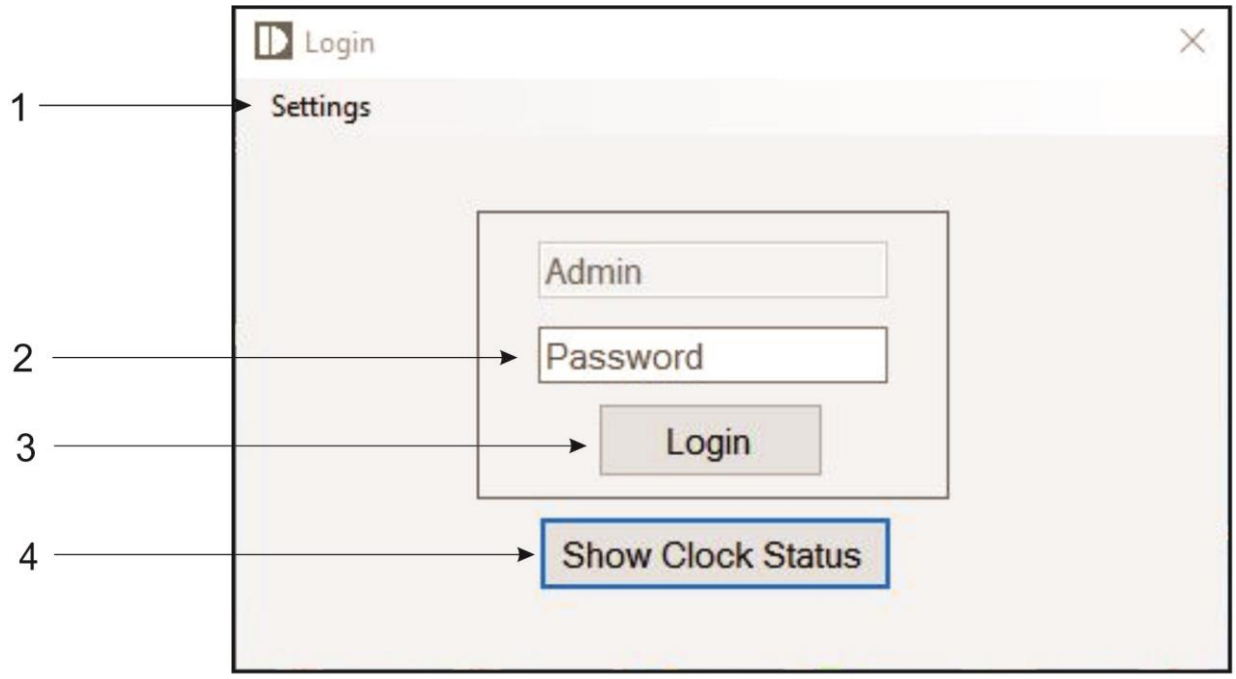
2.0.1: Connect NTP Master clock and PC or Laptop which is going to be used to configure NTP Master Clock in the same LAN.

2.0.2 INSTALLATION OF SOFTWEAR

Run “setup1.msi” file, it will be installed and create shortcut to desktop.
Press “SEARCH” button, it will show Connected MASTER clock in list.
Select the Listed clock, it will show all parameters of clock on Left side.
User can change all below mention parameters as per their requirement

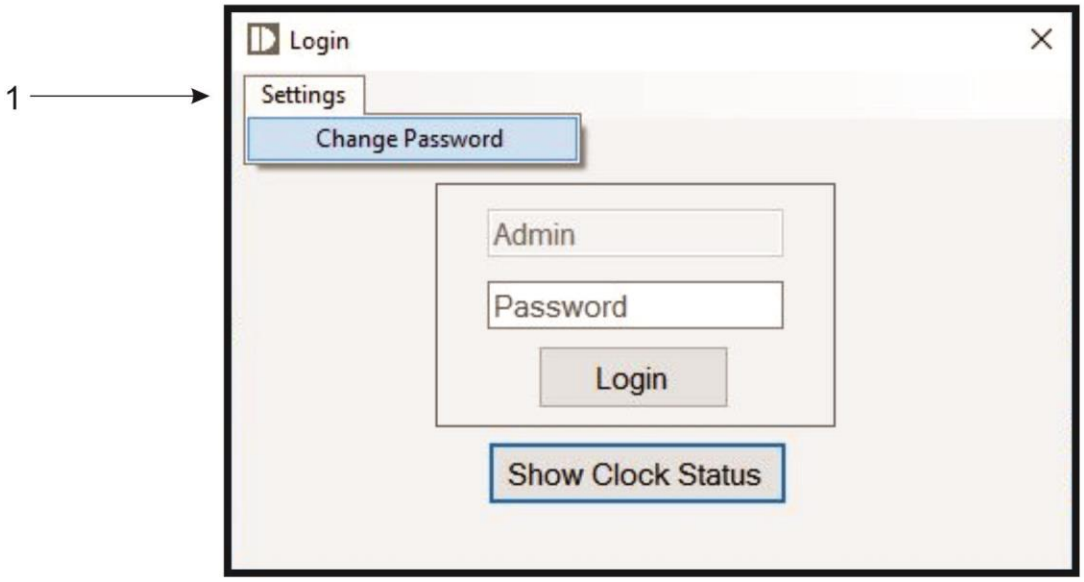
I) I/P ADD.
II) SUBNET MASK
III) GATEWAY
Iv) MASTER NAME
V) TIME ZONE
Vi) REDUNDANCY
Vii) PING: User can Ping clock to check connectivity.

Fig -1



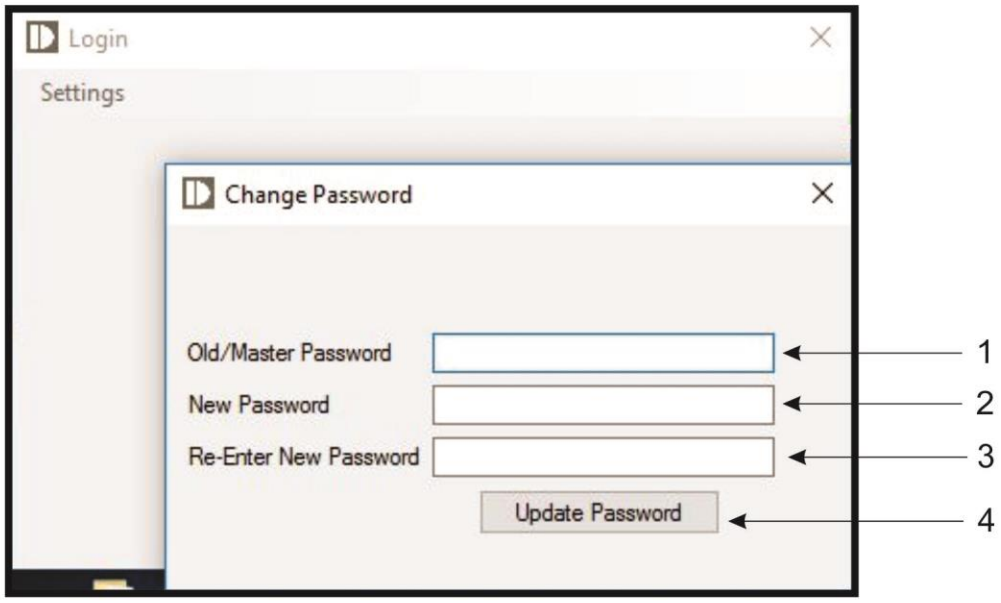
1. Setting tab to set new password
2. Enter set password to go further
3. Login button to go inside the software
4. Show clock status

Fig.2



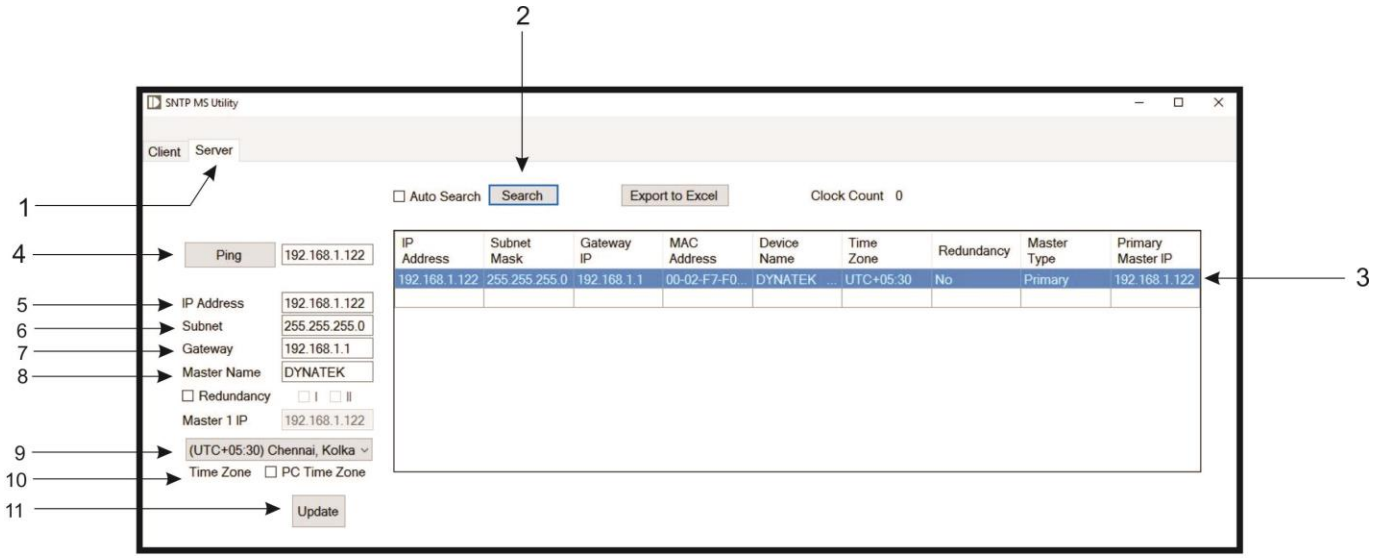
1. After pressing "settings" button, Change password menu will open.
2. After pressing "Change Password" following Fig.3 window will open

Fig.3



1. Insert old or Master Password
2. Insert new password
3. Re-Enter New Password
4. Update Password It will save New password.

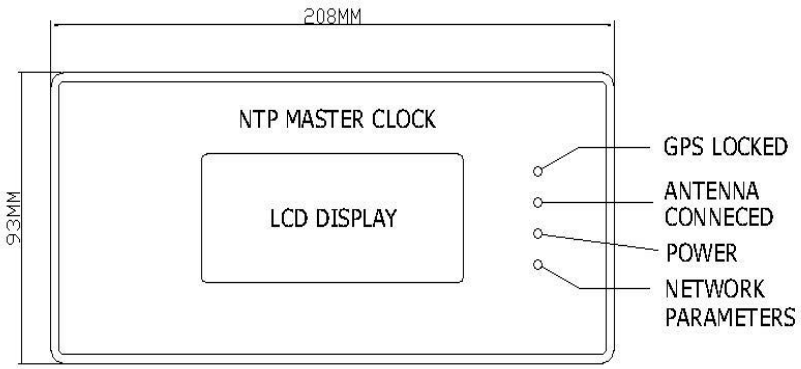
Fig.4



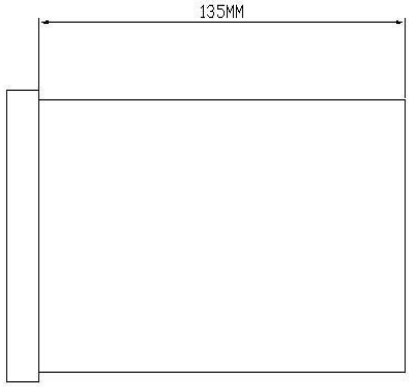
After login above window will open

1. Press “Server” tab to go for NTP server Clock setting.
2. By pressing search user can find the list of connected clock in LAN.
3. List of Connected server clock in LAN.
4. User can ping the selected clock from list.
5. User can set new IP address
6. User can set Subnet Mask
7. User can set Gateway
8. User can also set Name for Clock as per Location.
9. User can select “Time zone” Manually
10. User can select “PC TIME ZONE”
11. By pressing “ UPDATE” button all parameters will be save.

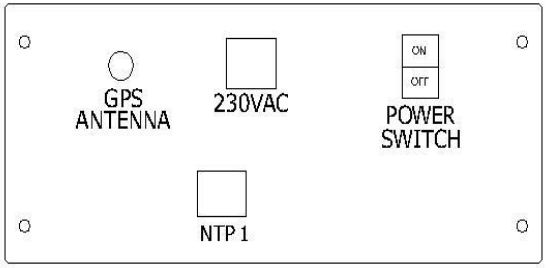
MECHANICAL DETAILS OF NTP GPS MASTER CLOCK



FRONT VIEW



SIDE VIEW



BACK SIDE VIEW