



DYNATEK

SYNCHRONIZE DIGITAL CLOCK SYSTEM

RS 485 DIGITAL CLOCK

MODEL NO : RS485 –CLK

VER 1.0

DYNATEK

125, Diamond Indl. Est.,
Near Dahisar Check Naka,
Dahisar - (E), Mumbai - 400068
Email: dynatek@vsnl.com
Web: www.dynatekindia.com
Tel.: 022-28971572
40140270 / 71 / 72 / 73

Table of Contents

1.0 INTRODUCTION----- 3
 1.0.1 PRODUCT DESCRIPTION----- 3
 1.0.2 SPECIFICATIONS----- 4
2.0 HARDWARE INSTALLATION----- 4
3.0 SOFTWARE INSTALLATION----- 5
4.0 CONFIGURATION PARAMETERS----- 6
5.0 TROUBLE SHOOTING----- 7
6.0 WIRING DIAGRAM OF SYSTEM----- 8

1.0 INTRODUCTION :

1.0.1 DESCRIPTION :

Synchronize Digital Clock system is 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.

These digital clocks can be used as a stand alone display system or they can also be synchronized, so that all the clocks display the uniform time. Simple two core twisted pair cable is used to connect master slave clocks to form synchronize network.

OR

All Slave clocks can be connected to your PC through converter (RS 232 to RS 485) to form synchronize network. Now your PC acts as a Master and controls all slave clocks by transferring Time data at set intervals.

If PC is having internet connection, it receives time updates automatically from one of the **Time Server** and all slave clocks get synchronize with PC.

When your PC is not in operation each unit acts as an accurate stand alone clock and gets synchronize when PC comes in operation.

In the event of power failure a long life lithium backup battery is provided it keep internal clock running, though the display go blank accurate time is display when power is restored.

1.0.2 Technical specifications

- 1) Operating Voltage : 230VAC/50 Hz
- 2) Display : 2.3"/ 4"/6"/8"/10" LED seven segment
- 3) Format : HH:MM or HH:MM:SS
- 4) Mounting : Wall mount
- 5) Enclosure : Heavy duty metallic duly powder coated or stainless steel
- 6) Communication : RS 485 BUS (2 Wire twisted pair with shield)

This system Consists :

- 1) Hardware : 1) Digital Clocks 2) Converter 3) Cabling
- 2) Soft wear : 1) Sync Time Soft wear

2.0 Hardware Installation :

- 1) Load SYNC TIME soft wear properly as per instruction given below.
- 2) Connect RS 485 Converter to PC
- 3) Connect 120 ohm Resistor at Converter Tx+ & Tx- pin and the end Clock D+ and D- pin. as shown in wiring diagram (**Very Important**)
- 4) Connect all Digital clocks (looping) as per Diagram Tx+ to D+ and Tx- to D-
- 5) Use 2 core twisted pair cable with shield for better performance or Communication. Cable CAT5 or CAT6 with shield and Ground one End of shield.

- 6) Switch – ON supply to all Digital clocks.
- 7) Pc will start to send Time data at set intervals.
- 8) User can set Clock Time with keys provided on front panel
 - a) **SET** : Select and toggle the parameter (HH:MM:SS)
 - b) **UP** : Increment selected parameter
 - c) **Enter** : Enter key to start clock.
 - d) User can set **12H and 24H Time format** with switch provided at back side.

3.0 INSTALLATION OF SYNC TIME SOFTWARE

Soft wear can be installed by cd and shortcut should be place in startup folder so that when system (PC) gets “ON” Sync Time will Automatically get activated.

Program Information :

Program FILE:

SYNCTIME.EXE

Program Name/Title:

SYNCHRONISED TIME

Program Description:

The Best tool for communication with DYNATEK digital clock

Target OS:

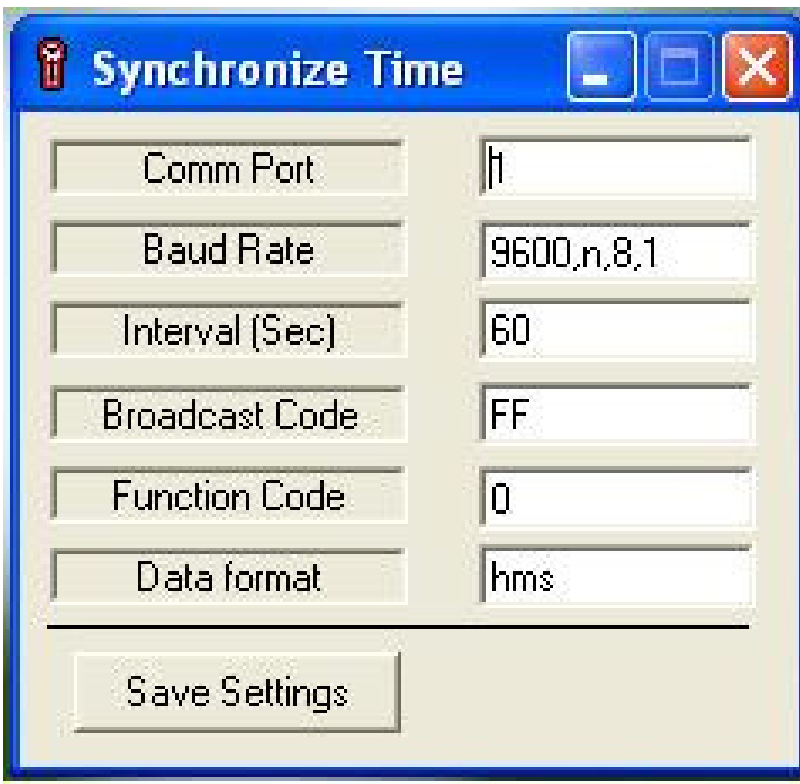
Windows 98/XP

Other technical tools for system : Rs232 to Rs 485 converter

Program description :

Sync Time soft wear is used to communicate "PC Time data" with all DYNATEK make Digital clocks.

Run setup file and follow the instruction, installed programme in startup menu so that as soon as system power up it will start to send Time data.

Configuration Parameter :

Comm Port	1
Baud Rate	9600,n,8,1
Interval (Sec)	60
Broadcast Code	FF
Function Code	0
Data format	hms

Save Settings

- 1) **Comm port** : user can specify com port (i.e. Com1 or com2)
- 2) **Intervals** : user can specify intervals (in SEC) for sending Time data.

Note : Please not disturb other parameters.

All new settings will be saved after closing and restart the software.

5.0 Trouble shooting

If system is not working check following points

- 1) Check Serial port (Com port).
- 2) Check serial cable from PC to Converter.
- 3) 'Switch On" supply to converter and check Converter.
- 4) Connect Digital Clock to Converter

Connect **D+ (Digital Clock) To Tx+ (Rs485 Converter)**

D - (Digital Clock) To Tx - (Rs485 Converter)

- 5) Clock Time will be Synchronized with PC Time after Set interval in SYNC TIME Soft wear.By changing PC Time, Clock Time can be changed.
- 6) If it works, Means upto Converter o/p stage the system is ok.
- 7) Check Cabling for Open or Short .
- 8) In multiple clock (more than one) system if some clock are not operate correctly
check whether cable is open or short.

