PC / Digital Clock Interface Adapter

This option allows the clock to be set by PC or the PC to be set by the clock. A serial interface adapter is included for connecting the clock to a computer. Simply attach the adapter to the clock sync line and plug into the PC's serial port. Software drivers are included for DOS, Window 3.x, 95, 98, NT, ME, XP and 2000. Once connected, the time and date may be exchanged between the PC and clock(s). The scheduling program included with Windows can be configured to run the time send software anytime between once per minute and once a day, or longer. The serial sync options, ST and/or SR, are required. When sending time from a PC to a time zone display, set mode 32-8=3 and mode 45-5 to the source time zone offset.

PC/Clock Serial Interface Adapter package includes: Serial Adapter, 9 to 25 pin adapter, software disk, installation and operating instructions (this sheet**). The serial adapter draws its' power directly from the serial port.   No AC power module is required.**

Included Files

Window 95, 98, NT, XP, ME and 2000
WINCLK1.EXE	- Windows Com1 send/receive driver, for clock software version 2.28 or later
WINCLK2.EXE	- Windows Com2 send/receive driver, for clock software version 2.28 or later
WINCLK3.EXE	- Windows Com3 send/receive driver, for clock software version 2.28 or later
WINCLK4.EXE	- Windows Com4 send/receive driver, for clock software version 2.28 or later
W7CLK1.EXE	- Windows Com1 send/receive driver, for clock software version 2.27 or older
W7CLK2.EXE	- Windows Com2 send/receive driver, for clock software version 2.27 or older
W7CLK3.EXE	- Windows Com3 send/receive driver, for clock software version 2.27 or older
W7CLK4.EXE	- Windows Com4 send/receive driver, for clock software version 2.27 or older

DOS
TRECDOS.EXE	- DOS receive driver, clock software version 2.28 or later
TRECDOS7.EXE	- DOS receive driver for use with clocks shipped prior to 6/12/01, ver 2.27 or older
TSNDDOS.EXE	- DOS send driver, clock software version 2.28 or later
TSNDDOS7.EXE	- DOS send driver for use with clocks shipped prior to 6/12/01, ver 2.27 or older

Window 95, 98,
TRECWIN.EXE	- Windows receive driver, clock software version 2.28 or later
TRECWIN7.EXE	- Windows receive driver for use with clocks shipped prior to 6/12/01, ver 2.27 or older

Window 95, 98, NT, XP, ME and 2000
TSNDWIN.EXE	- Windows send driver, clock software version 2.28 or later
TSNDWIN7.EXE	- Windows send driver for use with clocks shipped prior to 6/12/01, ver 2.27 or older

Hardware Installation
Refer to the attached diagram for attaching the serial adapter between the PC and the clock. A 9 pin to 25 pin plug adapter is included. Plug the serial adapter into any available serial port. NO AC ADAPTER IS REQUIRED. Connect the serial sync line from the clock to the serial adapter. The serial adapter will drive up to ten clocks.

Software Installation
Software drivers are included for DOS, Windows 3.x, 95, 98, NT, ME, XP and 2000.

The driver file names for Windows 95,98, NT, ME, XP and 2000 are: WINCLKx.EXE where x = port numbers 1-4. These programs may be copied to any directory of your choosing. The driver file names for DOS and Windows 3.x are: TRECDOS.EXE and TSNDDOS.EXE.

WINDOWS

Exchanging time and date between a Clock and a PC

To exchange time and date between a Clock and PC, execute WINCLKx.EXE (where x is the Com port number 1- 4).   This action will continuously receive clock data from a clock connected to the serial input, and will send time and date out the Com port once per second. For example, with the adapter attached to port 2 would be: WINCLK2.EXE   (Set Mode 32-11=0).   Refer to the PC Adapter Connection Diagram for wiring between the clock and PC.

Elapsed Timer Control in Windows

To set the timer to auto-restart elapsed time mode with a preset time and date, use: TSNDWIN.EXE followed by a forward slash and the port number, and a /9 immediately followed by the preset time/ date string. The preset time/date string format is: hhmmssMMDDYYYY (without spaces or punctuation, where hh=hour, mm=minute, ss=seconds, MM=month, DD=day, YYYY=four digit year).   For example, to start the elapsed timer from 18:30:00 on October 1, 2000, with the adapter on port 2, the command string would be: TSNDWIN /2   /918300010012000   The time/date string must begin with a /9 with no spaces or punctuation. DO NOT run WINCLKx.EXE and TSNDWIN.EXE at the same time.

To halt the timer and display all zeros, use: TSNDWIN.EXE followed by a forward slash and the port number, and a /8. For example, to halt time elapsed timer with the adapter on port 2, use TSNDWIN.EXE /2 /8

To return the elapsed timer to real time, use : TSNDWIN.EXE followed by a forward slash and the port number, and a /7. For example, to return the elapsed timer to real time with the adapter on port 2, use TSNDWIN.EXE /2 /7

DOS

To send time/date from a PC to a Clock , use TSNDDOS.EXE. For example, in DOS, to send the time and date from the PC to the clock with the adapter connected to serial port two, type: TSNDDOS.EXE /2. This will transfer time/date once only, each time the program is executed.
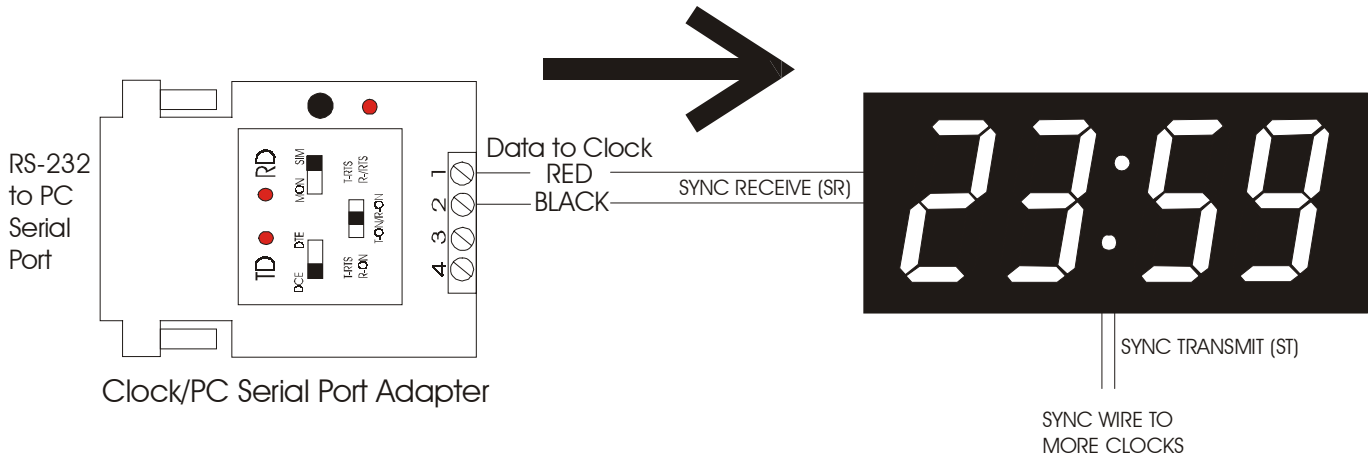
To send time/date from a Clock to a PC, use TRECDOS.EXE. For example, in DOS, to send the time and date from a Clock to a PC with the adapter connected to serial port two, type: TRECDOS.EXE /2. This will transfer time/date once only, each time the program is executed.

The DOS driver may be run anytime or placed in a batch file (i.e. AUTOEXEC.BAT). The user must provide a method of periodically running the driver program.

Example 1- Send time/date from PC to CLOCK(S)

RS-232
to PC
Serial
Port

Clock/PC Serial Port Adapter

Data to Clock
RED
BLACK

SYNC RECEIVE (SR)

23:59

SYNC TRANSMIT (ST)

SYNC WIRE TO
MORE CLOCKS

Example 2 - Send time/date from CLOCK to PC

RS-232
to PC
Serial
Port

Clock/PC Serial Port Adapter

Data from Clock
RED
BLACK

SYNC TRANSMIT (ST)

23:59

SYNC WIRE TO
MORE CLOCKS