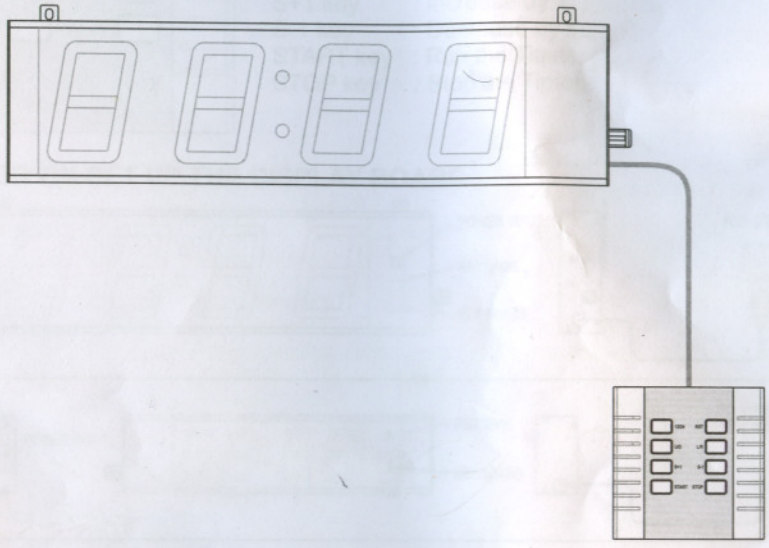


DISPLAY BOARD SECTION

FUNCTIONAL POINT

- 1234 key 1 Set 1234 hours/day
- 567 key 2 Reset 123 Timer
- 890 key The Timer will be set to up-time and down-time
- 123 key 3 Set 1234 hours/day
- 456 key 4 Set 1234 hours/day



- 1 Plug the power cord of the DC Power Adapter into the power receptacle on the Display Board.
- 2 Plug the DC Power Adapter into a standard 100-240VAC outlet.
- 3 Once the Display Board is powered on, it begins to work. First it will show the time of day and then run the last selected function.

SELECT THE DISPLAY BOARD FUNCTION

There are function selection switches on the side of the Display Board.

TIMER

User's Manual

FUNCTION SWITCH	FUNCTION DESCRIPTION
UP TIME SW UP TIME SW	Up-Time
DOWN TIME SW DOWN TIME SW	Up/Down-Time

Note: After selecting a new function by selection switches, you need to reboot the Display Board to let the new function take effect.

4. OPERATION INSTRUCTION

1 Stand-alone clock(Model 101)

- 1.Press 12/24 key will alternate between 24hour and 12hour format.
- 2.To adjust display time, first press STOP key to pause the Timer, then press L/R key to select two digits which will be adjusted. The selected two digits will flash.
- 3.Press S+1 or S-1 to set desired number. If press S+1 or S-1 for 3 seconds, the number will be adjusted quickly.
- 4.Press L/R key again to select the other two digits, and then adjust to desired number.
- 5.Press START key to finish setting. The Timer begins to work.

2 Up-Timer(Model 102)

- 1.Press START key will run the Timer.
- 2.Press STOP key will stop the Timer.
- 3.Press RST key will reset the Timer.

3 Up/Down-Timer(Model 104)

- 1.Press START to run the Timer.
- 2.Press U/D key will make the Timer alternative between up-time and down-time.
- 3.To adjust display time, first press STOP key to pause the Timer, then press L/R key to select two digits which will be adjusted. The selected two digits will flash.
- 4.Press S+1 or S-1 to set desired number. If press S+1 or S-1 for 3 seconds, the number will be adjusted quickly.
- 5.Press L/R key again to select the other two digits, and then adjust to desired number.
- 6.Press START key to finish setting. The Timer begins to work.

5.COMMUNICATION PROTOCOL

1 Interface method

RS232/RS485 Baud Rate : 9600 bps(8,N,1.)

2 Data structure

<STX>message...<ETX>

<STX> : are ASCII code '<', 'S', 'T', 'X', & '>',denotes the beginning of data package.

<ETX> : are ASCII code '<', 'E', 'T', 'X', & '>', denotes the end of data package.

The middle messages between '<STX>'and '<ETX>' may vary according to detailed function or operation.

1)Set Display Board ID

<STX><ID><xx><ETX> <ID>: ASCII code '<', 'I', 'D', & '>'.

xx : the range from 00 to FF, the Hex number in ASCII format.

1)STAND-ALONE CLOCK(MODEL 101)

<STX><xx><CLhhmmssy><ETX>

Set the Clock and time format.

xx: denotes the ID of Display Board which the messages will be sent to.

<CL>: are ASCII code '<', 'C', 'L'.

hh: denotes hour, two ASCII characters.

mm:denotes minute, two ASII characters.

ss:denotes second, two ASII characters.

y: denotes time format, 1 stands for 12hour format, and 0 stands for 24hour format.

2) UP-TIMER(MODEL 102)

<STX><xx><SG1><ETX>

Begin to run the timer

<xx>: denotes ID of Display Board, to which the messages will be sent to.

<SG1>: are ASCII code '<', 'S', 'G', '1' & '>' .

<STX><xx><SG0><ETX>

Hold the Timer.

<STX><xx><RE><ETX>

Reset the Timer

3) UP/DOWN-TIMER(MODEL 104)

<STX><xx><DAyyyy><ETX>

Send the preset number.

yyyy: the preset number, 4 ASCII characters.

<STX><xx><SG1><ETX>

Begin to run the timer

<STX><xx><SG0><ETX>

Hold the Timer.

<STX><xx><UP><ETX>

Begin to up-timer

<STX><xx><DN><ETX>

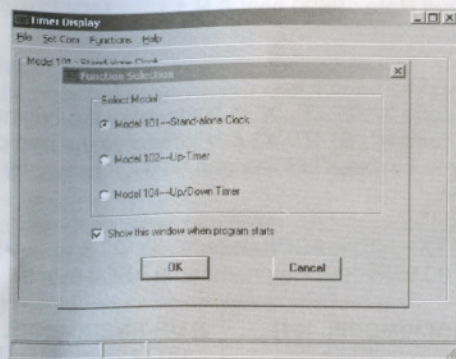
Begin to down-timer

<STX><xx><RE><ETX>

Reset the Timer

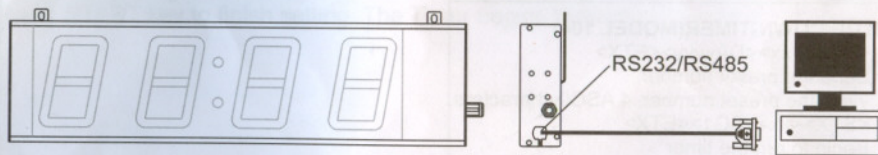
SOFTWARE SECTION

1.SOFTWARE SCREEN



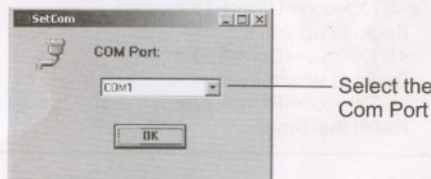
2.SET UP - CONNECTING THE CABLE

- 1.Connect Display Board to the PC using RS232/RS485 cable.
- 2.On the back of your computer, identify a COM PORT. If you have trouble locating a COM PORT on your computer, please reference your computer user manual or contact the manufacturer of your computer.
- 3.Connect the 9-Pin connector end to the COM PORT you will be using. If the 9-pin connector is not connected to the correct COM PORT, computer communication will not work.



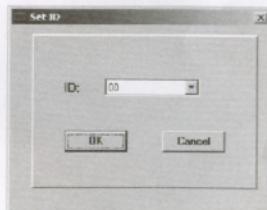
3.CONFIGURE SOFTWARE

- 1.Select COM port.
- 2.Click on OK when your settings are complete.



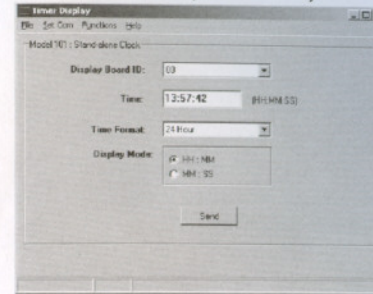
4.SET DISPLAY BOARD ID

- 1.Select proper ID number.
- 2.Click OK button.

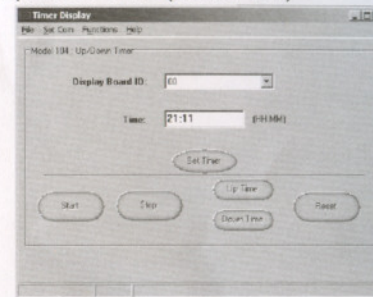


5.FUNCTION INTERFACE

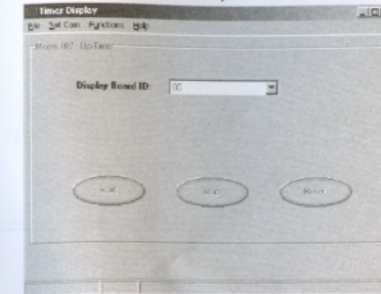
1.Stand-alone clock(Model 101)



3.Up/Down-Timer(Model 104)



2.Up-Timer(Model 102)



SPECIFICATIONS

1 4" TIMER

VIEWING DISTANCE:<131 Feet (40m)
DIMENSION: 20"(506mm)Width* 5.4"(137mm)Height* 1.8"(45mm)Depth
DISPLAY DIGIT:4
POWER INPUT:DC12V
CONSUMING POWER : 9 Watts

2 2.3" TIMER

VIEWING DISTANCE:<75 Feet (23m)
DIMENSION: 14.3"(363mm)Width* 3.5"(89mm)Height* 1.9"(47mm)Depth
DISPLAY DIGIT:4
POWER INPUT:DC12V
CONSUMING POWER : 9 Watts

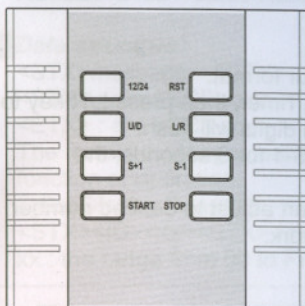
Cautions

- For indoor use only. Avoid outdoor storage.
- Keep away from high temperatures, humidity, dew, water and direct sunlight.
- Always disconnect power cord and other cables by holding plug.
- Clean with damp cloth only.



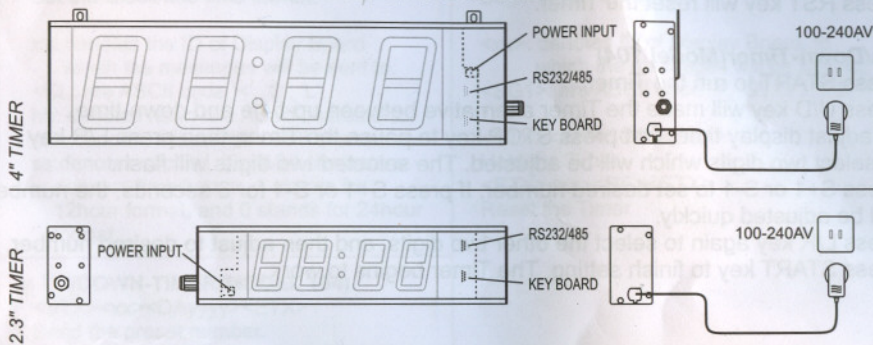
DISPLAY BOARD SECTION

1. KEYPAD LAYOUT



- 12/24 Key : Set 12/24 hour format
- RST key : Reset the Timer.
- U/D key : The Timer toggles between up-time and down-time.
- L/R key : Select the left or right two digits to adjust.
- S+1 key : Increase by 1
- S-1 key : Decrease by 1
- START key : Run the Timer.
- STOP key : Stop the Timer.

2. POWER ON SET UP THE DISPLAY BOARD






1. Plug the appropriate end of the DC Power Adapter into the power receptacle on the Display Board.
2. Plug the DC Power Adapter into a standard 100~240VAC outlet.
3. Once the Display Board is powered on, it begins to work. First It will cycle through a diagnostic display and then run the last selected function.

3. SELECT THE DISPLAY BOARD FUNCTION

There are function selection switches on the side of the Display Board. Below is the function list when selection switches are at different status.

The Timer function switch:

FUNCTION SWITCH	FUNCTION DISCREPTION
 MODEL 101	Stand-alone clock
 MODEL 102	Up-Timer
 MODEL 104	Up/Down-Timer