

Timers Clocks Counter Displays



[www.LEDsynergy.co.uk](http://www.LEDsynergy.co.uk)

**LEDsynergy Ltd**

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DESIGN

MANUFACTURE

INSTALLATION

DEVELOPMENT

COMMISSIONING

## Timers & Counter Displays

LED displays typically display instantly updateable information and the obvious example would be a clock timer. With this in mind we produce displays that can be adapted to count up or down with reset/pause facilities at any point. Display a date or alternate between temperature and time and you have a fully interactive display for counting down to the launch of a new vehicle or counting up to a significant event. The displays can be used in a variety of environments, indoor or outdoor, promotional or sports, easily installed and programmed they make an ideal solution to a simple need.



Left: 60mm 3 digit counter with duplicate unit for synchronised independent displays.



Left: 60mm 16 character external countdown display (BBC Top Gear)

Right: 60mm 16 character external countdown display



Left: 60mm 8 digit internal countdown display—Red LED's (Jaguar Visitor Centre)

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Above: 400mm Ch Ht 12 digit ultrabright Blue LED countdown clock with external casing specification. (Opening refurbished St Pancras Railway Station)



Left: 140mm Ch Ht ultrabright Red LED countdown clock with internal casing spec. (City of London Academy)

Right: 5 Character timer with reset and pause controller. 100mm Ch Ht internal Red LED Display

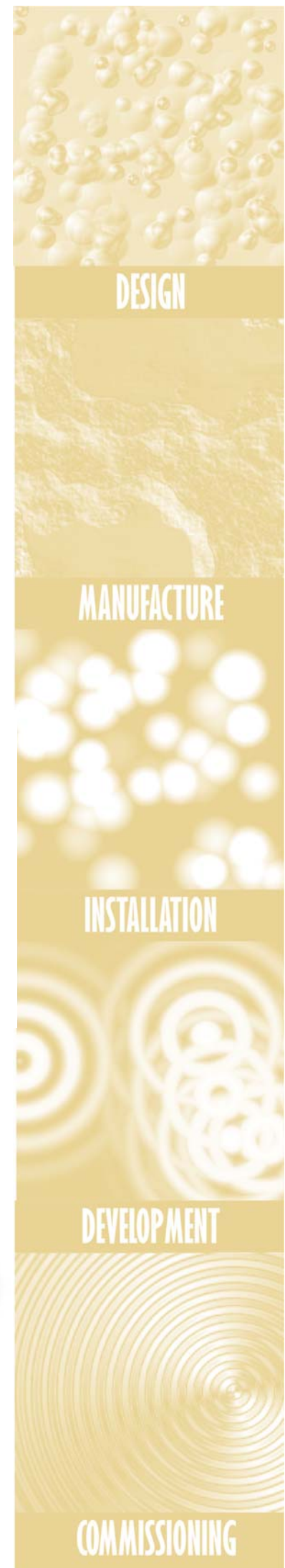


Left: 5 Character countdown timer with reset and pause controller via PC link. 60mm Ch Ht internal Red LED Display

Right: 5 Character static display with reset and controller via PC link. 60mm Ch Ht internal Red LED Display. (Longleat Miniature Railway)



Right: 12 character 100mm yellow external countdown. (Stoke City Council)



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# Clock Displays

## MULTIZONE CLOCKS



40mm 7 segment blue LED Clocks  
With 30mm Red LED destination displays



30mm green Clock displays with static graphic names

30mm 64 character with last board in red LED's



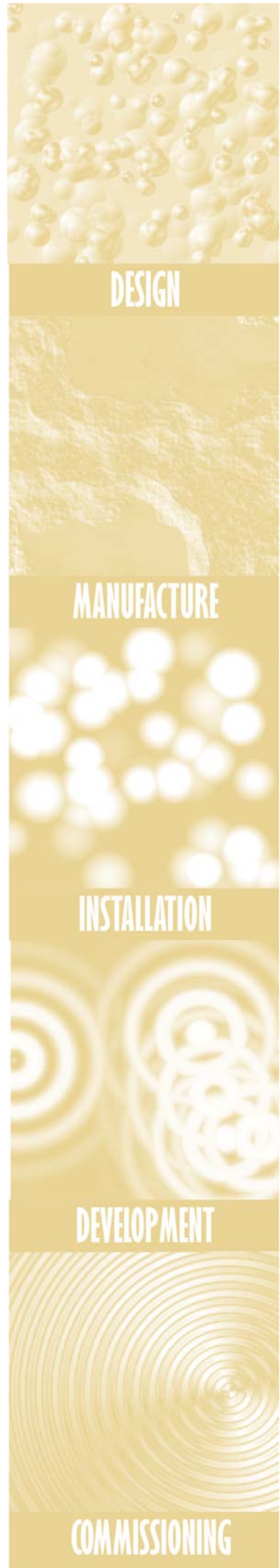
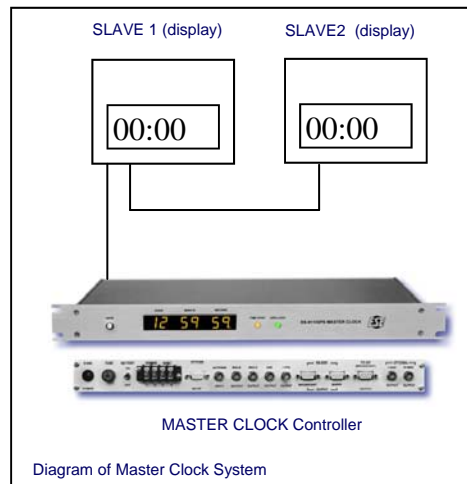
## MASTER CLOCKS



Left and above: 300mm character height yellow LED outdoor clock one of a pair using master controller. Mounted on steel tower



Above: 4metre electromechanical clock controlled by master clock controller



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# Clock Displays

## SYSTEM & STANDALONE



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## Clocks & Timer Displays



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## Clocks & Timer Displays



Left: 140mm 12 character blue LED Outdoor Countdown display

Below: 140mm 12 character blue LED Outdoor Countdown display



Above: 140mm 12 character Yellow Outdoor LED Countdown display



Left: 24/60-1L display used as a countdown display White LED's synchronised to other countries.

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## OPERATION

**LEDsynergy** Clock/Timer Displays are easily programmable, with various methods of operation to suit almost any application.

### **Keyboard Operation**

The simplest way to program a Clock Display, is using the standard **LEDsynergy** RMSP-100 Infra-Red Keyboard. The keyboard is simply pointed at the display and the Time altered via the prompts on the display.

### **PC Operation**

**LEDsynergy** Clock Displays can also be programmed from remote locations using PC's and Windows Compatible Software.

The displays can be connected to PC's in various ways:

- Connected directly to a PC's Serial Communication Port
- Via dial-up modem
- Over Ethernet TCP/IP network

Times or counter start/pause/reset are edited/ composed on PC and then downloaded or sent to the display.

## POPULAR COMMUNICATION OPTIONS

### **Ethernet**

Connected directly into a TCP/IP Ethernet network, and assigned its own IP address. Suitable for use where there is an existing network infrastructure.

### **Modem**

Connected directly to a modem that answers an incoming call from the PC operator, and will disconnect after the message has been transmitted. Suitable for use where there is an existing telephone line and other communication options are unsuitable.

### **RS232 & RS485 (RS422)**

RS232 is intended for short distance transmission, using un-balanced lines, between one master and one slave. It is possible at lower data rates, to control several slave units within a small area.

RS485 is intended for use in multi-slave applications using a balanced line. A single master will control up to 32 slaves at distances up to 1000m. The earlier RS422 standard may be regarded as interchangeable with RS485 except for a limit of 10 slaves.

- The remote setting or synchronisation of the clocks by computers using one of three data formats.
- The transmission of a serial ASCII time message, either every second or 'on demand', in one of seven data formats. The 'on demand' mode may be triggered by the receipt by the clock of an ASCII character (RS232 only) or by the closure of an external voltage free switch connected to the clock. Each message may be transmitted or received at 1200, 2400, 4800 or 9600 baud, seven or eight data bits and at odd or even parity.

It is very important that both the clock and the connected computer or other equipment are using the same signal standards, recognise the data format and are set to the correct baud rate, bit length, parity and number of stop bits.

### **Electromagnetic Compatibility**

The Clocks, when used in accordance with our recommendations, comply with the European Community Electromagnetic Compatibility Directive and conform to the following standards:  
EN50082-1 EN60950 IEC950

### **Global Positioning System**

GPS is a system transmitting highly accurate, world wide real time and navigation to a suitable GPS receiver. The system allows master clocks/controllers to be automatically synchronised from the GPS satellites. The antenna is a low-profile unit mounted with a clear view of 75% of the sky. If the sky view is restricted the interval between 'switch-on' and system time synchronisation will be considerably increased. The GPS receiver/decoder module is designed to self initialise without the necessity of operator input. When accurate satellite time information is available synchronising time signals are transmitted every minute from the receiver/decoder module to the master clock.

### **Synchronisation**

Clocks can be synchronised from many different external sources, including radio and satellite time signals, also various time codes and impulse signals.

The principle advantage of using a time code rather than an impulse signal for controlling slave clocks is that the time code enables a self-setting mechanism for the clock on installation, following failures of the mains power supply or in the event of system maintenance. Seasonal time changes normally take place within a few seconds, rather than at the delayed rate typical of an impulse system. The slave clocks will not, normally, show an incorrect time.

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