

E A COMBS LIMITED

Timing
Solutions



COMMERCIAL WALL CLOCKS

www.eacombs.com



COMPANY PROFILE

E A COMBS LIMITED specialise in the design, manufacture and supply of high quality wall clocks and clock systems for commercial use.

The Company has been established since 1895 and offers a wide selection of commercial wall clocks. The range of indoor clocks, both analogue and digital, offers solutions to most requirements for the office, factory, warehouse, classroom, banking hall, dealing room, sports centre etc; while the outdoor clocks will add the finishing touch to any building.

The Company also offers a selection of stopwatches, stopclocks, timing devices, thermometers for various markets; including industry, education, sports and leisure. Further, tally counters and geographical compasses are also available in the range.

The company's aim is to offer products that represent the best long term value in the market areas for which they are intended. The Company's staff has a sound knowledge of the product range providing customers with reliable communications and a strong back up service. The business is built on solid foundations and is based on long term relationships with both customers and suppliers.

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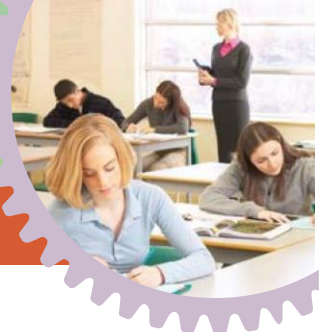
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24 HOUR DIAL CLOCK

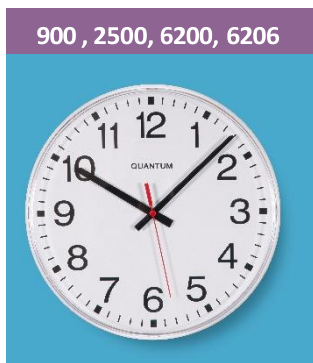
The 24 hour display clock is similar in design to the Shepherd clock at the Greenwich Observatory, which was the first clock to show Greenwich Mean Time to the public in the 1850s. The clock has a special quartz movement that circulates once during a 24 hour period, with a 30cm diameter aluminium case and dial.



PLASTIC CASED WALL CLOCKS



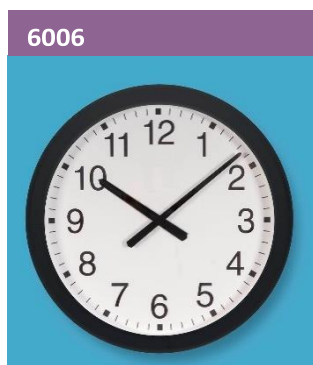
900 , 2500, 6200, 6206



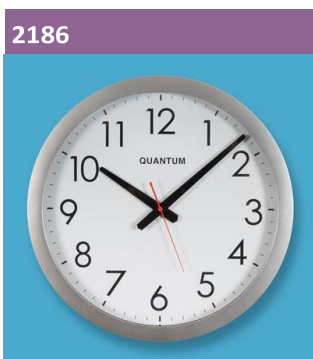
950, 6201



6006



2186



6015



A range of quality clocks designed specifically for the commercial market.

The majority of these clocks can be fitted with battery quartz and radio controlled movements, which receive the U.K. MSF time signal for 100% accuracy and automatic time changes. The suffixes Q and RC after the model numbers show those that have quartz and radio controlled options. The latest development with radio controlled technology allows the clocks to operate up to 5 years between battery changes. These movements are available in the 303 and 420mm size clocks; models 6200ARC(4) and 6206ARC(4). All clocks are supplied with the appropriate battery.

The 255, 303, 420 and 610mm diameter clocks can be fitted with a minute impulse slave clock movement, for linking to the Tempus master clock or the M165A master clock, as shown on pages 12 and 13. Further, the three smaller size clocks can have an intelligent slave clock movement fitted, which receives both power and data from the M165A master clock.

It is possible to supply the 303 and 420mm diameter clocks with a double sided bracket for ceiling or wall mounting as required.

With any device that is reliant upon radio signal reception, there will be areas that will not receive an adequate signal for reliable operation. Therefore, if a number of radio controlled clocks is being planned for a building, we recommend that a sample clock be experimented with in order to ensure that they are suitable for the intended location.

Please note that reception of radio controlled clocks is severely restricted by metal clad buildings. Further, in areas where there are many computer screens or where there is heavy duty electrical equipment or cabling, the interference from these is likely to affect signal reception.

Model no.	Case diameter	Colour	Case depth	Dial type
900 Q, RC	215mm, 8.5"	White	40mm, 1.5"	White 12 hour
950 Q, RC	215 mm, 8.5"	White	40mm, 1.5"	White 12 hour
2500 Q, RC, RCx4 24v.	255mm, 10"	White	40mm, 1.5"	White 12 hour
6200 Q, RC, RCx4 24v. 868 AT	303mm, 12"	White	40mm, 1.5"	White 12 hour
6201 Q, RCx4, 24v. 868AT	303mm, 12"	White	40mm, 1.5"	White 24 hour
6206 Q, RCx4 24v. 868 AT	420mm, 16.5"	White	55mm, 2"	White 12 hour
6006 Q	490mm, 19.5"	Black	45mm, 1.7"	White 12 hour
2186 Q	400mm, 16.5"	Grey	40mm, 1.5"	White 12 hour
6015 Q, RC, 24v. 868 AT	610mm, 24"	White	60mm, 2.3"	White 12 hour

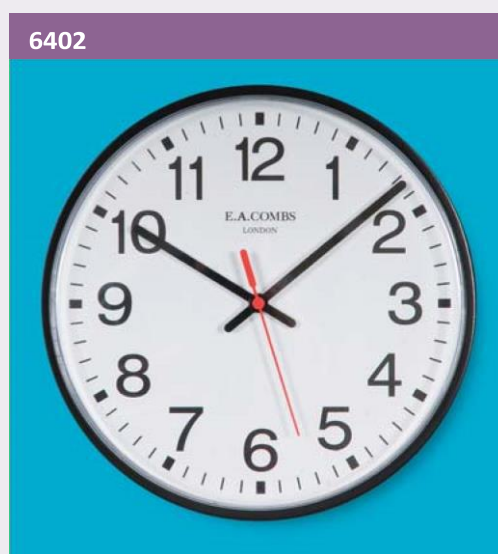


METAL CASED CLOCKS

A range of quality aluminium cased wall clocks offering style and function.

The metal cased clocks can be fitted with a choice of battery quartz, radio controlled, mains synchronous, 1 minute impulse, 1 second intelligent impulse and AirTime 868 clock movements.

The 320mm diameter clocks can be supplied with Arabic number dials with 12 hour display.



The standard case finishes are white, black and silver, although special colours can be arranged subject to quantity requirements.

All metal cased clocks are fitted with shatterproof front lens as standard, although can be supplied with a mineral glass lens at extra cost if required.

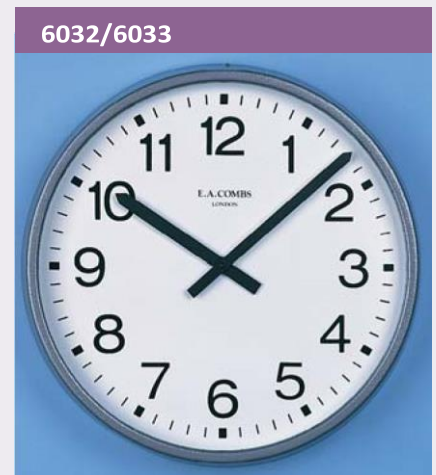
All battery clocks are supplied with the appropriate battery.

Model no. / Movement	Case diameter	Colour	Case depth	Dial type
6401 Q, RC, 24v, 230v.	260mm, 10.2"	White	50mm, 1.95"	White 12 hr
6402 Q, RC, 24v, 230v.	260mm, 10.2"	Black	50mm, 1.95"	White 12 hr
6403 Q, RC, 24v, 230v.	260mm, 10.2"	Silver	50mm, 1.95"	White 12 hr
6411 Q, RC, RCx4, 24v, 230v. AT868	320mm, 12.6"	White	50mm, 1.95"	White 12 or 24 hr
6412 Q, RC, RCx4, 24v, 230v. AT868	320mm, 12.6"	Black	50mm, 1.95"	White 12 or 24 hr
6413 Q, RC, RCx4, 24v, 230v. AT868	320mm, 12.6"	Silver	50mm, 1.95"	White 12 or 24 hr

METAL CASED CLOCKS



Model no. / Movement	Case diameter	Colour	Case depth	Dial type
6421 Q, RC, RCx4, 24v, 230v. AT868	436mm, 17.25"	White	60mm, 2.4"	White 12 hr
6422 Q, RC, RCx4, 24v, 230v. AT868	436mm, 17.25"	Black	60mm, 2.4"	White 12 hr
6423 Q, RC, RCx4, 24v, 230v. AT868	436mm, 17.25"	Silver	60mm, 2.4"	White 12 hr
6032 Q, RC, 24v, 230v.	470mm, 18.5"	Grey	70mm, 2.75"	White 12 hr
6033 Q, RC, 24v, 230v.	635mm, 25"	Grey	80mm, 3.25"	White 12 hr



The metal cased clocks can be supplied for use outdoors, as detailed in the table below. These clocks are fitted with a shatterproof front lens and 3 point wall fixing.

The appearance of these clocks is the same as the image of the 6032 and 6033 above.

Model no. / Movement	Case diameter	Colour	Case depth
6032 WP Q	Approx. 470mm, 18.5"	Grey	70mm, 2.75"
6033 WP Q, 24v, 230v, GPS	Approx. 635mm, 25"	Grey	80mm, 3.25"



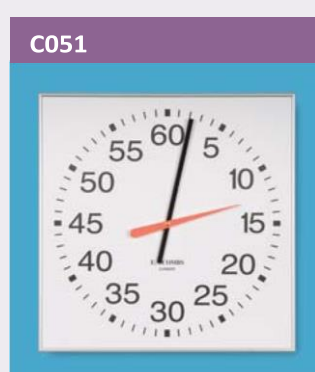
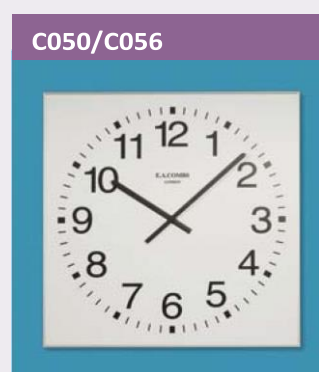
SPORTS HALL & SWIMMING POOL CLOCKS

A range of clocks designed specifically for use in sports halls and swimming pools, where the time of day and time elapsed will be of great significance to those participating in their choice of sport. Clocks in this range with second hands are fitted with constantly moving second hand movements for easy vision.

All battery clocks are supplied with the appropriate battery.

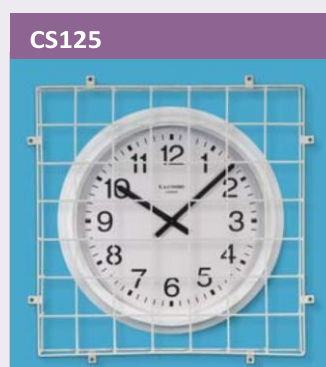
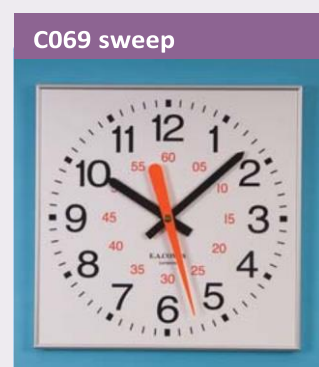


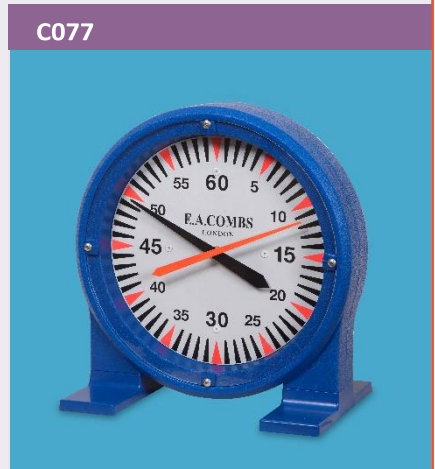
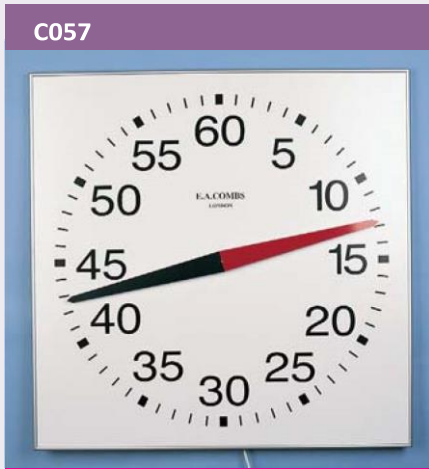
555sweep



Model no. / Movement	Case size	Front Lens	Dial type	Feature
C555 Q, Sweep	410mm, 16"	Yes	1 to 12	Water resistant case
C069 Q, Sweep	450mm, 18in sq.	No	1 to 12	Silver frame
C050 Q, sweep,230v.	610mm, 24" sq.	No	1 to 12	Silver frame
C056 230v.	850mm, 33.5" sq.	No	1 to 12	Silver frame

Model no. / Movement	Case size	Front Lens	Dial type	Feature
C051 Q, 230v.	610mm, 24" sq.	No	5 to 60	Silver frame
CS124 Wire guard for 40cm units				Protection against balls
CS125 Wire guard for 60cm units				Protection against balls
CS127 Wire guard for 85cm units				Protection against balls





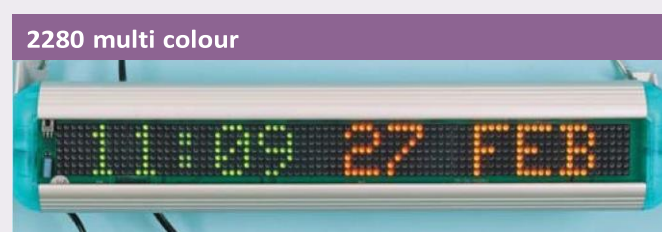
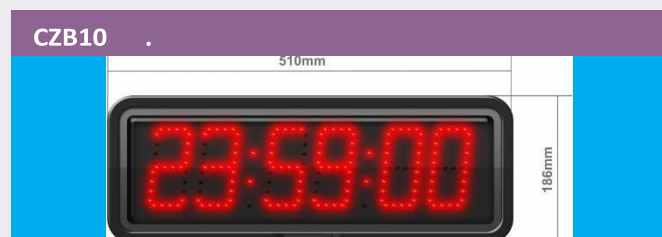
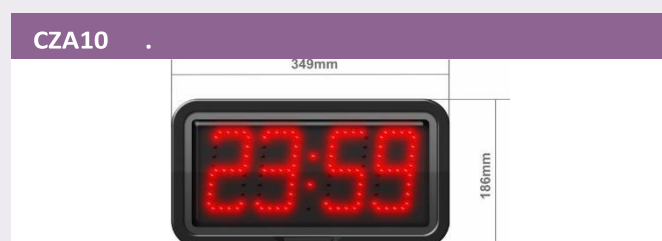
Model no. / Movement	Case size	Front Lens	Dial type	Features
6015 Q, 230v	610mm, 24"	Yes	1 to 12	White 12 hour
C057 230v.	850mm, 33.5"	No	5 to 60	Silver frame
C077 Q	580x450mm	Yes	5 to 60	Blue case with top handle, side start/stop button.



DIGITAL CLOCKS

The selection of digital clocks of various styles will satisfy requirements in commerce, banking areas and general office use. The clocks are available with a choice of battery and mains power. All battery clocks are supplied with the appropriate battery.

The variety of LED clocks is much wider than just the images that are shown and a complete range guide is available upon request.



Model no. / Movement	Digit Height	Dimensions	Display	Power Source
CZA10 230v.	100mm, 3.9"	349x186x45mm	Hours, minutes & seconds, LED	230 volt
CZB10 230v.	100mm, 3.9"	512x186x45mm	Hours & minutes, LED	230 volt
474/4.05 24v, 230v.	50mm, 2"	1204x300x58 mm	4 time zone, LED hours & minutes	230 volt
2280 230v.	30mm, 1.2"	450x80x90mm	Hours, minutes, calendar	230 volt
7095 Q	50/20mm	220x250x20mm	Hours, minutes, Calendar, Temp, Timer	2xAA
2277 RC	50/20mm	240x155x35mm	Hours, minutes, seconds, Calendar, Temp, Alarm	2xAA
2274 RC	80mm	240x155x35mm	Hours & minutes	2xAA

CALENDAR CLOCKS



Wall mounting calendar clocks are essential for those areas where the date and time are required for business operation, such as in banks, building societies, reception areas, large offices etc. These clocks have a perpetual calendar mechanism, so that they automatically change for the various days of the month and for leap years.

2260

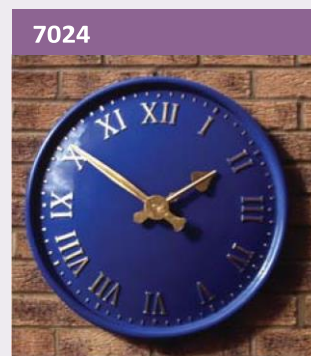


Model 2260 is suited for office use, as well as for domestic use for those whose memory may be fading due to Alzheimer's Disease and early signs of dementia. This unit has a perpetual calendar and can be wall mounted if required.

Model no. / Movement	Digit heights	Dimensions	Colour	Power source
2260 Q	35/25mm, 1.5/1"	305x380x75mm, 12x15x3"	White case & dial	1 x LR6

EXTERIOR CLOCKS

The range of Classic and Heritage exterior clocks offers traditional styling with the benefit of being made from modern materials, which results in long lasting and maintenance free operation. The dials are moulded from convex GRP, with the movement positioned within the shape of the dial so that it is not necessary to remove any brickwork etc from behind the clock. The movements are made from precision components, using stainless steel, brass, oilite and nylon for gearboxes that are complimented by strong motors to ensure many years of maintenance free life.



Model no.	Case diameter/depth	Dial type	Other voltage and cycle combinations are available upon request. A full brochure on the range that includes outdoor clocks, clock towers, pillar clocks, projecting clocks and weather vanes is available upon request.
7018 Classic	460mm, 18"/55mm, 2.1"	Roman or Arabic	
7024 Classic	612mm, 24"/85mm, 3.4"	Roman or Arabic	
7180 Heritage	460mm, 18"/55mm, 2.1"	Roman or Arabic	
7240 Heritage	612mm, 24"/80mm, 3.2"	Roman or Arabic	
7300 Heritage	773mm, 30.4"/100mm, 4"	Roman or Arabic	
7360 Heritage	900mm, 35.5"/100mm, 4"	Roman or Arabic	
7420 Heritage	1055mm, 41.5"/75mm, 3"	Roman or Arabic	
7480 Heritage	1270mm, 50"/75mm, 3"	Roman or Arabic	
7540 Heritage	1480mm, 58.3"/50mm, 2"	Roman or Arabic	
7720 Heritage	1830mm, 72"/60mm, 2.4"	Roman	



MASTER CLOCKS

The wall mounting master clock below covers the need for a centrally controlled clock system. This is of particular importance when radio controlled battery clocks will not operate within a building.

Tempus/Tempus P master clock



When a Tempus Master Clock is linked to an antenna that receives the MSF radio time signal and provided that the system has been installed correctly and commissioned, all of the slave clocks will retain 100% accuracy as well as automatically changing between summer and winter times. Hence such a system will be maintenance free for many years. The antenna can be mounted either internally or externally, depending where the best signal reception is received.

The Tempus Master Clock is capable of operating up to 50 x 1 minute polarised impulse slave clocks in standard form, or up to 100 clocks by fitting a converter box to a second output line.

The unit is housed in a polystyrene case and is double insulated. It has a 16 bit microprocessor with backlit LCD front screen showing time and date when the system is running, as well as a rechargeable battery that maintains the memory during periods of power loss. Hence when power is resumed the slave clocks automatically fast forward to the correct time.

The Tempus Master clock can be used to drive the larger Hawkins exterior clocks as detailed on page 11. There is a need to fit a relay box between the Tempus and the Heritage clock. Further, when connecting the Tempus to an exterior clock, the number of slave clocks is limited to 50.

For systems that require a bell ringing option, the Tempus P programmable model offers this facility.

A simple small time synchronising unit fitted in an IP65 weatherproof plastic case complete with GPS receiver/decoder.

The unit has 2 output lines, each of 50 mA, which drive slave clocks operating at 12 volts. It is particularly suitable for outdoor clocks, double sided clocks and small clock systems, where the clocks need to be left without maintenance.

The size is 125mm wide x 85mm high x 55mm deep, excluding cable holders.

The unit requires 230 volt mains power input.

Impulse sender IG 10, M185



9:00

AIRTIME 868 GPS WIRELESS CLOCKS SYSTEM

The AirTime 868 GPS clock system avoids the need for hard wiring of cables to slave clocks. It also provides a service in areas of buildings where individual battery radio controlled clocks cannot receive the local time code signal.

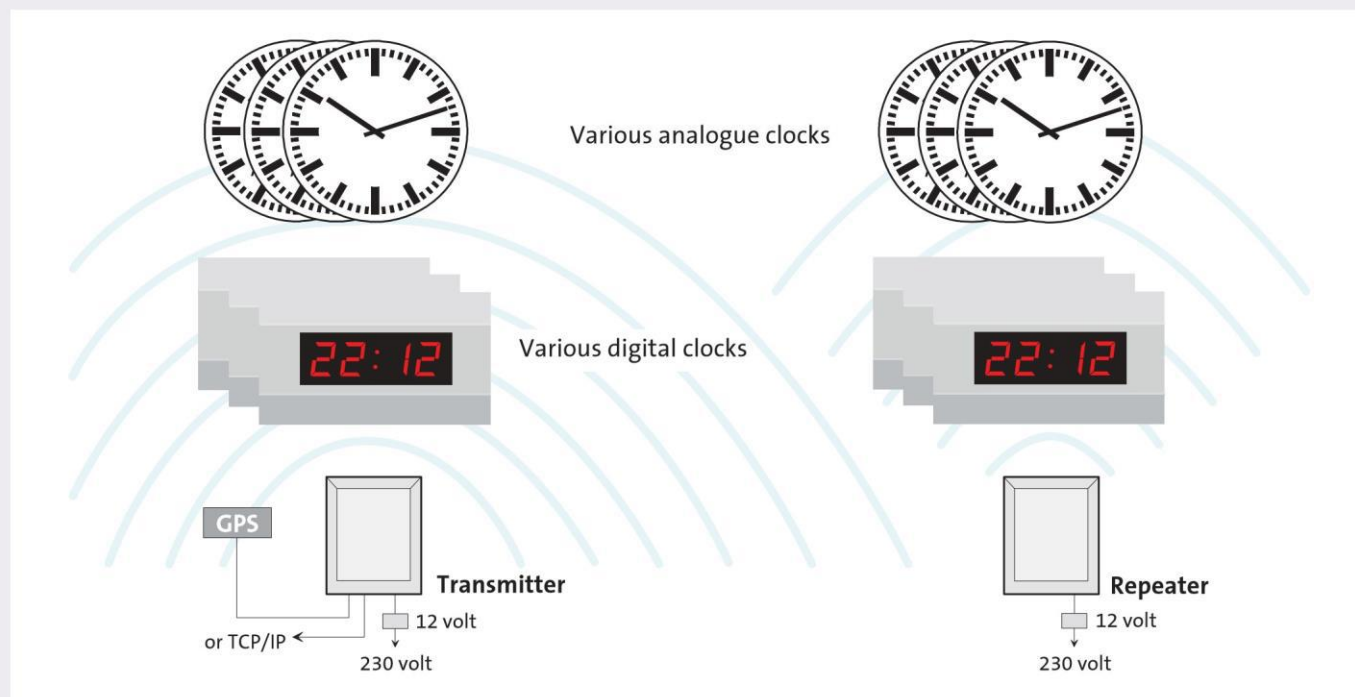
- Simple wireless installation, which results in significant cost savings
- Highly versatile in that clocks can be located almost anywhere
- 100% time keeping accuracy of clocks, both inside and outside
- Automatic summer/winter time changes
- Suitable for new systems or for extensions of existing systems

The AirTime 868 system is controlled by a GPS antenna and decoder, which ensures time keeping accuracy and automatic time changes. It can also be operated by TCP/IP transmission via Ethernet. The system can operate in any country where the 868 waveband is free for use without a licence, such as in most of Western Europe.

The AirTime 868 transmitter sends a wireless signal to as many analogue or digital clocks as are needed in a building within a range of approximately 250 metres, depending upon the buildings structure. For larger buildings or complexes, repeaters can be used to extend the range of signal reception.

The AirTime 868 system can operate analogue clocks up to 90cm diameter, using the standard range of cases from the E A Combs range, powered either by battery or mains supply, in addition to various styles and sizes of LED and LCD digital clocks.

Airtime 868



Model.	Frequency	Transmitting power	Supply voltage	Housing
Transmitter ATT-868	869.525MHz	up to 500mW	230VAC	Plastic material
Repeater ATR-868	869.525MHz	up to 500mW	230VAC	Plastic material

E A Combs Master Clock M165A



The M165A Master clock is intended to control small to medium hard wired clock systems of up to 100 clocks by power and data transmission using the DCF time and date code for accuracy to the second. The system can be extended by means of additional power boxes that are easily added. The unit is supplied complete with a GPS time code receiver for 100% timekeeping accuracy and automatic time changes. It can also be used for operating 1 minute polarised impulse systems.

The DCF coded output line (known as the VAPulse) is a 2 wire transmission system for maintenance free self setting slave clocks. It sends both power and data with a self correcting code along a low voltage cable. The major advantages of the VAPulse system are:

1. simple to use operation without any programming of the master clock;
2. clocks set to the correct time within about 3 minutes of receiving the coded signal;
3. additional clocks can be added to a system without having to reset all existing clocks.

Specification

- IP 65 rated plastic case, 161x166x93mm, for both indoor and outdoor locations
- 2 line LCD display showing time, date and signal details
- 230 volt 50Hz AC power
- GPS time code receiver/decoder with a standard 5 metre length cable
- 1 output line that can be extended by means of additional power boxes
- VAline output code for both power and DCF coded data
- 1 minute impulse output line option
- Bell ringing option available



STOPWATCHES

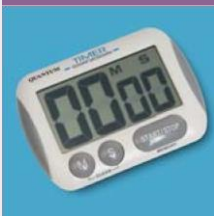


Model No.	Specification
509/3V	1/100 second stopwatch with lap facility, time & calendar, alarm & chime, 8mm and 6mm digit height, water resistant case 64x58mm with neck cord, 3 volt operating system with 2032 lithium battery(included), offering increased reliability and accuracy with a 5 year battery life under normal use.
309/3v	1/100 second stopwatch as 509/v3, but with large 12mm and 10mm digit height, 65x63mm with neck cord, 3 volt operating system with 2032 lithium battery(included), offering increased reliability and accuracy with a 5 year battery life under normal use.



TIMING DEVICES/STOPCLOCKS

2870



2520



5500



5501



5010



Model No.

Specification

2870

Jumbo display memory timer that counts up and down to and from 99 min 59 sec with alarm at end of count down period, 27 and 20mm digits, back clip, stand, magnet and hook, 90x65mm, 1 x AAA battery.

2520

Counts up and down to/from 24 hours with alarm at end of count down period, three count down channels with memory, clock with stopwatch, 10mm digits, back stand with magnet, 93x70mm, batteries 2 x AAA.

5500

1/100 second stop clock counting up to 10 hours, lap & cumulative split options, three sockets to allow external switching, 14 & 11mm digits, black case 100x120x45mm, R6/AA battery. Please note the leads are not supplied as standard with this unit, but are available separately (code T003).

5501

1/100 second stop clock counting up to 24 hours with lap facility, clock with calendar & alarm, white case 100 x 120 x 45mm, R6/AA battery.

5010

Large LCD display counting up with 4 timing channels: seconds, minutes and hours; decimal seconds; 1/100 second; decimal minutes. Count down timer with memory and alarm at the end of countdown period. Normal time with calendar and alarm. Case size 90 x 160 x 70mm, R14/C size battery.