TAGHeuer
PROFESSIONAL TIMING

Global Solution
for
Marathon/Triathlon

A new and unrivalled Timekeeping Total solution.

Today, TAG Heuer more than ever confirms its status as the reference in the universe of motor racing. From Jo Siffert to Kimi Räikkönen and Lewis Hamilton, from Scuderia Ferrari to Vodafone McLaren Mercedes, from FIA F1 to Le Mans and Indy 500, TAG Heuer's historic partnerships with the greatest, finest and fastest events, teams and drivers in motor racing are unparalleled in the world of timekeeping.

TAG Heuer's involvement is stronger than ever: the reference standard for high-level sports chronographs and timing instruments since 1860 has joined forces with Chronelec, a leader in the transponder market, to push timing technology to a new extreme of precision and offer a "Timing complete products platform and solutions" to the most prestigious sports .

Partnering with Chronelec represents a bold new step in TAG Heuer's relentless pursuit of the ultimate in precision timekeeping. Both brands and expertises are a perfect fit. Chronelec provides cutting-edge transponder technology to prestigious and utterly complex events such as the 24 Hours of Le Mans and the Le Mans Series Championship. Coupled with the TAG Heuer peerless heritage — Official timekeeping instruments for the Olympic Games in the 1920s and again in the 1980's at Moscow and Lake Placid, Official Timekeeper of the Scuderia Ferrari from 1971 to 1979, Team McLaren Official Timekeeper since 1985, the F1 World Championship from 1992 to 2003 at the 1/1000th of a second, the Indy Racing League from 2004 to 2006 and the Race of Champions since 2005 at the 1/10.000th of a second — together, TAG Heuer and Chronelec are going to bring about impressive innovations in the world of timekeeping.

The TAG Heuer–Chronelec partnership agreement is the first collaboration of its kind in the world, and demonstrates the determination of two superlative timekeeping specialists to combine forces and push again the frontier of timing technology .

Thanks to its partnership with Chronelec, TAG Heuer has drawn up all its timing know-how and professionalism to produce unique timing total solutions, combining ultimate precision and unsurpassed reliability. All of them are modular and expandable and will satisfy the most demanding timekeeping requests, confirming TAG Heuer's extensive knowledge and experience in the field of highly precise time measurement for sport.
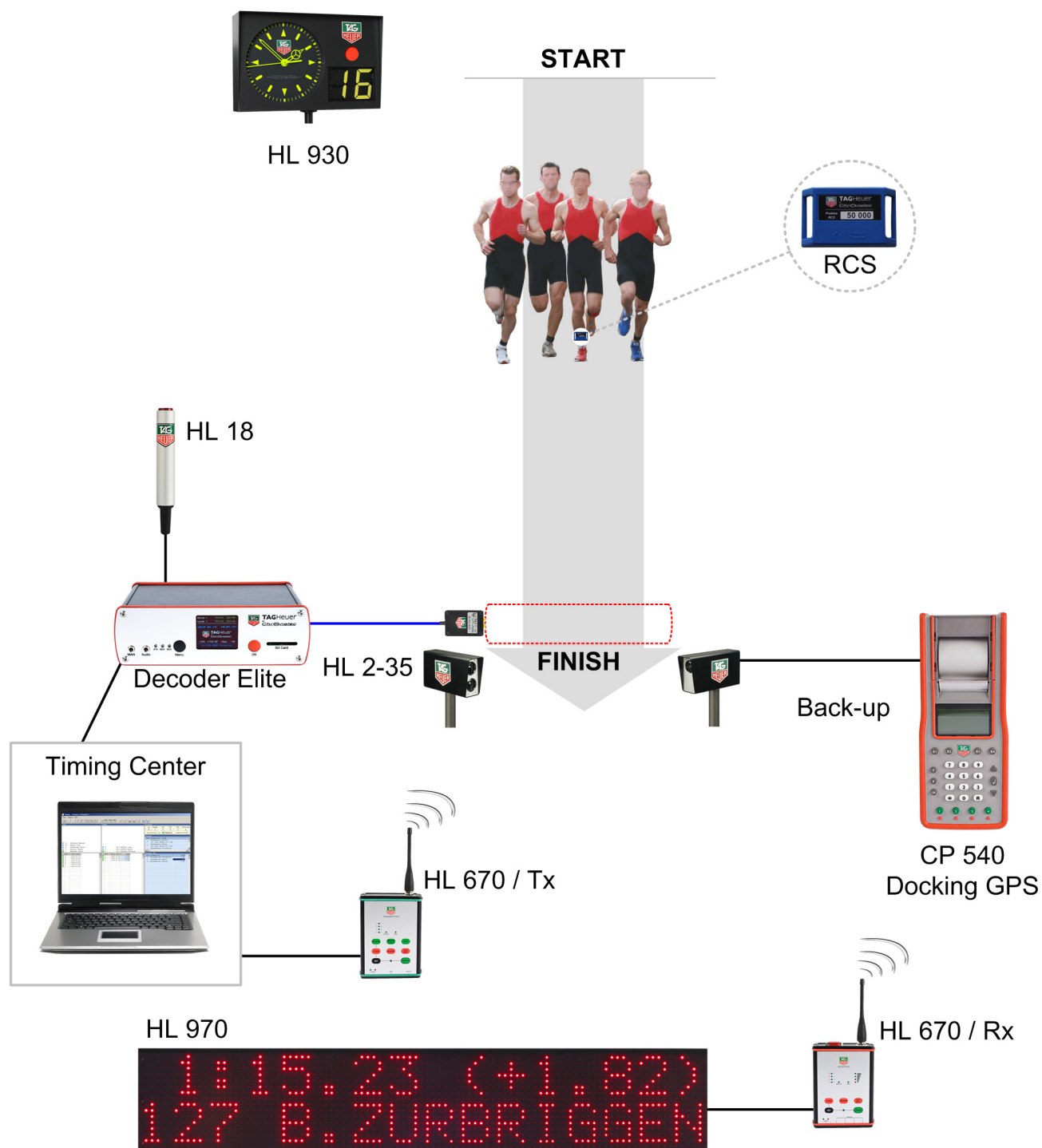
They are an invitation to the constant quest for ultimate precision.
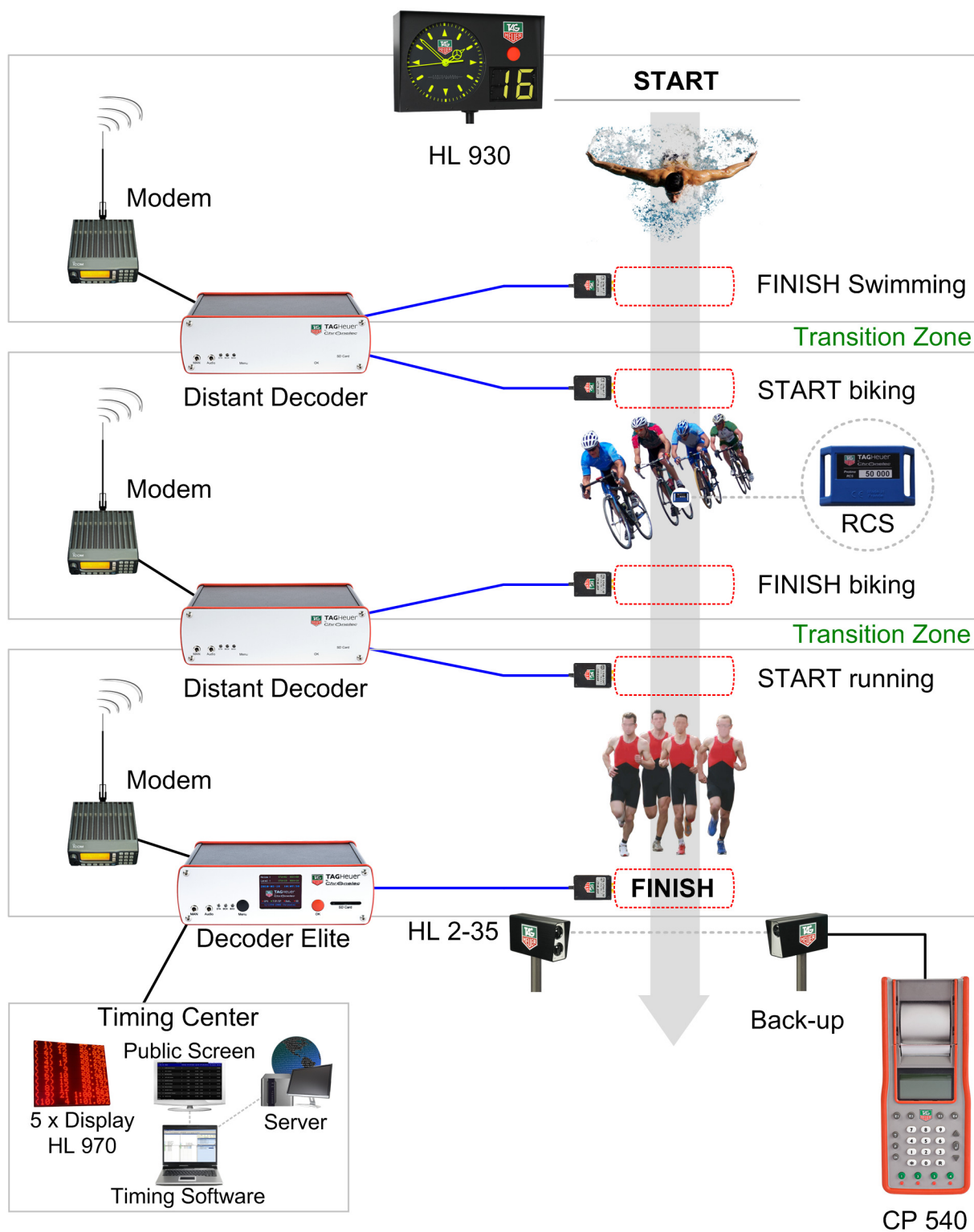
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Marathon Solution

- **Decoder Elite**
- **Tranponder RCS**
- **Start Clock HL 930**
- **Manual Contactor HL 18**

- **Chronoprinter 540**
- **Photocells HL 2-35**
- **Radio Impulse/Data (500mW) HL 670**
- **Matrix Display HL 970**

HL 930

START

RCS

HL 18

Decoder Elite

HL 2-35

FINISH

Back-up

Timing Center

CP 540
Docking GPS

HL 670 / Tx

HL 970

HL 670 / Rx

Triathlon Solution

- **Decoder Elite**
- **Decoder Distant**
- **Tranponder RCS**
- **Start Clock HL 930**

- **Chronoprinter 540**
- **Photocells HL 2-35**
- **Full Matrix Display HL 970**

HL 930

START

Modem

FINISH Swimming

Transition Zone

Distant Decoder

START biking

Modem

RCS

FINISH biking

Transition Zone

Distant Decoder

START running

Modem

FINISH

Decoder Elite

HL 2-35

Back-up

Timing Center

Public Screen

5 x Display HL 970

Server

Timing Software

CP 540

PROTIME ELITE
DECODER

Protime Elite
Decoder

- Color display
- GPS synchronization
- Resolution : 0.001 sec.
- SD Card removable memory
- Emergency power supply integrated
- Until 32 loops management

Description

The Protime Elite decoder is especially used in races that require an accurate timing to the 1/1'000th of a second.
The decoder stores all competitor's passing's on SD card, allowing a restore in case of problems or missed passing's.
An internal battery ensures the functioning of the decoder during a power failure, while continuing to function for 2 hours.
The graphic OLED display shows useful information such as the noise level, the loop detection level, the last transponder ID. It also displays the race time or day time, which can be synchronized by GPS or by the computer.
The decoder has a TCP/IP and RS232 interface for the communication with the computer.

Connections
    2 loops input (track loop and pitlane loop)
    1 photocell input
    1 manual input (to simulate a transponder passing)
    1 audio output (beep for each transponder passing)
    1 AUX output (intermediate loops)
    1 RS232 output
    1 Ethernet output (IP address)

Detection loop
    Maximum width of the track (passive loop) : 25 m (82 ft)
    Maximum width of the track (active loop) : 10 m (33 ft)
    Maximum length of the coaxial cable : 100 m (330 ft)

Compatible products
- Protime ELITE Pro, ELITE, LS, RK, RCS transponders
- Active and Passive loop
- Distant decoder

    3 Year Warranty

Specifications

Clock stability
    Oscillator TCXO 0.5 ppm

Power
    12 VDC via adapter

Temperature range
    -20 to 55 °C (-4 to 131 °F)

Dimensions
    160 x 100 x 52 mm
    6.3 x 3.9 x 2 in

Resolution
    0.001 s

GPS Synchronization

SD Card (stores all passings time)

Intermediate loops (1 to 32)

DISTANT DECODER

Distant Decoder

- Time accuracy
- Depending on the Elite decoder
- Saves passings
- Resolution : 0.001 s
- Secure Communications Protocol

Description

This decoder provides **intermediate times** on a circuit. The decoder can be connected with a RS485 network or a radio network.

A secured dialog enables the main decoder to receive every passings recorded by the distant decoder. Up to 32 distant decoders can be used on your circuit.

By using two loops with one distant decoder, you can measure an instantaneous passing speed. The test center of F1 BMW Miramas in France, Madras India, FFSA (French Federation of Auto Sport) has used this configuration for many years.

Connections
1 loop input (finish line)
1 photocell input
1 manual input (to simulate a transponder passing)
1 audio output (beep for each transponder passing)
1 AUX output (red lights, horn)
1 RS485 or RS232 output

Option
2 loops input (Speed Trap)
1 GPS synchronisation
1 SD Card reader

Detection loop
Maximum width of the track (passive loop) : 25 m (82 ft)
Maximum width of the track (active loop) : 10 m (33 ft)
Maximum length of the coaxial cable : 100 m (330 ft)

Compatible products
- ELITE PRO and ELITE decoder

3 Year Warranty

Specifications

Clock stability
Oscillator TCXO 0.5 ppm

Power
12 VDC via adapter

Temperature range
-20 to 55 °C (-4 to 131 °F)

Dimensions
160 x 100 x 52 mm
6.3 x 3.9 x 2 in

Resolution
0.001 s

PROTIME RCS
TRANSPONDER

Protime RCS Transponder

- Ecological – Not disposable
- Rechargeable by Chronelec
- 4 years autonomy
- The detection is done up to 120 km/h (75mph)

Description

The Protime R.C.S Transponder is part of the new generation of transponders for non-motorized races. It is particularly recommended for cycling, roller-skating, skiing, running...

This transponder is delivered with a Lithium-ion battery. With its small dimensions, it can easily be placed on a belt, around the wrist or the leg without embarrassing the competitor.

The information on the level of charge is sent to the decoder when the transponder passes over the loop

Features

Lithium-ion battery
- Autonomy : 4 years

Specifications

- Emission : magnetic induction
- Maximum speed : 120 km/h (75 mph)
- Maximum height of detection : 1,60 m (5.24 ft)
- Temperature range : - 35 °C to + 70 °C (-31 to 158 °F)
- Dimensions : 33 X 28 X 11 mm (1.3 x 1.1 x 0.4 in)
- Weight : 18 g (0.63 oz)

Related products
- Mounting Clip
- Neopren strap

3 Year Warranty

START CLOCK
HL 930

Start Clock
HL 930

There are many new innovative features on this Start Clock that uses a special 3-motor analogue movement developed entirely by TAG Heuer

- The operation of the start clock is based on a microprocessor that checks the exact position and alignment of the clock hands every minute to ensure a total precision and reliability of the Official Time.
- Digital "Count-down" display for every start accompanied with acoustic "beeps" and the colour changes of a rotating disk that indicates valid start periods (red, green and yellow available depending on sport regulations).
- Complete control by the operator for start interval changes during the competition.
- START / STOP function for start processes.
- An Input for timing signals (from start gates or photocells) allows the HL 930 to take and memorize every start time in sequential order.
- An RS 232 serial data port can be used to connect a dedicated printer (such as the PTB Printer) to print in hard copy all recorded start times as they happen.
- The differences between the start times and the ideal times are also printed.
- The RS 232 data port also serves as a way to control the function parameters of the HL 930 start clock.
- A supplementary output provides control signals for signal lights or additional loud speaker.
- Rechargeable batteries assure excellent operational duration down to – 25° C.
- Automated Time Setting is assured by a built-in time management system where the accuracy is controlled by GPS synchronization signals.
- Option: remote Control.

TECHNICAL SPECIFICATIONS

General

- An integrated GPS receiver ensures the exact synchronization to the official time-of-day at your location.
- In addition to the analogue movement, two seven-segment numeric indicators visually countdown the remaining seconds to each start interval.
- Further, another indicator comprised of a rotating red, green and yellow disk provides information on start validity.

Time Base

- 16 MHz Thermo compensated Quartz
- +/– 0,5 ppm at 68° F (20°C)
- +/– 2,5 ppm from –22° F (-30°C) to 167° F (75°C)

Temperature Range

- 77° F (-25° C) to + 167° F (75° C)

Power Supply

- Internal: 12V DC rechargeable battery
- External: 12-18V DC source

Autonomy

- 18 hours at 68° F (20° C)
- 8 hours at –90° F (-20° C)

Dimensions/Weight

- 6 kg alone (11,5 kg with transport case)
- 320 x 500 x 115 mm
- Clock face diameter: 270 mm
- Digits height: 110 mm

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CHRONOPRINTER
CP 540

Chronoprinter
CP 540

"Innovation and avant-garde give rise to excellence"

TAG Heuer has gathered all its timing know-how and professionalism to produce this new timing device, resolutely dedicated to the future, combining high technology and precision.

The CHRONOPRINTER CP 540 is the culmination of many unique design advantages, confirming TAG Heuer's extensive knowledge and experience in the field of highly precise time measurement for sport.

FLEXIBILITY
The numerous integrated timing modes sur as NET TIME, PARALLEL SEQUENTIAL or PARALLEL, TRAINING, SPEED, LAP, SPLIT/LAP will satisfy the most demanding timekeeper. The CP 540 is able to accommodate the majority of sports disciplines operating as a stand-alone unit.
When connected to a PC running TAG Heuer's extensive range of race management software, it is also the ideal time base for all professional sports-timing.

PRECISION
The CP 540's precision time base and buffered inputs guarantee measurements accurate to 1/100,000 of a second.

SIMPLICITY
The hallmark of TAG Heuer timing philosophy. The operator has only a few essential keystrokes to master. Mistakes are kept to a minimum, and recovery from errors quick and painless.

COMFORT
The large graphic LCD display with backlighting affords very clear vision of the timing information in all situations. The ergonomic, intuitive, snap-action keyboard provides well-spaced and extremely precise keys. The timekeeper will easily navigate the keyboard, even with gloves on.

DESIGN
The originality of the design of the CP 540 is obvious. The choice of the materials with its robust ergonomics have been carefully studied and developed for durability in any environment.

EXPANDABILITY
The CP 540 can be programmed with future and even custom timing modes through its exclusive bi-directional connection with a PC.

DOCKING STATION
Three docking stations are available: « ACCU », « ACCU + GPS » and « ACCU + GPS + GSM »

CP 540 – TECHNICAL SPECIFICATIONS

General
- Stand-alone multi-sport timing system
- Timing calculation (Speed) to the 1/1'600'000 sec.
- Timing resolution (Printer – PC) from 1 sec. to 1/100'000 sec.
- Memory of 25'000 times and 99 timing sessions
- Sequential Nr / Competitors Nr from 1 to 9.999

Time base
- Thermo-compensated quartz 12.8 MHz
- Precision: +/- 0.5 ppm at 25° C
- Precision: +/- 1.5 ppm between -30°C and +65°C

Inputs / Outputs
- Four Inputs with banana jack for Timing impulses
- COMPUTER / Bidirectional RS232 or to drive external display
- ETHERNET
- Extension port for Docking

Power supply
- Internal: five alkaline 1.5V batteries (AA)
- External: 12 V DC by adaptor (HL540-1) or 12 V battery

Autonomy
- 6'000 printed times with one battery set

Dimensions / Weight
- 270 x 100 x 65 mm
- CP 540 without transport case: 860g. (with batteries and 1 paper roll)
- CP 540 with transport case and power supply : 1'800g.

Display
- Matrix LCD display with backlighting
- Eight information lines with 21 characters
- Adjustable contrast and brightness

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PHOTOCELL 80m
HL 2-35

Photocell 80m
with transmitter and receiver
HL 2-35

« For maximum reliability »

TAG Heuer's extensive experience in the development of infrared photocells has led to the production of highly reliable and precise instruments that are very stable in adverse conditions.

- Timing line width up to 40 meters in "LOW" power position and up to 80 meters in "HIGH" power position.
- An indicator lamp visible through a separate lens in the receiver element allows one person to easily adjust the alignment from the opposite side of the timing line.

Recommended use
- For professional timekeeping applications where timing line width exceeds 20meters.

Technical specifications

General
- Infrared type photocell using a coded modulated frequency of 32.7 kHz. Triggering detection by frequency discrimination

Operating type and Distance limits
- Transmitter / Receiver Type, up to 80 Meters

Output Trigger
- Infra-red photocell with internal or external power supply and 2 functions modes:
- IMPULSE mode with adjustment of duration of the output impulse (standard mode).
- DIRECT mode with timing impulse which correspond to the breaking of the Infra-Red beam. This mode makes possible the control of the good functioning and alignment of the photocells.

Reaction Time
- Less than 0.5 ms

Precision
- +/– 0,02 ms for repetitive impulses

Internal Power
- Three alkaline batteries type 1.5V (AA) for each (Tx / Rx)

External Power
- 6-12 VDC via 4-pole bayonet type jack.

Autonomy at 20° C
- About 100 hours

Operating Temperature
- –20° C to + 70° C

Indicators
- LED diodes for batteries and alignment.

Mounting
- Fitted for standard photographic ¼" tripod or TAG Heuer mounting brackets HL 4 / HL 4-3

Dimensions
- Hot-lacquered black aluminium case 150 x 80 x 40 mm

Weight
- 800 gr. complete set
- All photocell sets are delivered in their own transport case

TAGHeuer PROFESSIONAL TIMING

500mW IMPULSES / DATA TRANSMISSION SYSTEM HL 670

500mW Impulses and data Transmission System
HL 670

Supreme, Powerful and User Friendly wireless data and impulse transmission.

With unparalleled performance in the world of wireless data and impulse transmission the HL 670 surpasses the highest requirements for reliability and precision.

For training or competition, a powerful and simple to use device, it is the wireless timing solution that has been long awaited.

The HL 670 is ideal for transferring timing data and Impulses from photocells, start gates and other devices. With 500mW of emitting power and frequency range (869 MHz) ensures the HL 670 is licence free throughout Europe (ISM Band 869 MHz – REC 70-03)

Each Receiver can receive impulses (individually or simultaneously) from 4 transmitters, each identified by the function "CHANNEL" (1 to 4).

Up to 4 Teams can work (train) in the same area without disturbing each other thanks to the function "TEAM" which offers the ability to code each system (A, B, C, D). It is also possible to use up to 16 transmitters with 4 receivers.

Specifications:
- Frequency :   869 MHz – REC 70-03
- Power   500 mW
- Precision impulse :   +/- 1/10'000 sec.
- Transmitting delay :   200ms
- Communication data :   RS 232 / RS 485
- Autonomy :   > 24 Hrs at + 20°C
- Number of channels :   4
- Antenna Impedance :   λ 2,5 dBi / 50 Ohms
- Temperature Range :   -25°C to +50°C
- Power supply :   12 V DC / 800 mA min
- Dimensions (without antenna) :   152 x 108 x 34 mm
- Weight :   470g / radio

Accu-pack Lithium-Polymer
- Type :   12V Li-Pol 2100mAh
- Charging Temperature :   0° to +40°C
- Charging Current :   800mA mini (~ 4 hours)

Charger HL540-10
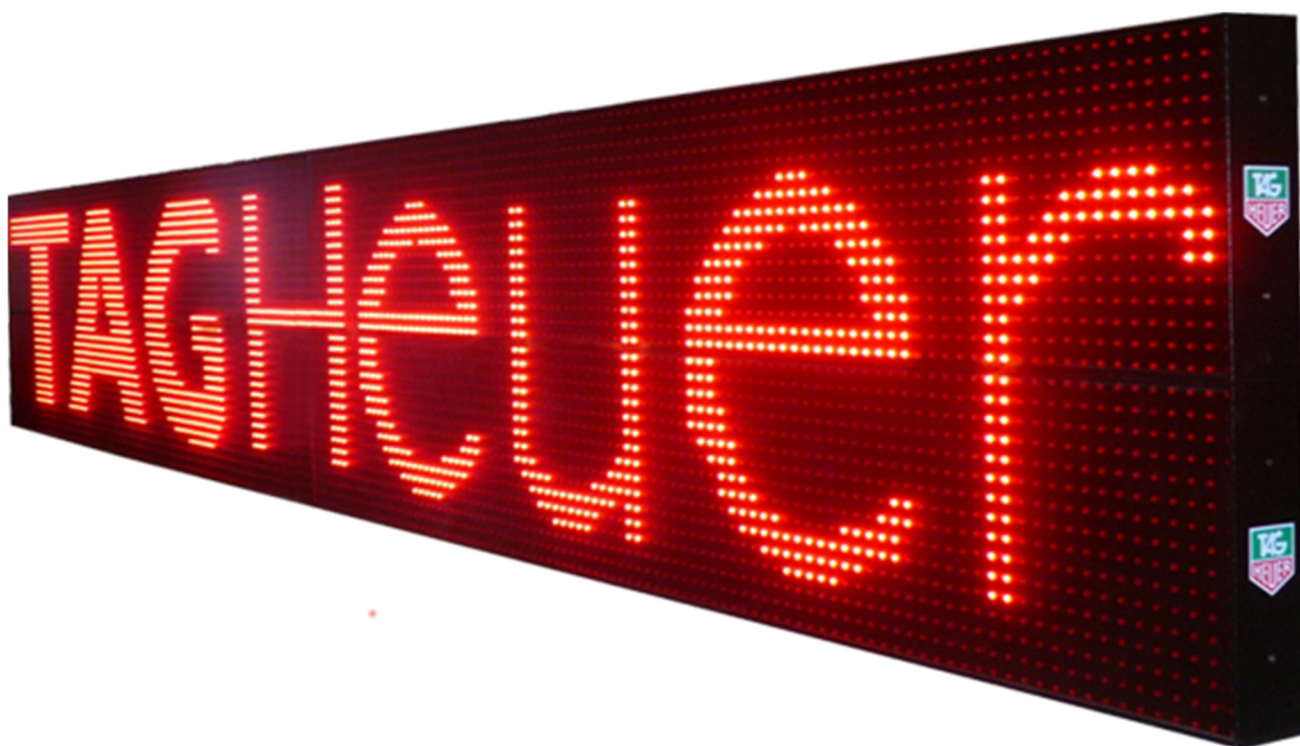- Input :   110-230V / 50-60Hz - 125mA
- Output :   12V – 1250 mA

FULL MATRIX
DISPLAY
HL 970

Full Matrix Display
HL 970

The new TAG Heuer matrix LED display HL 970 will convince anyone considering multi-purpose uses with multiple parameter settings.

The concept proposed by TAG Heuer enables the visual representation of timing information or alternatively advertising and information messages (logo & text).

The unique structural concept and modularity offers the potential to create a large structure scoreboard.

The almost seamless design of each display allows displaying many types of logo without distortion.

The ideal dimensions and weight ensure simple transportation and set up.

A small external unit integrates the main electronics and power supply convertor.

The matrix LED display together with the purpose designed and unique Software « Easy Display » provides a large user definable and flexible array of displays complimented by the ability for advertising – messages (logo & text).

Technical Specifications

Dimension :	1580 x 290 x 80 mm (matrix 96 x 16 pixels) 5.18" x 0.95" x 0.26"
Weight :	11kg
Control Box :	250 x 200 x 100 mm (0.82x0.65x0.32")
Communication :	RS232 – RS485
Integrated power supply :	110 – 220 VAC / 12 VDC
Power consumption max :	50W
Visibility :	50 m – 164" (with characters 110mm high)
	80 m – 262" (with characters 220mm high)

Example: 4x HL 970
Dimension: 318 x 53 cm

Timing Configuration
 1 Line with 16 characters, high 22 cm (8,66")
 2 lines with 32 characters, high 11 cm (4.33")

Timing Configuration
 4 lines with 32 characters, high 11 cm (4.33")

TAGHeuer
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Serial Printer
HL 200

High resolution printing, high speed, for HL 440 Minitimer or Start Clock HL 930

- Quiet, non-impact system
- Maintenance-free
- Compact and light-weight
- High Reliability
- Versatile for use with text or graphics
- 12, 16, 24, 32 or 48 characters per line
- Barcode capability
- Auto wake-up facility
- Supports labels and dual play paper

Specification

- Printing System Thermal line head system
- Max characters per line 48
- Character matrix 24x16, 24x12 or 24x8
- Character size 3mm x 2mm, 3mm x 1.5mm or
- 3mm x 1mm (Approx. 13, 17 or 25cpi)
- Horizontal dot pitch 0.125mm (Approx. 200dpi)
- Vertical dot pitch 0.125mm
- Text line composition 24x384 dots
- Printing width 48mm

- Average printing speed 10 lines per second
- Dimensions 135mm x 130mm x 64mm
- Weight Approx. 425 grammes
- Internal power supply 4.8V (600mAH, NiMH battery pack)
- Paper width 58mm
- Character set UK/United States (437)
- Country codes USA, France, Germany, UK, Denmark I/II,
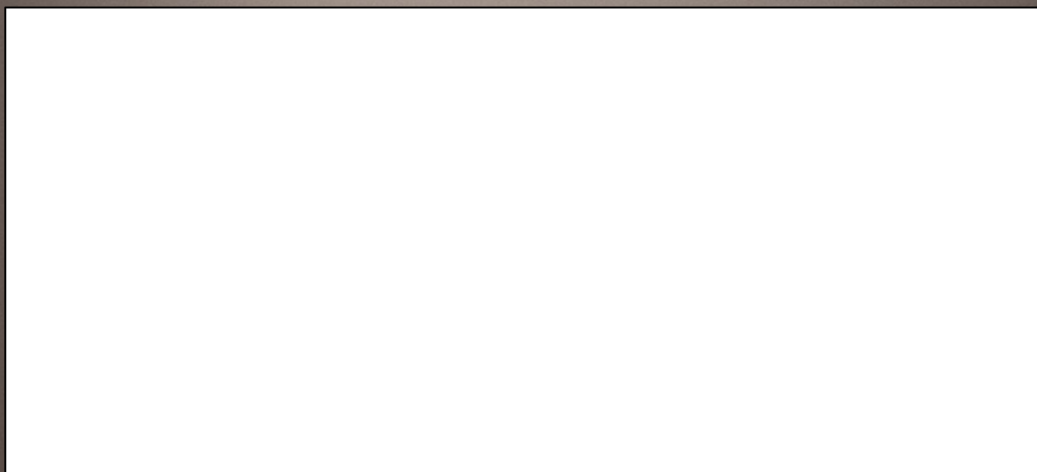 Sweden, Italy, Spain & Japan

Manual Contactor HL 18

Manual timing (hand-held) button.
Comes in an anodized aluminium tube.
High-quality working contact.
Connection cable with banana jack.

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Official agent stamp

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