



TAGHeuer
PROFESSIONAL TIMING

Global Solution for Equestrian





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PROFESSIONAL TIMING



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 Chronolec, 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 Chronolec 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. Chronolec 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 Chronolec are going to bring about impressive innovations in the world of timekeeping.

The TAG Heuer–Chronolec 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 Chronolec, 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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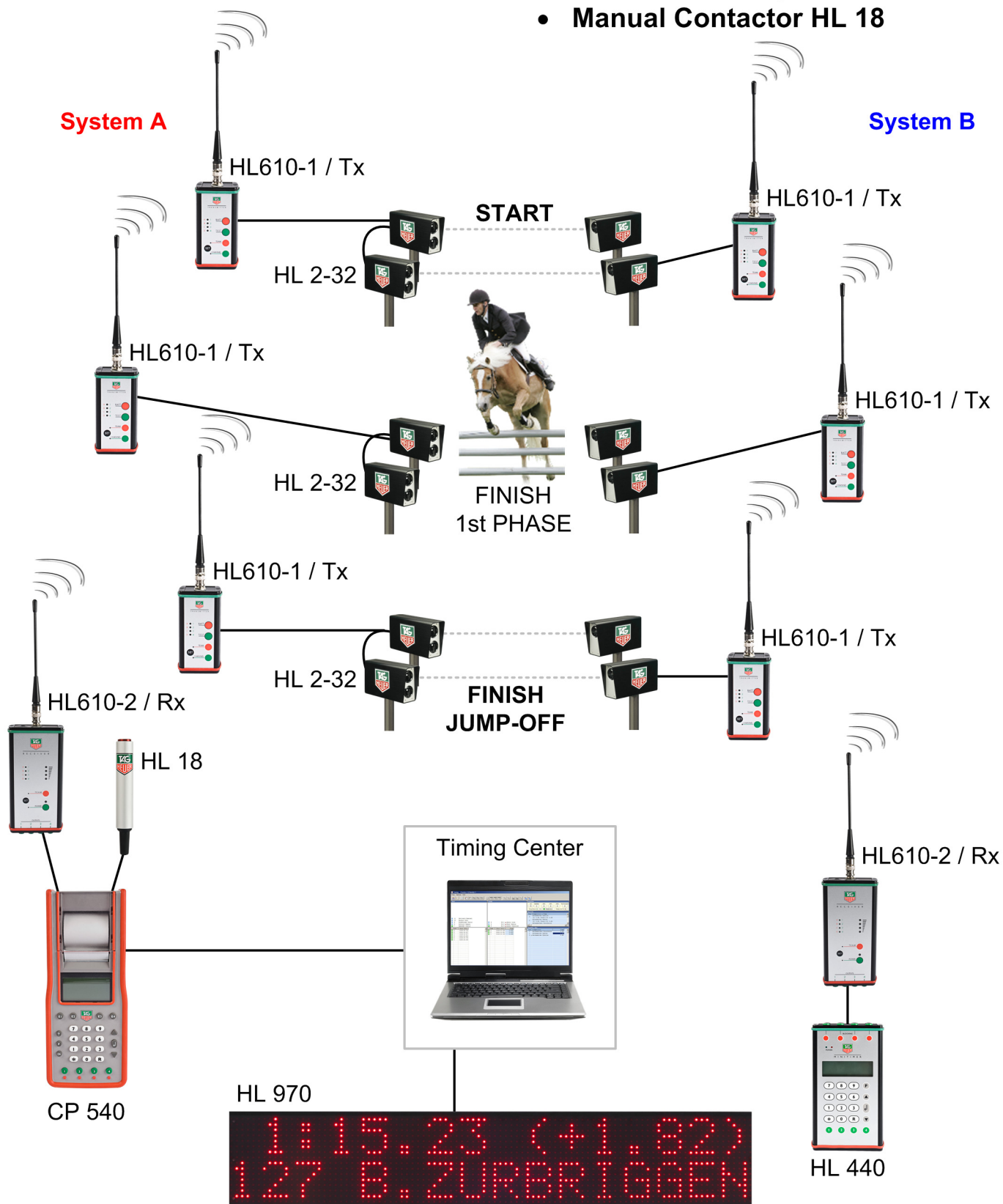


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FEI Jumping Solution

- Chronoprinter 540
- Photocells HL 2-32
- Minitimer HL 440
- 10mW Radio Impulse HL 610
- Manual Contactor HL 18



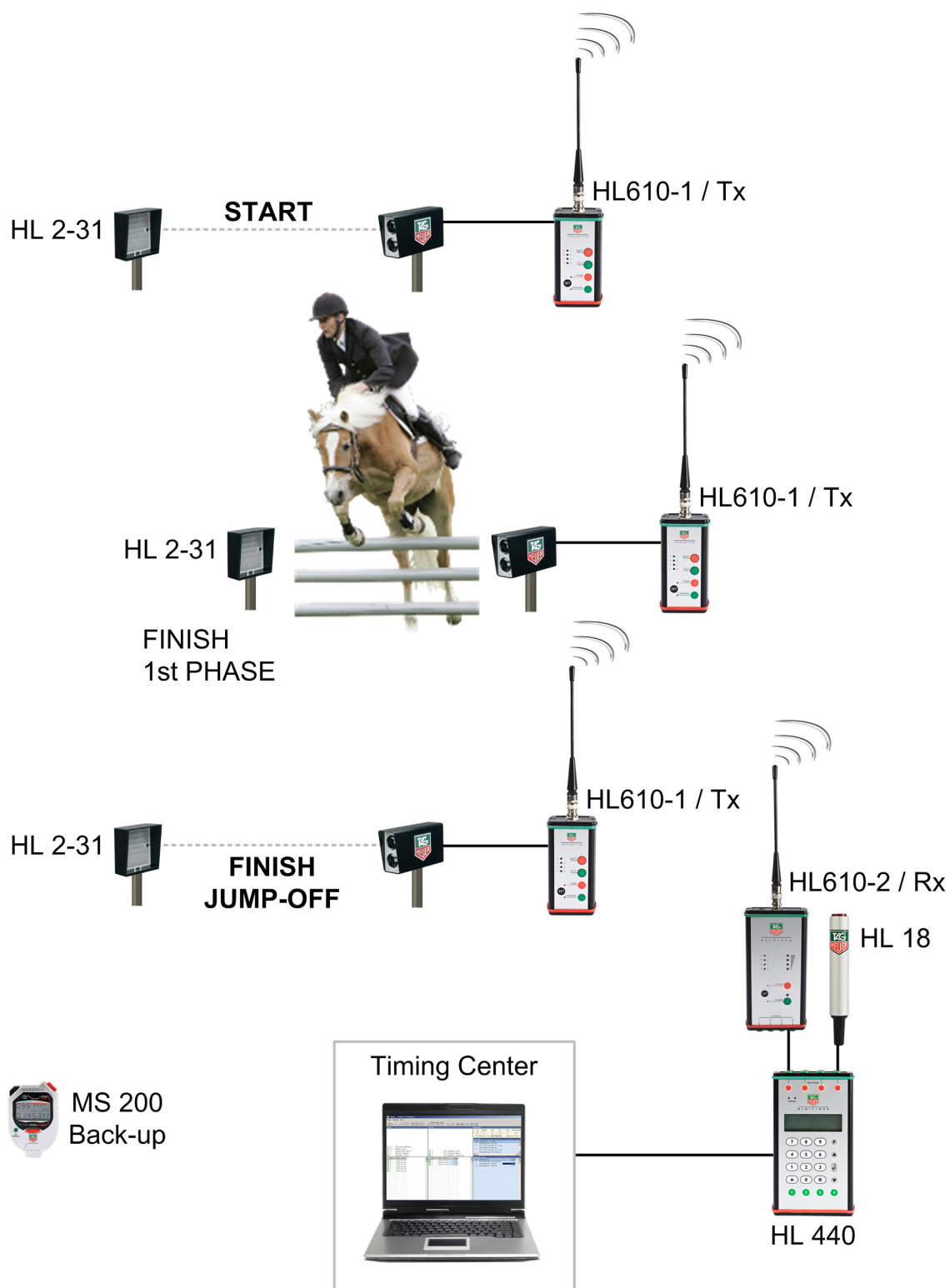


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Jumping Basic Solution

- Chronoprinter 540
- Photocells HL 2-31
- Radio Impulse (10mW) HL 610



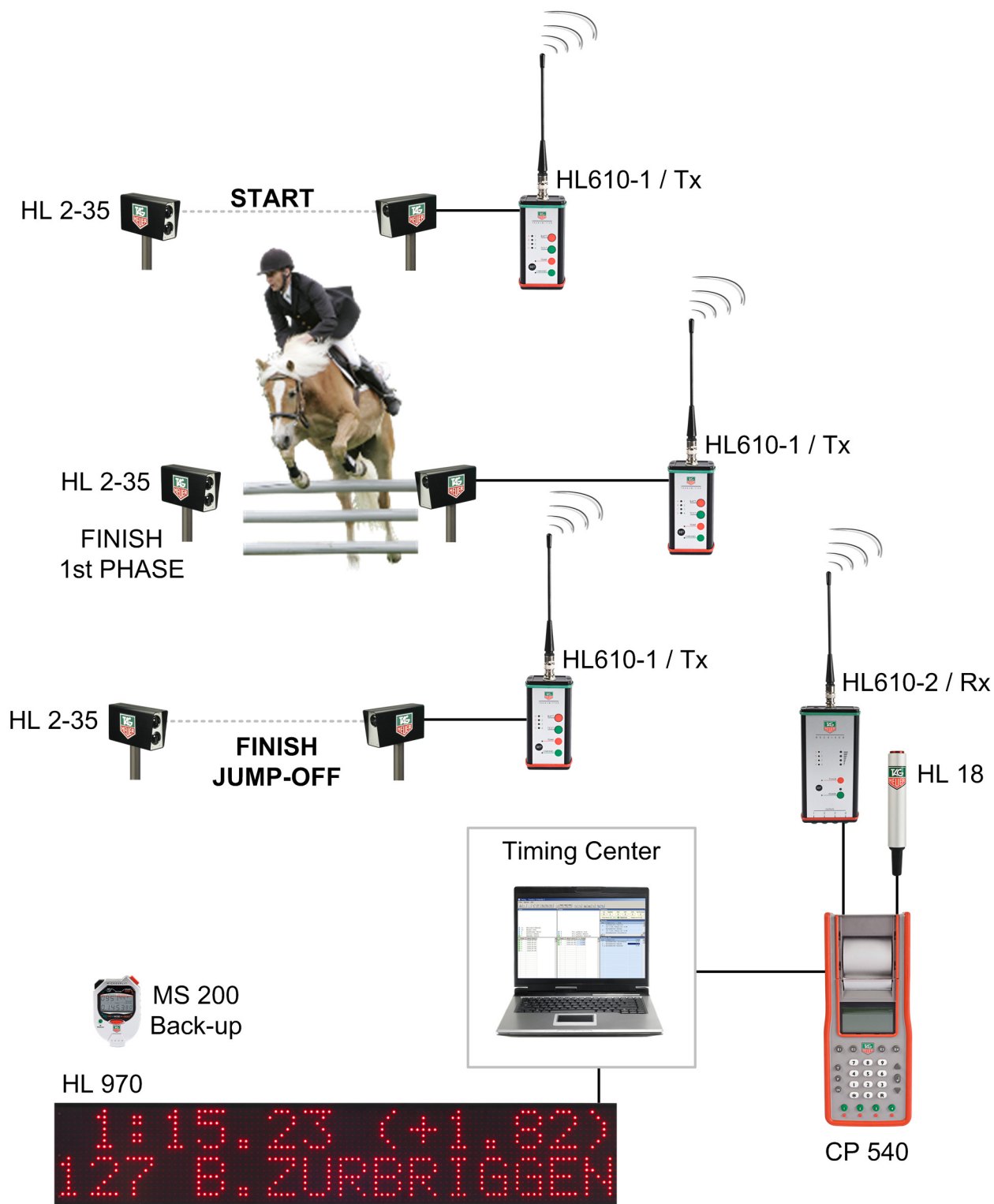


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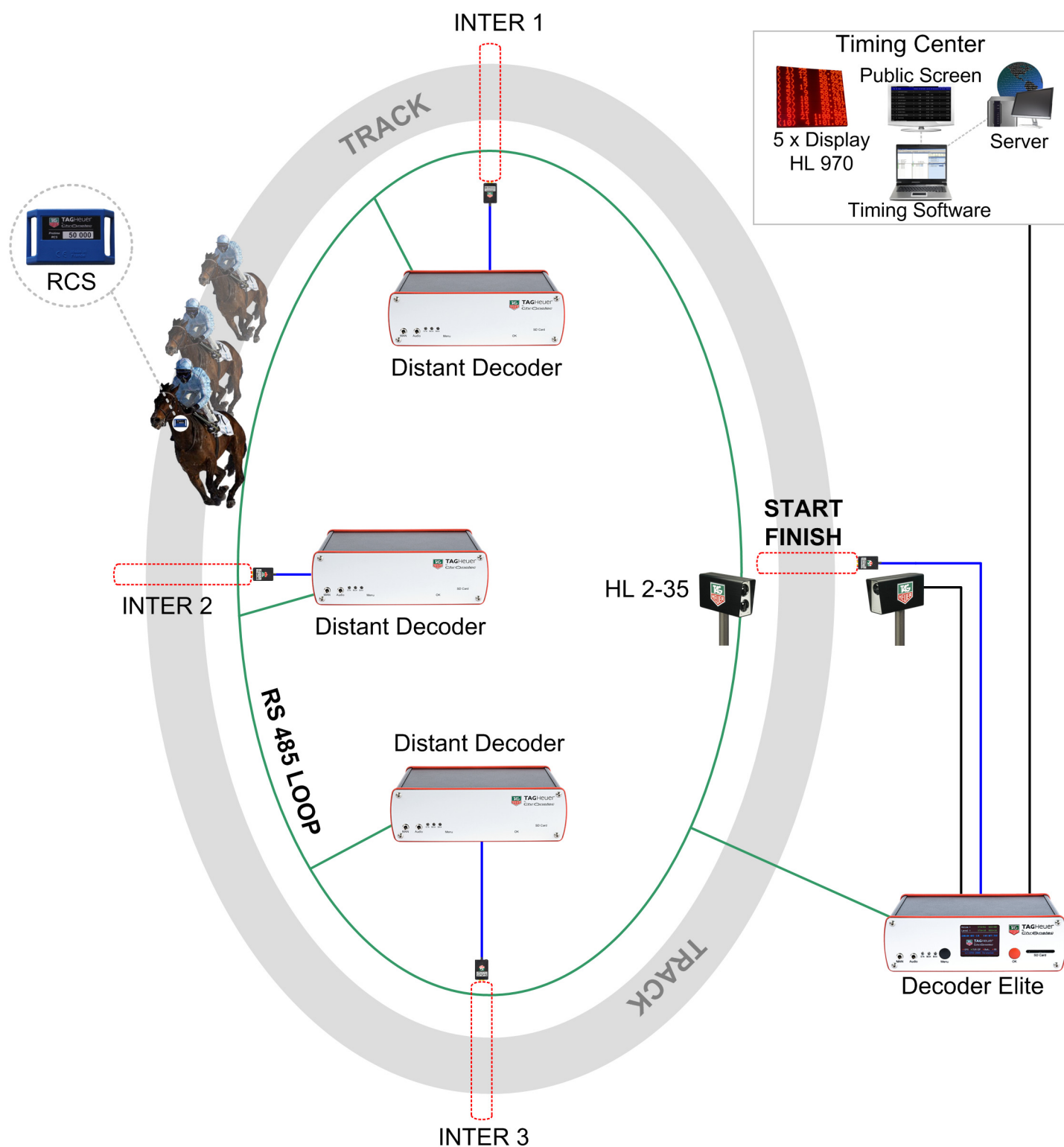
Jumping Advanced Solution

- Chronoprinter 540
- Photocells HL 2-35
- Radio Impulse (10mW) HL 610
- Manual contactor HL 18
- Matrix Display HL 970



Horse Race Solution

- Decoder Elite
- Decoder Distant
- Transponder RCS
- Photocells HL 2-35
- Full Matrix Display HL 970





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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 such 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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MINITIMER HL 440



Minitimer

HL 440

The Minitimer HL 440 is a professional timing system with 4 inputs using the same « high technology » as our Chronoprinter 540. It is an essential general-purpose timer for many applications.

The HL 440 is a very high precision “time base”, ideal to communicate bi-directionally with a computer.

With the integrated matrix LCD display the user is able to view all datas and informations.

The Minitimer can be connected to our Martel HL 200 printer to enable the printing of all sequential timing informations.

Thanks to the integrated keyboard, the HL 440 can be used at the start line of a race (Ski) as a numerical-keyboard to identify the competitor's number, which will be transmitted to the timekeeper with the complete timing information (PC or Printer).

It is also useful for events which do not necessarily require log printing of times (such as Jumping) and is also useful as a backup timer.

The Minitimer can be connected to a second system or to a Chronoprinter 540 to provide up to 8 input channels.

Technical specifications

- | | |
|------------------------------------|---|
| • Timing resolution (printer – PC) | user selectable from 1 sec to 1/100'000 sec |
| • Memory | 30'000 times and 99 timing sessions |
| • Sequential N°/ competitor N° | from 1 to 9'999 |
| • Inputs | Four banana jack inputs |
| • Outputs | RS232 to PC
Printer |
| • Display | Matrix LCD display |
| • Time Base | Thermo-compensated quartz 12.8 MHz |
| • Precision: | +/- 0.5 ppm at 25° C
+/- 1.5 ppm between -30°C and +75°C |
| • Internal power supply | Accumulator Li-ion |
| • External power supply | 12 VDC by adaptor (HL540-1) or 12 VDC Battery |
| • Operating time | 38 hours (1 Impulse every 5 seconds) |



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PHOTOCELL 20m WITH REFLECTOR HL 2-31



Photocell with reflector

HL 2-31

- Infrared reflector-type photocell with an exceptional quality/price ratio.
- For timing line widths of up to 20 meters.
- Internal battery power as well as a plug for external power input of 6-12 V DC.
- If the external power fails, the batteries assure proper operation of the photocell.
- Impulse output length adjustment.
- Two indicator lamps (LED) provide information on battery condition and photocell signal alignment.
- Installation of standard photographic tripods (1/4" mount) or on HL 4 mounting brackets.

Recommended use

This photocell satisfies the highest standards of timing accuracy for the majority of sports applications.

In all cases, photocells that use reflector technology for timing sensing should not be employed whenever a risk of reflection from the object being timed exists.

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 / Reflector, up to 20 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

- $\pm 0,02$ ms for repetitive impulses

Internal Power

- Three alkaline batteries type 1.5V (AA)

External Power

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

Autonomy at 20° C

- About 100 hours

Operating Temperature

- -20° C to $+70^{\circ}$ C

Indicators

- LED diodes for batteries and alignment.

Mounting

- Fitted for standard photographic 1/4" tripod or TAG Heuer mounting brackets HL 4 / HL 4-3

Dimensions

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

Weight

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



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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 1/4" 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



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DOUBLE PHOTOCELLS

HL 2-32



Double photocell

HL 2-32

« 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.

- This photocell system uses two physically separate but electronically synchronized photocell transmitters and two independent receivers that are placed on opposite sides of the timing line.
- If necessary, each pair (transmitter/receiver) can be used separately in different timing locations.
- Timing line width up to 40meters in "LOW" power position and up to 80meters in "HIGH" power position.
- The receivers feature the use of a special additional lens that helps in the precise alignment of the cells from the opposite side of the timing line.

Recommended use

- For all professional timing applications where two independent photocell
- Systems must be installed (primary and back up). These photocells meet all requirements of the International Ski Federation (FIS).
- The photocells must be placed within close vertical proximity to each other when used at the same timing line in order to avoid large differences in triggering times.
For added timing system dependability, use our HL 553 impulse distributor and opto-isolator.

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

- Double Photocell, 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

Autonomy at 20° C

- About 100 hours

Internal Power

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

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

- 1'700 gr. complete set
All photocell sets are delivered in their own transport case



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10 mW IMPULSES TRANSMISSION SYSTEM HL 610



10mW Impulses Transmission System HL 610

TAG Heuer presents a revolutionary wireless transmission system at a very affordable price.

This new radio impulse transmission system offers decisive advantages for all timekeepers involved with training, testing or parallel (dual) events.

This innovative system HL 610 allows up to 4 simultaneous transmissions of timing impulses with only one receiver connected to the timer !

Main features

- Low power transmission (10mW) for use without license (ISM band).
- Range of up to 1km in direct view. Depending of the topography, the range can be reduced.
- Up to 4 Teams are able to work in the same area without disturbing each other. Each Receiver can be programmed and receive the impulses of 4 Transmitters.
- Due to its low power (10mW), this system may be disturbed by other transmission systems

Technical Specifications

HL610-1 Transmitter :

- Lithium battery (up to 3 years of autonomy)
- 1 input for timing impulses (banana plug)
- 4 programmable channels (1 to 4) for identification of the transmitters
- Programmable Team codes (1 to 4)
- Acoustic signal for each transmitted timing impulse
- « BATT » key to check the status of the battery
- « TEST » key for transmission test
- Water-resistant aluminium case
- Dimensions : 132x57x32 mm
- Weight : 175gr

HL610-2 Receiver :

- Rechargeable batteries (autonomy of 24h at 20°C)
- 4 opto-isolated outputs (banana plugs)
- Programmable Team codes (1 to 4)
- 4 LEDs to indicate the relative radio signal strength
- 4 LEDs to identify channel and team programming
- Acoustic signal for each received timing impulse
- Fixed repetitive delay of 100ms to the timer, with accuracy better than 1/10'000 sec.
- ON/OFF power button
- Water-resistant aluminium case
- Dimensions : 182x82x32 mm
- Weight : 380gr



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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)



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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

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

3 Year Warranty



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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

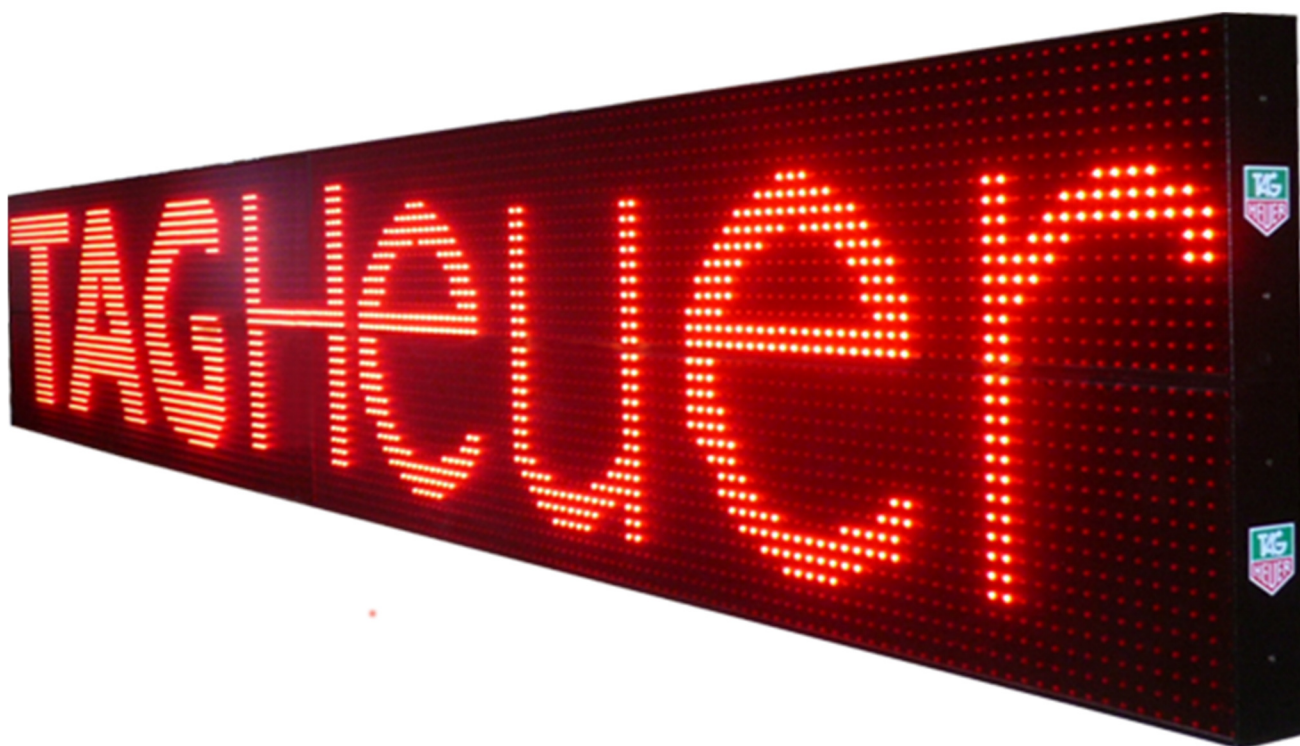


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Chronelec



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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")



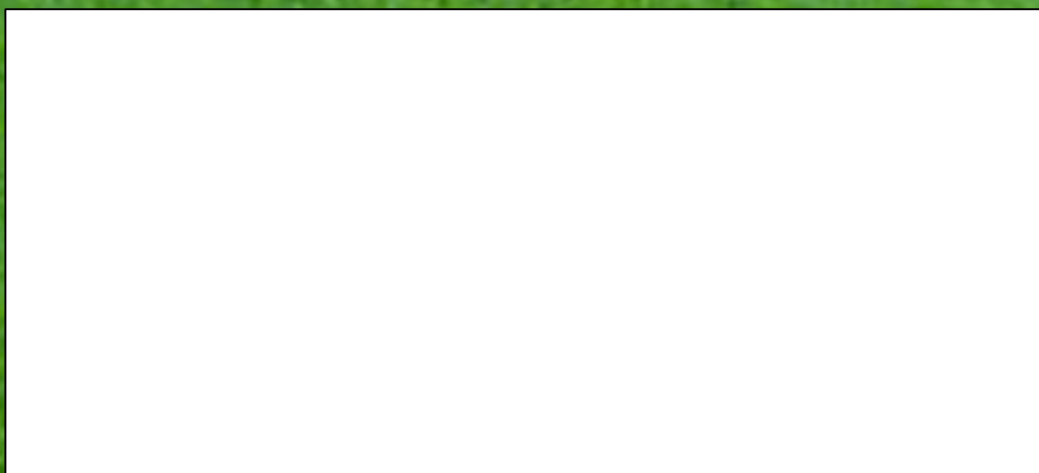
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