TAG HEUER

TAGHeuer

PROFESSIONAL TIMING

POCKET PRO
HL400-C
CIRCUIT

User Manual

Version 09/2015

Contents Table

1. Concept

The Pocket Pro Circuit App, Pocket Pro HL400-C, gives users access to timekeeping functions dedicated to the timing of motor sports / race tracks.

The innovative and bespoke application makes it possible to time training sessions for circuit events with individual starts and finishes (qualifying), lap time with best lap and gap plus 3 individual count down programmes up to 39 hours).All times are memorised and can be recalled and viewed for each competitor.

The Pocket Pro electronic stopwatch is the latest in TAG Heuer's Professional Timing development regime. In addition to the three exclusive timing modes dedicated to Motor sports, this 1/100th second handheld timepiece also encompasses standard stopwatch modes, including Split / Lap time measurement, countdown, and timing based on time of day.

Together with its integrated USB connector; free POCKET MANAGER Application and Pocket-Pro 800 measurements internal memory, the device makes the downloading, analysis, printing and archiving of results extremely simple.

Results can also be viewed or printed from your laptop or pc instantly.

The USB connector (HL400-4) enables connection to a photocell, a manual switch or a wireless radio input (HL615, HL675).
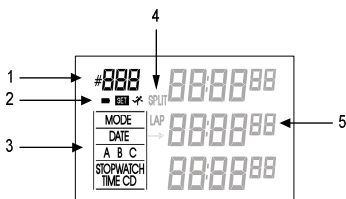Pocket Pro Manager adjusts a Lock Time for the USB Input.

Note:
  Pressing the hard reset (to the right of the USB connector) resets the Lock Time value to 0.01 sec (minium)

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2. Standard Timing Mode

Several timing modes are available:
Date / **Time** / **Count Down** / **Stopwatch**.

2.1. LCD description

1. Competitor Sequence / Memory Status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Information Split / Lap
5. Timers

2.2. General

2.2.1. How to navigate the different modes

To navigate into a different mode:
- First the Pocket Pro has to be stopped (**STOP**)
- Reset memory (**START/STOP** + **MEMORY**)
- Pressing the **MODE** button now allows you to change the Timing Mode

Sequence:
**DATE → STOPWATCH → TIME → CD → A → B → C**

2.2.2. Power

The Pocket Pro functions with an internal battery. It can be recharged when it is connected to a PC (USB cable) or by a (USB – 5VDC) power supply

When not used for 36hours, the Pocket Pro will switch OFF automatically (LCD OFF)
To wake up the Pocket Pro, just press any button.

It is also possible to switch OFF manually the Pocket Pro by pressing simultaneously the **MODE** and **MEMORY** buttons for 5 seconds.

When the Pocket Pro is OFF, all the times are stored in memory.
The icon ➥ will indicate the level of the battery
During charge:	75% ON / 25% OFF blinking
Fully charged:	with USB Cable: icon ON
	Without USB cable: icon OFF
Low level	(<10% charge): blinking 50% ON & 50% OFF
	(you still have 2-3 days autonomy)

2.2.3. Time Memory

The Pocket Pro has a memory of 800 times.
The number of memorized times is shown on the 3 digits (Memory status)
When the memory reaches 90% capacity (720 times), the 3 digits will flash.

Warning
Once the memory is full (800 times), the next time recorded will be stored as 001 automatically overwriting the original time

The memorised time can be recalled and displayed on the LCD at any time (even during a timing session).

By pressing the **MEMORY** button, the memorized time 001 will be displayed as the button is held down. The number of the memory shown is displayed on the top-left of the LCD

Press the **MEMORY** button again and the next stored time will be displayed.

2.2.4. Delete Memory

To delete the memory, press simultaneously **START/STOP** and **MEMORY** buttons.

| Warning |
|---|
| You will not receive a request for you to "confirm Delete Memory". Once this step is made, all times are irretrievably deleted. |

2.3. Date Mode

This mode allows you to change the date of the Pocket Pro.
To set the date:
- Press the **MEMORY** button: the first digit will flash and **SET** icon is ON
- Press the **SPLIT/LAP** button to change the value
- Press the **MEMORY** button to move to the next digit
Validate your setting with the **MODE** button (**SET** icon is OFF)
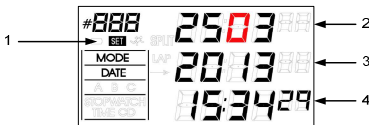
1. Icon Set ON = Setting available
2. Date setting (red digit blinking 25.03)
3. Year setting (2013)
4. Time of Day (set in menu TIME)

2.4. STOPWATCH mode

This timing mode allows the timekeeper to make a Start/Finish, with split time (**SPLIT**) and lap time (**LAP**) with 1/100th second precision

1. Number of split / Memory status
2. Running status
3. Split time
4. Lap Time
5. Running time
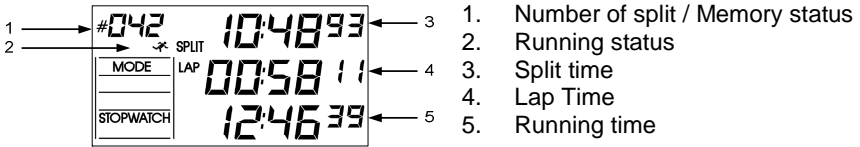
The time displayed is up to 59'59.99'' (1 hour)

SPLIT :   Split time, or cumulative time (**SPLIT/LAP** button)

LAP :   Lap time (**SPLIT/LAP** button)

Running Time: Running time between Start and Finish

The running time always starts from **00:00:00**

- To start, press the **START/STOP** button (✱ icon is ON)
- Three times are running and displayed
- To record a Split / Lap, press **SPLIT/LAP** Button
The **SPLIT** and **LAP** time is stopped. The running time (bottom) continues to run

At each press of the **SPLIT/LAP** button, the memory sequence increases
It is possible to recall and view previous split and lap times during a session by pressing the **MEMORY** button

For simple viewing in this mode, it is possible to reduce the information, and display only **SPLIT** or **LAP**. For this, during the race, press the button **MODE**
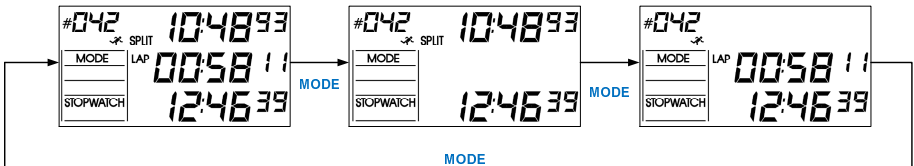
2.5. Count Down mode (CD)

This mode allows you to make a unit count down or loop count-down
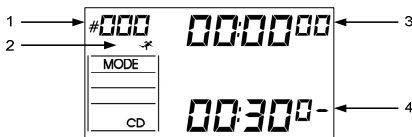
1. Number of split / Memory status
2. Running status
3. Counter
4. Count Down (max 59:59.9)

2.5.1 Set Count Down

To change the Count-Down value, the memory first has to be deleted
To set the Count-Down value:
- Press the **MEMORY** button: the first digit will flash and **SET** icon is ON
- Press the **SPLIT/LAP** button to change the value
- Press again the **MEMORY** button to change to the next digit
- Validate your setting with the **MODE** button (**SET** icon is OFF)

2.5.1. Count Down timing
- To start the count down, press **START/STOP** button (✈ icon is OFF)
- The count-down value decreases (on the bottom line)
- A timer (on the top) is started (increases)

At any time it is possible to **PAUSE** and **RESTART** the count-down
A long single beep will sound at the end of the Count-Down
The count-down will stop automatically at 00:00
To restart a new count-down, you have to reset the value by pressing the **SPLIT/LAP** button

During the count-down sequence, by pressing the **MODE** button, it is possible to change the Single Count-Down to Auto-Restart Count-down (loop mode)
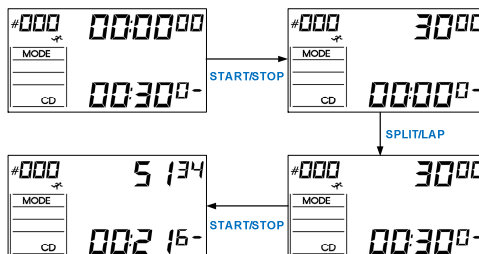The **CD** icon on the LCD will switch
In this Auto-Restart Count-Down, during the last 5 seconds, the Pocket Pro will sound a single short beep and a then long beep at 00:00
The Pocket Pro will restart automatically from the pre-defined time of the count-down
The timer will run and show the full time since the first Start
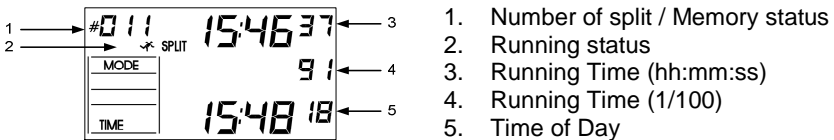To stop the sequence, you have to RESET the Pocket Pro

2.6. TIME Mode

This timing mode allows you to memorize the time of day at each split

This mode is very useful as a back-up system during a timing session and functions similarly to other timing systems working at "time-of-day" such as the CP545 Chrono-Printer, Mini Timer or Start Clock

In Time mode, you have the running time on the top line of the LCD and the time of day on the bottom line of the LCD

1. Number of split / Memory status
2. Running status
3. Running Time (hh:mm:ss)
4. Running Time (1/100)
5. Time of Day

2.6.1. Internal Time of Day setting

To set the Internal Time of Day on Pocket Pro:

-   The Pocket Pro memory has to be reset (**START/STOP** + **MEMORY**)
-   Press and hold the **MEMORY** button for 5 sec: the first digit will flash and **SET** icon is ON
-   Press the **SPLIT/LAP** button to change the value
-   Press the **MEMORY** button to move to the next digit

2.6.2. Time of day synchronisation

-   Press **SPLIT/LAP** and **START/STOP** buttons simultaneously
-   The time of day of the Pocket Pro will be displayed on the top of the LCD with 1 minute in advance
-   The synchro will be automatic at the end of the full minute

2.6.3. To Synchronise at Zero
-   Press **START/STOP** button
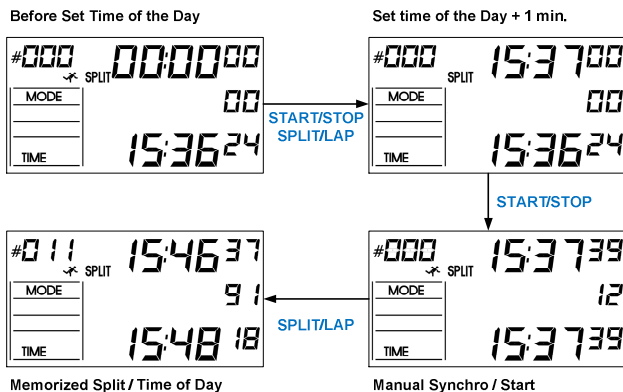The time automatically starts from zero

2.6.4. Timing

Once the Synchronization is made, the ✈ icon appears

To memorize the time of day, press the **SPLIT/LAP** button
The time on the LCD will stay and the passing counter (top-left) is increased
To see the time of the day running, press the **MEMORY** button

Before Set Time of the Day

#000 ✈ SPLIT **00:00**00
MODE   00
TIME   **15:36**24

START/STOP
SPLIT/LAP

Set time of the Day + 1 min.

#000 SPLIT **15:37**00
MODE   00
TIME   **15:36**24

START/STOP

#011 ✈ SPLIT **15:46**37
MODE   91
TIME   **15:48**18

SPLIT/LAP

Memorized Split / Time of Day

#000 ✈ SPLIT **15:37**39
MODE   12
TIME   **15:37**39

Manual Synchro / Start

3. Specific Circuit Timing Modes

In the Pocket Pro Circuit, 3 specifics modes are available for all races on circuit (Auto / Moto)

A: Qualification
>   Up to 25 competitors and 30 lap times for each
>   Each competitor has to be timed individually
>   Display the net time, gap with best time, and time to beat.

B: Lap timing
>   Timing of a single competitors lap times
>   Each competitor has to be timed individually
>   Display the running time, gap with the last time and best time

C: Count down up to 36hours
>   Possibility to set up to 5 different count downs

3.1. Qualification (mode A)

This mode has the possibility to time up to 30 laps for up to 25 competitors
Lap times are recorded for 1 competitor at a time
We display the running time, gap and best time of the actual competitor
At the end of the qualification session, the Pocket Pro automatically calculates the best time of all the competitors as well as the ranking and gap (starting grid).
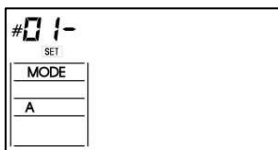
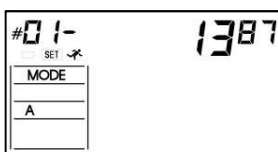Maximum time for each competitor is 60min
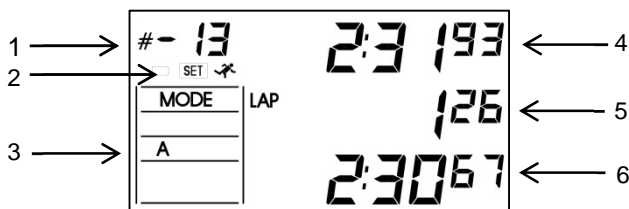
1. Sequence Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Running time (mm :ss.dc)
5. Gap with the best time (mm.ss.dc)
6. Time to beat (best time) (mm.ss.dc)

Button **Start/Stop**:   Start competitor / Lap Time
Button **Split/Lap**:   Change competitor (press and hold button for 5 sec)
Button **Memory**:   Allows you to view the best time of each competitor.
Button **Mode**:   Allows you to view the competitor number being timed (press and hold button)
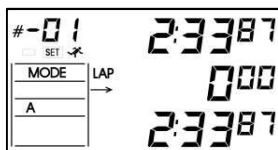
Example for competitor n° 01, and 2 laps
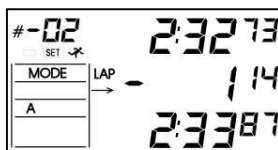

New competitor (n° 01)
(Button Split/Lap) =hold for 5 sec
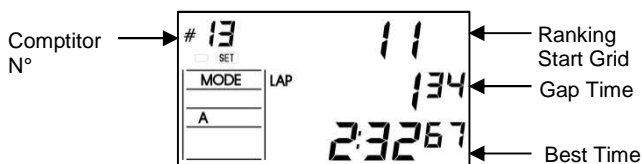

Start Running Time
(Button Start/stop)

Button: Start/Stop →
First Lap : 01 (-01)
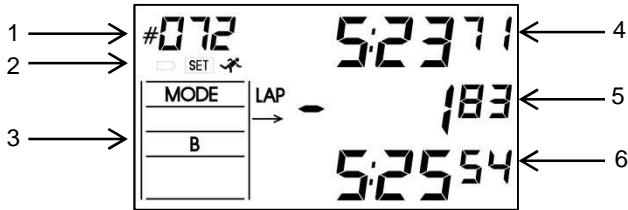Lap Time : 2:33.87
Gap : 0.00
Best Lap : 2:33.87

Button Start/Stop →
Lap : n° 02 (-01)
Lap time : 2:32.73
Gap : -1.14
Best Lap : 2:33.87

Example of results (several competitors)

Comptitor N° →

← Ranking Start Grid
← Gap Time
← Best Time

3.2. Lap Time (Mode B)

This mode allows you to time laps of a competitor and view result with the Best Lap and its Gap

1. Sequence Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Running Time / Lap Time (mm.ss.dc)
5. Gap with the best lap (mm.ss.dc)
6. Best Lap (mm.ss.dc)

Button **Start/Stop:**   Start Competitor
Button **Split/Lap:**   Record Split Time
                          Press and Hold the button 5 sec: Lap number increments
                          and previous lap is deleted
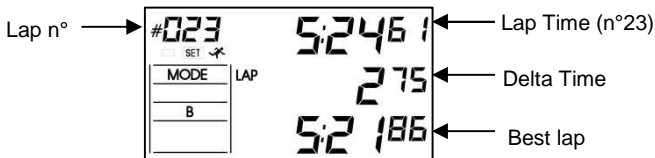
Button **Memory**:   Allows you to view all lap times
                          Recalculate the best time and all gaps
Button **Start/Stop & Memory:** Delete all memory ready for next competitor

Examples of data to view
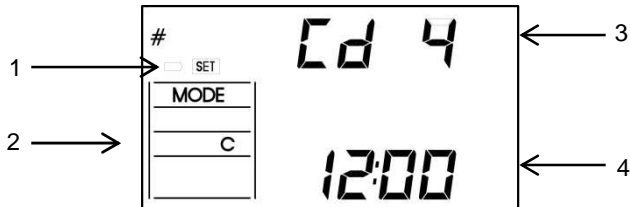Button Memory

Lap n° : 023
Lap Time: 5'24.61''
Gap time : + 2.75''
Best Lap: 5'21.86''

3.3. Multi Count Down (mode C)

This mode allows you to define up to 5 different count down settings up to 36 hours

1. Battery / Mode Setting / Running status
2. Timing Mode
3. N° of the count down (n° 4)
4. Time configured for the count down n°4 (12:00 hours)

Button **Start/Stop**:   Start Count Down
Button **Split/Lap**:   Set the Count Down value
                        Set the digit value
Button **Memory**:   Change the count-down selection (1 to 5)
                        Change the digit during configuration
Button **Mode**:   Valid the setting

It is not possible to stop a count down without resetting the memory
(**Start/Stop** + **Memory**)
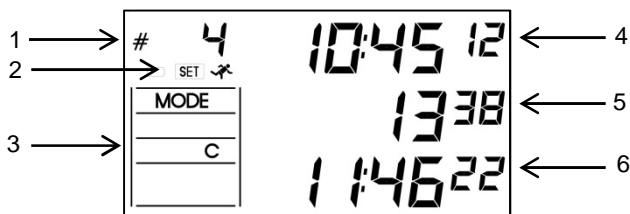
1. Count down programme selected (shown here as n° 4)
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Time of day
5. Running time since start (13'38'')
6. Count down (time remaining) (11h 46'22'')

4. Recommendations

Although the Pocket Pro can be used indoors and outdoors, optimal viewing and protection is best when the display is in the shade or covered from direct sunlight and rain.

Never immerse the Pocket Pro in water.

The Pocket Pro is developed to endure light rain.
The USB socket is protected by the black rubber, and prevents any water ingress.

It is very important and recommended to keep the rubber in place at all times when not using the USB connection.

The optimal visibility of LCD is when the Pocket Pro is protected from direct sunlight

The Pocket Pro can overheat in excessive direct sunlight.

The LCD Plexiglas is fragile. It is not recommended to clean it with a solvent or alcohol

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IMPORTANT
> A slightly damp cloth is recommended for cleaning the Pocket Pro

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5. Download a new version of Firmware

Program downloads and new releases of the TAG Heuer firmware "up loader" are available free of charge on our website www.tagheuer-timing.com.

For this operation, you need to have:
- Mini-USB cable HL545-3
- The software «TAGHeuerFirmmanager.exe » version minimum V10.0

Procedure
- Copy the software «TAGHeuerFirmManager.exe » onto your hard disk drive
- Connect the Mini-USB cable (HL545-3) to the PC and to the Pocket Pro
- Run the software « TAGHeuerFirmManager.exe »
- Select the COM Port
- Select the file: Update (HL400_xxx.dat)
- Press START on the software.
- Press and hold reset on Pocket Pro
- As soon as the upgrade is downloaded into the HL400, validate the software with OK.
- The HL400 is ready to use.

6. Technical specification

6.1. Pocket Pro characteristics

- Power   5 VDC (rechargeable with USB cable)
- Internal battery   600mAh / 3.7V
- Autonomy   35 days (in use) after full charge
- Shell   Aluminium – PVD surface treatment
- Weight   160 g
- Precision   +/- 2 sec / month
                             Calibration available
- Display   LCD 3 lines of 6 characters
                             Battery level / Timing Mode
- Size of characters   7mm height
- Accuracy $1/100^{th}$ second
- Memory   800 stored times
- Temperature range   –20°C to +60°C

6.2. USB Connector

Pin	Description
1	5V
2	D-
3	D+
4	TAG Heuer Photocell
5	GND

7. Quick Guide

Reset memory
> Buttons: Start/Stop + Memory

Change mode:
> Clear Memory (Start/Stop + Memory)
> Button: Mode

Power off
> Buttons: Memory + Mode (hold down together for 5 seconds)

Recall recorded times
> Button: Memory

Setting (Date / Time / CD)
> Button: Memory to select the digit
> Button: Split/Lap to change value
> Button: Mode to validate the selection

Stopwatch
> Button: Start/Stop: start or stop counter
> Button: Split/Lap: memorize Split/Lap
> Button: Mode: select display Split or LAP or both
> Button: Memory: recall split/lap memorized

Count Down
> Button: Start/Stop: Start or Stop counter
> Button: Split/Lap: reset the preselected Count Down
> Button: Memory: countdown setting
> Button: Mode: Select single Count Down or Multi Count Down (CD blinking)

Time (function manual back-up with Time-of-Day)
> Button: Start/Stop + Split/Lap: Set Time-of-Day (+ 1 minutes)
> Button: Start/Stop: Synchro + Start
> Button: Split/Lap: Memorize Time-of-Day
> Button: Memory: recall/view memorized time

Mode A
Button: Start/Stop: Start / Lap Time
Button: Split/Lap: (5 sec) Change competitor number
Button: Memory: recall / view memorized time
Button: Mode: view the competitor n°

Mode B
Button: Start/Stop: Start,
Button: Split/Lap : Lap
Button: Split/Lap (5 sec): Press and Hold the button 5 sec: Lap number increments and previous lap is deleted
Button: Memory: recall / view memorized time

Mode C
Button: Start/Stop: Start
Button: Split/Lap : Set the count-down value
Button: Split/Lap: Modify
Button: Memory: change the count-down (1 to 5)
Button: Memory: change the digit during count down setting

8. Note

TAG Heuer
PROFESSIONAL TIMING
6A Louis-Joseph Chevrolet
2300 la Chaux-de-Fonds
Switzerland
Tel : 032 919 8000
Fax : 032 919 9026

E-mail: info@tagheuer-timing.com
http: //www.tagheuer-timing.com