



# TAGHeuer

PROFESSIONAL TIMING

**POCKET PRO  
HL400-R  
RALLY**

**User Manual**

Version 09/2015



## Contents Table

<b>1.</b>	<b>Concept</b>	<b>3</b>
<b>2.</b>	<b>Standard Timing Mode</b>	<b>4</b>
2.1.	LCD description	4
2.2.	General	4
2.2.1.	How to navigate the different modes	4
2.2.2.	Power	4
2.2.3.	Time Memory	5
2.2.4.	Delete Memory	5
2.3.	Date Mode	5
2.4.	STOPWATCH mode	6
2.5.	Count-Down mode (CD)	7
2.5.1.	Count Down timing .	7
2.6.	TIME Mode	8
2.6.1.	Internal Time of Day setting	8
2.6.2.	Time of day synchronisation	8
2.6.3.	To Synchronise at Zero	8
2.6.4.	Timing	9
<b>3.</b>	<b>Specific Rally Timing Modes</b>	<b>10</b>
3.1.	Starter Marshall (mode A)	11
3.2.	Time Check (mode B)	13
3.3.	Stage Timer (mode C)	15
<b>4.</b>	<b>Recommendations</b>	<b>18</b>
<b>5.</b>	<b>Download a new version of Firmware</b>	<b>19</b>
<b>6.</b>	<b>Technical specification</b>	<b>20</b>
6.1.	Pocket Pro characteristics	20
6.2.	USB Connector	20
<b>7.</b>	<b>Quick Guide</b>	<b>21</b>
<b>8.</b>	<b>Notes</b>	<b>23</b>

## 1. Concept

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The Pocket Pro Rally App, Pocket Pro HL400-R, gives users access to timekeeping functions dedicated to timing rally events.

Three Rally-specific modes offer the possibility to manage various Rally timing requirements including schedule starts with intervals and count-down for the start marshal, time check for the co-driver indicating time to next start, target time, split times and difference. Also included is a mode for stage timing with count-down timer, stage times with splits.

All 3 modes offer the complete solution for timekeepers, rally drivers and co drivers with the added benefit to download all data and times for post event calculations and results. Together with its integrated USB connector; free POCKET MANAGER Application and Pocket-Pro 800 measurements internal memory, this device makes 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:**

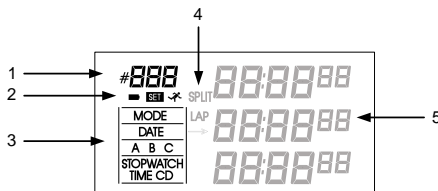
Pressing the hard reset (to the right of the USB connector) resets the Lock Time value to 0.01 sec (minium)

## 2. Standard Timing Mode

Several timing modes are available:

**Date / Time / Count-Down / Stopwatch.**

### 2.1. LCD description



1. Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Information Split / Lap
5. Chronometers

### 2.2. General

#### 2.2.1. How to navigate the different modes

To navigate into a different mode :

- The Pocket Pro has to be stopped (**STOP**)
- Reset memory (**START/STOP** + **MEMORY**)
- Pressing the **MODE** button 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 overwriting the original time automatically

The memorized 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.

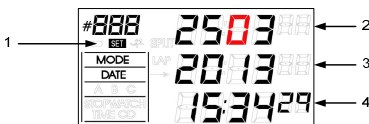
### 2.3. Date Mode

This mode allows you to update 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

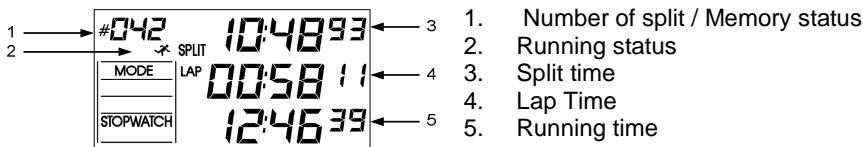
Validate your setting with the **MODE** button (**SET** icon is OFF)



1. Icon Set ON = Setting
2. Date setting (in red, digit blinking) (25.03)
3. Year setting (2013)
4. Time of the Pocket Pro (setting in menu TIME)

## 2.4. STOPWATCH mode

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



The time displayed is up to 59'59.99" (1 hour)

**SPLIT** : Intermediate time, or cumulated time taken at each time (**SPLIT/LAP** button)  
The SPLIT Time is to the top of the LCD (mm:ss.dc)

**LAP** : Lap time or time difference between time taken (**SPLIT/LAP** button)  
The LAP time display is in the middle of the LCD (mm: ss.dc)

**Running Time** : Running time between Start and Finish  
The running time is on the bottom of the LCD (mm:ss.dc)

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

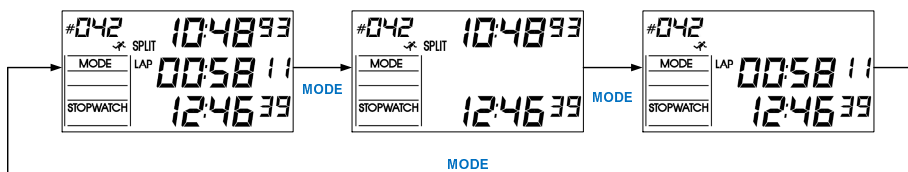
- To start, press the **START/STOP** button (⌂ icon is ON)
- Three times are running and displayed
- At Split / Lap, press **SPLIT/LAP** Button.

The **SPLIT** and **LAP** time is stopped. The running time (bottom) continues to run.

At each press of the **SPLIT/LAP** button, the counter store increments.

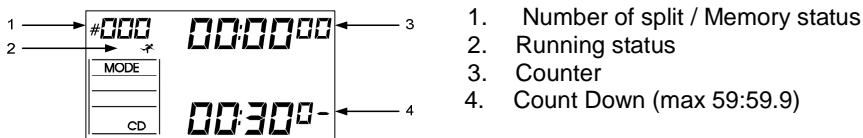
It is possible to recall and view the running time (after **SPLIT/LAP**) by pressing **MEMORY** button.

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



### 2.5.1 Set Count Down

To change the Count-Down value, the memory 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 decrements (on the bottom)
- A timer (on the top) is started (increments)

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 **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).

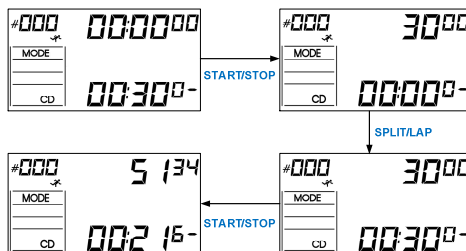
The **CD** icon on the LCD will switch.

In this Auto-Restart Count-Down, during the last 5 seconds, the Pocket Pro will sound a single short beep and a 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.

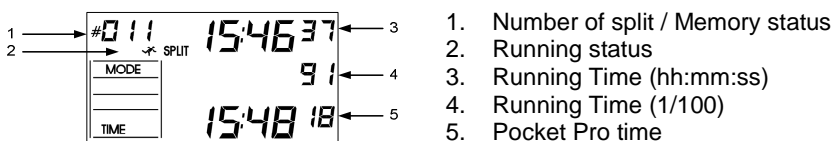


## 2.6. TIME Mode

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 Chrono Printer, Mini Timer or Start Clock.

In Time mode, you have on the top of the LCD the value 00:00.00 and on the bottom the time of the day of the Pocket Pro.



### 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 Chrono automatically starts from zero.



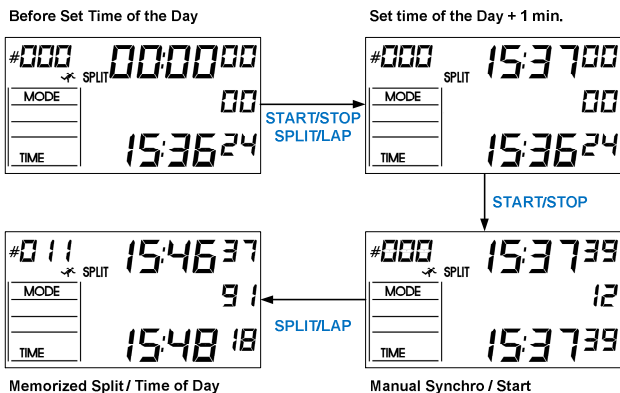
## 2.6.4. Timing

Once the Synchronization is made, the  icon appear.

To memorize the time of day, press **SPLIT/LAP** button

The time on the LCD will stay and the passing counter (top-right) is incremented.

To see the time of the day running, press **MEMORY** button.



### 3. Specific Rally Timing Modes

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With the Pocket Pro Rally, 3 specific modes are available for all Rally racing.

#### Mode **A**: **Start Marshal**

Objective – assist rally start marshal to ensure reliable, accurate start indication and recording of start times and jump start times for post event analysis and results.

Start Marshal Mode enables the user to select either continuous scheduled starts with pre-determined (1min, 2 min or 4 min) gaps between competitors or manual starts on the next full minute or half minute.

Start Marshal retains every scheduled start time along with actual start time gap (+ or -) depending on whether the competitor started before or after the scheduled start time.

It is also possible to change (on the fly) the start interval between two competitors scheduled starts – intervals available are 1, 2, and 4 minutes.

#### Mode **B**: **Time Check**

Objective – Provide the co-driver and driver with an indication of available time before their next start, stage timing and target timing.

Time Check mode allows the user to select a count-down (with audible beeps) to the next start occurring on either the next full minute or half minute. A count-down clock is visible during the count-down phase which will then change to a count-up clock during the stage. The internal memory stores the actual start time and stage time for every stage.

#### Mode **C**: **Stage Timer**

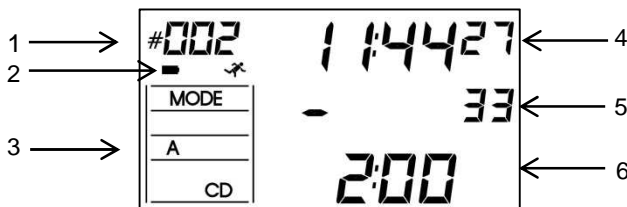
Objective – Provide the co-driver and driver with reliable start count-down timer and stage timing with unlimited split times.

Stage Timing mode allows the user to select a count-down (with audible beeps) which will display the time remaining before the next start occurring on either the next full minute or half minute. A count-down clock is visible during the count-down phase which then transposes to a count-up clock during the stage. The user has the ability to make an unlimited number of split times as needed. The internal memory stores the actual start time and stage time for every stage.

### 3.1. Starter Marshall (mode A)

This mode allows you to sequence scheduled starts on the next full minute or next full 30 seconds. For each competitor the scheduled start time and actual start time gap are memorized for post event analysis and download.

It is advised to synchronize the Pocket Pro with a master timer as per regulations (see chapter 2.6.2)



1. Sequence Number of current competitor / Memory recall
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Time of day (hh:mm:sec)
5. Count down to the next scheduled start
6. Interval time between 2 scheduled starts (user selectable)

Button **Start/Stop** : Start Count - Down

Memorize the scheduled start time & gap / difference

Button **Split/Lap** : Increment competitor

Change configuration of the next start count-down

60: for the next full minute

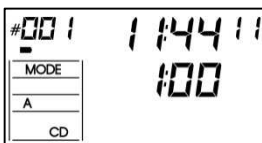
30: for the next full 30 seconds

60:30 : for next 30 sec (full minutes / full 30 sec)

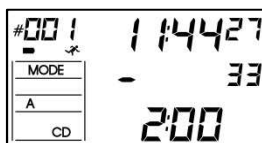
Hold during 5 sec: stop count down

Button **Memory** : Allows you to recall and view the time of all previous competitors including the gap with the scheduled start time

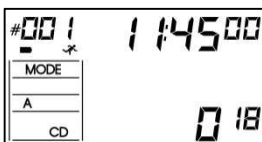
Button **Mode** : Allows you to change the interval between each start (intervals available are 1, 2, and 4 minutes) and move to automatic starts on your selected start delay



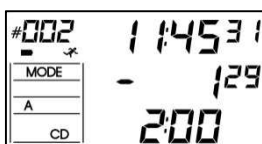
Next competitor sequence (n° 001)  
 Time of day : 11:44:11  
 Configuration : 1 :00 → full minute  
 Button Split/Lap to modify



Button START/STOP  
 Starts the count-down for the next competitor  
 Press MODE button, to change the interval time between starts (options are 1, 2 or 4 minutes) and move to automatic starts on the selected delay

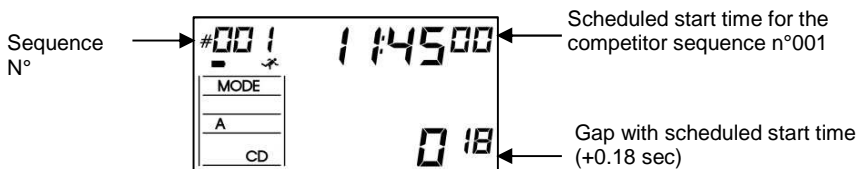


End of count-down  
 Press the START/STOP button to store the scheduled start time and the actual start time gap (+ or -)



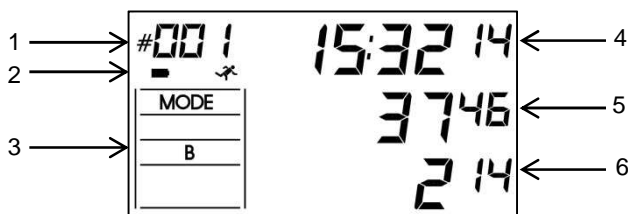
After 30 seconds, the count-down sequence for the next competitor starts automatically  
 Shown: count-down is currently at 1'29 sec

## Recall (button Memory)



### 3.2. Time Check (mode B)

Time Check mode allows the user to select a count-down (with audible beeps) to the next start occurring on either the next full minute or half minute. A count-down clock is visible during the count-down phase which will then change to a count-up clock during the stage. The internal memory stores the actual start time and stage time for every stage.



1. Sequence Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Time of Day
5. Count Down (hh:mm:ss)
6. Running time (hh:mm:ss)

#### Prior to starting

Button **Split/Lap** : Change setting for the next start (Count-Down)  
60: for the next full minute  
30: for the next full 30 seconds  
60:30 : for next 30 sec (full minutes / full 30 sec)

Stage count-down setting :  
Change the digit value

Button **Memory** : Change the configuration of stage count-down before a start  
Button **Mode** : Validate the stage Count Down time selected

#### During timing –

Button **Start/Stop** : Start / stop the count-down for the next start  
Finish: memorize the finish arrival time  
Button **Split/Lap** : Press and hold for 5 sec : change to new stage  
Button **Memory** : View the previous stages

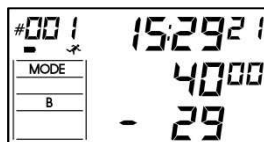
#### **Important – Fly Back Function**

Whilst the time is running, pressing the Start/Stop button will pause the running time to show a split times in seconds.  
A second press Start/Stop button will revert back to running time “fly back”, meaning the running time continues without interruption allowing you to see a split time (not memorized).

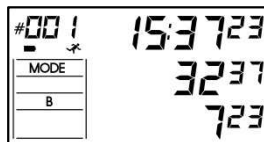
## Example



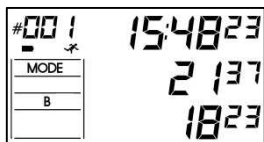
Stage No 1 :  
Time of day : 15h28'11"  
Stage count-down : 40 min  
Start Selection : 1:00 = next full minute



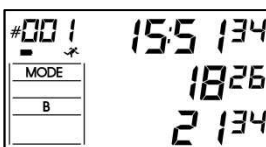
Button START/STOP  
Start the count-down for the start at the next full minute (15h30')



Automatic start at 15:30  
Time of day : 15:37:23  
Stage count-down: 32'37"  
Running time: 7'37"



Button START/STOP  
Pause (function Fly Back)  
Time of day: 15:48:23  
Stage count-down: 21'37"  
Running time: 18'23



Button START/STOP  
Restart (Fly Back)  
Time of day: 15:51:34  
Stage count-down: 18'26"  
Running time: 21'34"



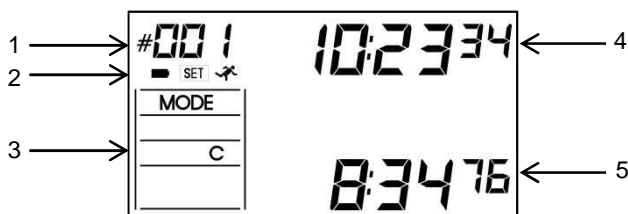
Button START/STOP  
End of stage n° 001  
Time of day: 16:19:19  
Stage Count down: 41 sec  
Running time: 39'19"



Button SPLIT/LAP : 5 seconds  
Change the stage to (n°2)  
Setting next stage count-down: 40 sec  
Start setting : 1:00 = full minute

### 3.3. Stage Timer (mode C)

Select the start time and count-down (next full minute or next half minute) and store the scheduled start time and stage time in memory



1. Number of competitor / Memory status
2. Battery / Mode Setting / Running status
3. Timing Mode
4. Time of Day
5. Running time (mm:ss.dc)

Button **Start/Stop** : Start / stop Count Down

Split (for viewing only – not stored) Stop at stage finish

Button **Split/Lap** : Increments to the next stage & stores the previous stage time to memory

Use Split/Lap (before starting the next stage) to change the configuration for next start

60: for the next full minute

30: for the next full 30 seconds

60:30 : for next 30 sec (full minutes / full 30 sec)

Button **Memory** : Recall / View the stored stage times from memory

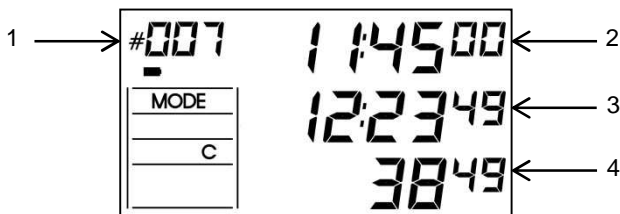
#### Important

If the Start/Stop button is pressed during a stage the running time will temporarily disappear and display the split time. This can be used as many times as needed but these times are NOT stored in memory. Once you have viewed the split time simply re-press the Start/Stop button to return to the running clock

## Recall (button Memory)

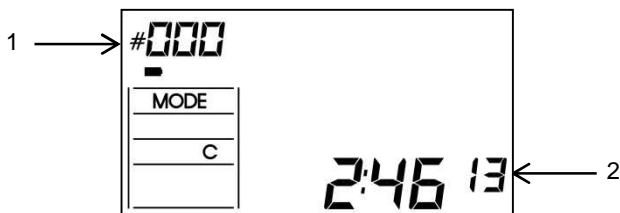
For each Stage, you will have

1. Stage number
2. Ideal start time of day
3. Finish time of day
4. Net time for the stage



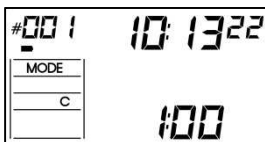
When the stage = 000, you will get the cumulative time for all stages completed

1. Stage = 000 : Global over view
2. Total time for all stages completed (hh:mm:ss)

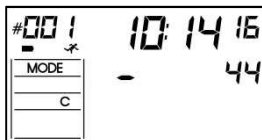




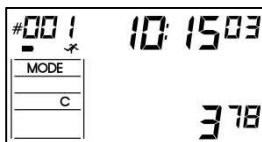
## Example



Stage n° 001 :  
Time of day : 11h27'32"  
Start selection : 1 :00 = full minutes



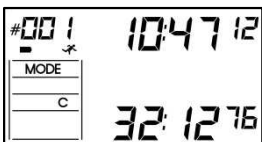
Button START/STOP  
Start the count-down for the next start (full minute:10h15')



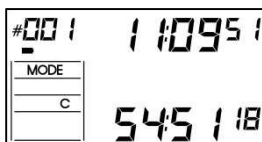
Automatic start at 10:15:00  
Time of day : 10:15:03  
Running time: 3.78 sec



Button START/STOP  
Split (function Fly back )  
Time of day: 10:42:18  
Split Time : 27'18.51" (not stored in memory)



Button START/STOP  
Return to running time  
Time of day : 10:47:19  
Running time : 32'12.76"



Button START/STOP  
End of stage n° 001  
Time of day: 11:09:51  
Net time: 54'51.18"



Button SPLIT/LAP  
Store Stage time for stage n° 001  
Time of day : 11:27:32  
Increment to stage (n° 002)  
Select start interval for next count-down : 1:00 = Full minute

## 4. Recommendations

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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

### **IMPORTANT**

A slightly damp cloth is recommended for cleaning the Pocket Pro

## 5. Download a new version of Firmware

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Program downloads and new releases of the TAG Heuer firmware “up loader” are available free of charge on our website [www.tagheuer-timing.com](http://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 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

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### 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 <sup>th</sup> 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

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### **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: count-down 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 count-down Memorize actual start time
Button: Split/Lap:	Change competitor Set the configuration for the next start Hold 5 sec: stop count down
Button: Memory:	Display memorized times

## Mode B

### Configuration

Button: Split/Lap :	Change Start setting
Button : Memory :	Set the CD Setting (select the digit)
Button: Mode:	Validate the CD setting

### Timing

Button: Start/Stop:	Start / Stop count-down
Button: Split/Lap	(hold for 5 sec.) – Increment stage no.
Button: Memory:	View previous stages

## Mode C

Button : Split/Lap ( <i>before a start</i> )	Modify the count-down for the next start
Button: Start/Stop:	Start / Stop count-down
Button : Split/Lap ( <i>after a finish</i> )	Increment stage no.
Button : Memory	View previous stages

## 8. Notes

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