



Getting Started with RaceChrono Pro

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Foreword

This guide covers what a first-time user needs to know to be able to initially configure the app, and more importantly record and review a session. This guide also assumes that you already have the app installed on your device.

The features are presented in the order that you will access them on your first use, and we give a short explanation of each of them. Instead of a table of contents, this guide has clickable, highlighted screenshots, that will lead you to the description of each the features.

More advanced tutorials are available at [RaceChrono web site](#) and they cover each feature with more detail. On the web site, you can also find more advanced topics, like how to connect an external camera or an external GPS.

This manual is written for RaceChrono Pro version 5.4.4 and newer. The included screenshots are from RaceChrono Pro for Android, but RaceChrono Pro for iOS is very similar. In addition to RaceChrono Pro, this document also partially applies to RaceChrono without Pro upgrade, although some of the advanced features, such as video, are not available there.

Menu

The highlighted areas in the screenshots below are linked to description of each of the features covered by this guide. You can click on the highlights to jump to the related feature description.

Figure 1 - Main screen

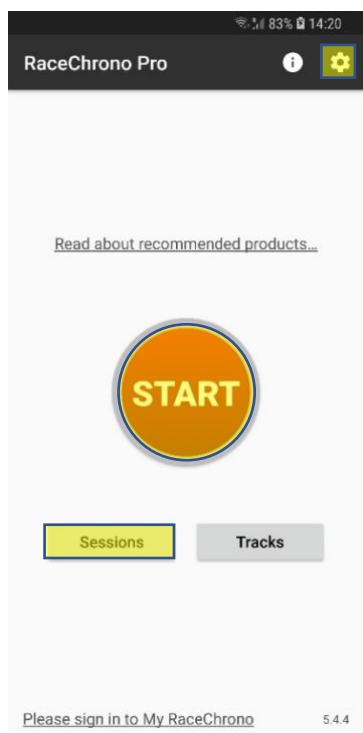


Figure 2 – Live recording screen

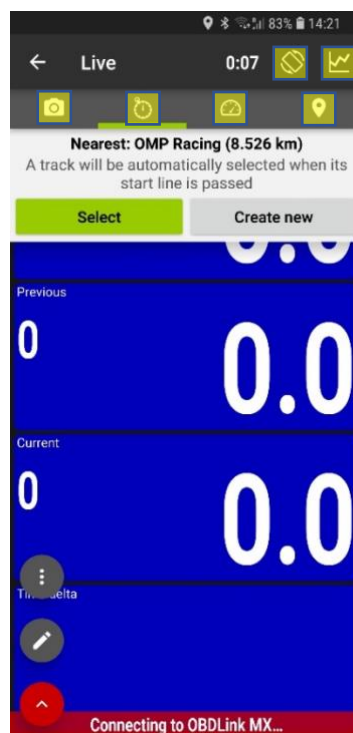
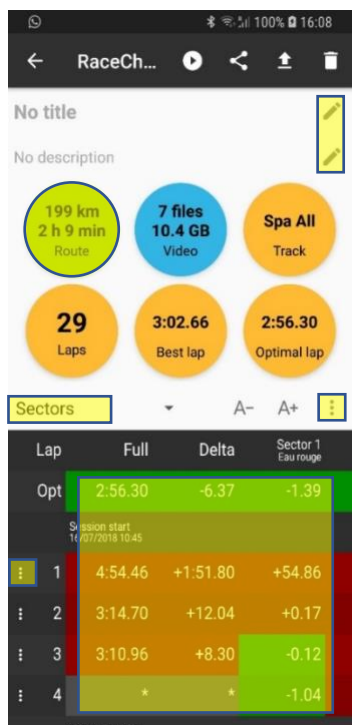


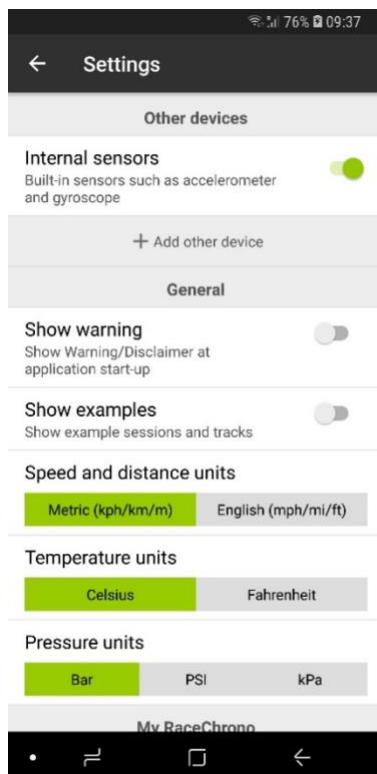
Figure 3 - Session overview screen



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Settings

You can access the Settings screen by tapping  button on top of the Main screen.



You can change the following settings and many more:

- *Whether to show the warning message at start-up*
- *Set speed and distance units between Metric (km/h) and English (mph)*
- *Use an external Bluetooth GPS instead of the internal GPS*

Scroll down the list and select/deselect the corresponding option.

Recording your first session


First thing you probably want to do, is to record a session. Each RaceChrono session consists of recorded sensor data, which is at least the data from the GPS, and optionally recorded video.


To start recording a session, do the following steps:


- 1) Make sure your phone (or optionally your external GPS receiver) is installed with clear view to the sky. The internal GPS on your phone will be used by default.
- 2) Push the big red START button on the Main screen to start a new session¹. RaceChrono then starts to recording your sensor data. **Notice that the video recording is not started yet.** The Live recording screen will be displayed:




The Live screen consists of four pages. You can switch between the pages by **swiping** left and right. If your device is in portrait orientation, you can also switch page by **tapping the page icons**.

 **Camera preview page:** Start and stop video recording. You can also modify camera options, such as resolution etc. This page is only included in Pro version.


 **Lap timer page (default):** Follow your live lap times. Use the edit button to modify the view.

 **Gauges page:** Follow your live data. Use the edit button to modify the view.

 **Map page:** Displays your location and your selected track.

- 3) Then select a track if needed. You have three options:
 - a) Just select the track proposed by the app.
 - b) Let the app choose it for you. Just drive on the circuit and the app will automatically detect it for you after the first lap. *Notice, this will work only if the track is already in the RaceChrono Track Library. It also might detect the wrong variant of the circuit, if there are many available.*
 - c) Create a new track on your own. The best way to create a new track is to drive a few laps, and then create the track afterwards at the pits. Please see our tutorial about it [here](#).

¹ When recording a session for the first time, the application will ask you for permissions that are required for the app to run. It will also notify you if location services are disabled, or Bluetooth devices are set up, but Bluetooth is turned off.

- 4) (Optional) Next thing is to start recording video, with the following steps:
- Swipe the screen right to switch to the Camera preview page.
 - Press the rotate button  to set the screen orientation to landscape, which is mandatory for video recording. The orientation change is not automatic to avoid accidental changing during a track session. *Notice this feature is slightly different in iOS: you'll need to first unlock the orientation, and then rotate your phone to landscape.*



- Select the camera you want to use.
- Tap on the red camera button to start recording video.
- Swipe left to switch back to the Lap timer page.

Now you can drive the track and the app will record data and video for your session.

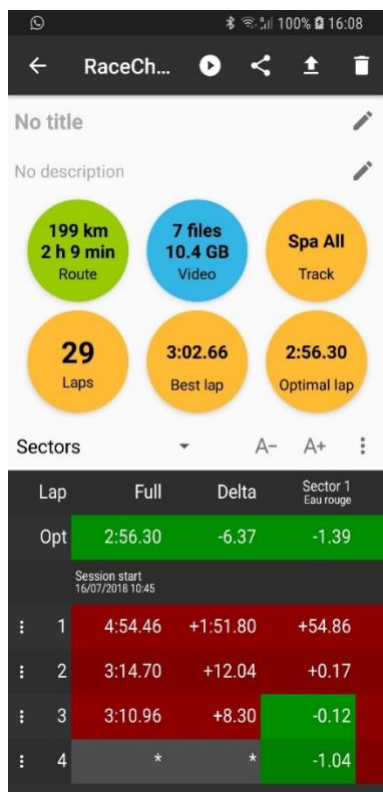
Once go back to the pits, you can stop recording by pressing the left arrow on the top left corner of the any screen. *Notice, this is "Stop recording" button on iOS.*

Review your session

Once you have your session recorded, it is a good idea to give the session a meaningful name and description, and of course review the recorded data. Open your session by following steps:

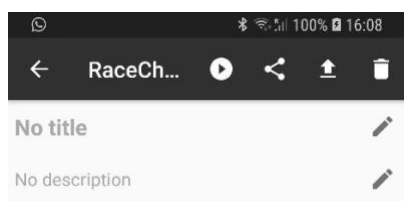
1. Tap the “Sessions” button on the Main screen
2. Select the session you want to review from the list

The Session overview screen has a scrollable list of the recorded laps, and a few round buttons to open Analysis and Video list screens for example. Session overview screen looks something like this:

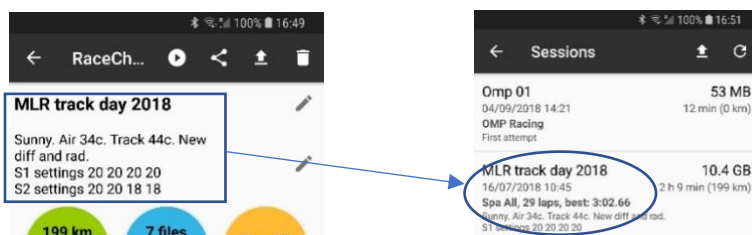


Add title and description

Tap the edit buttons to add or modify the title and description of your session.



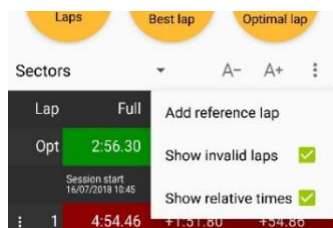
A summary of the entered information will be displayed in the Sessions list screen.



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Set/unset “Show relative times”

To display the sector/split times as absolute times, disable the *Show relative times* option from the menu button on the right (the one with three dots). To display the sector/split times again as time deltas (= differences), just enable the same option. The displayed time deltas are compared to the selected comparison lap. The default comparison lap is the best lap of the session.



Other options are available in the menu.

- *Add reference lap.* Allow you to choose a reference lap among those of the current session. The lap will be added in the top of the list and all the laps will be automatically compare to it. You can repeat this action to choose more reference laps, but just one can be selected as base for the comparison.
- *Show invalid laps.* If checked it shows the invalid laps too (to set a lap as invalid, see [here](#)).

Your lap list will look something like this:

The screenshot shows a detailed lap list with the following data:

Lap	Sector 4 Malmedy	Sector 5 Rivage 1	Sector 6 Rivage 2
R1	+0.09	+0.37	-0.38
R2	6.92	12.16	11.82
Opt	+0.00	-0.95	-0.78
1	+4.65	+2.81	+3.00
2	+1.68	+0.71	+1.36
3	+1.08	-0.62	

In this example lap list is displayed using the Sectors mode and two reference laps are set.

Blue: highlight the lap set for the comparison (here the reference lap R2).

Red: means the sector of the lap is slower than the one in R2 (by the quantity displayed).

Green: the sector time of the lap is faster than in R2 (by the quantity displayed).

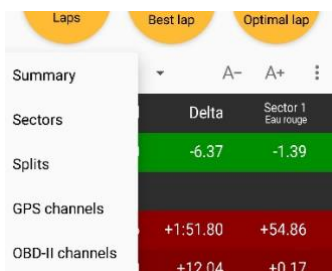
Grey: no time difference for the sector.

Select lap list mode

Tap on the drop down on the left and change the lap list mode. The options are:

- Summary; summary of the laps. Will show lap time, lap time delta, start time, distance and max speed as default. The columns are customisable.
- Sectors; sector times of the laps (split-to-split times).
- Splits; split times of the laps (start-to-split times).
- GPS channels; maximum, minimum and average values of GPS channels.
- OBD-II channels; maximum, minimum and average values of the data recorded using an OBD-II interface (if available).

Select, for instance, *Splits*.



The screenshot shows the 'Splits' mode data table in the RaceChrono Pro app. The table displays lap times and split times for two laps.

Lap	Full	Delta	Split 1 Eau rouge	Split 2 Kersal	Split 3 Les Corbeils	Split 4 Marmesay	Split 5 Rivecourt
Opt	2:56.30	-6.37	-1.39	-1.79	-2.11	-2.11	-3.07
Session start 16/07/2018 10:45							
1	4:54.46	+1:51.80	+54.86	+1:04.62	+1:20.32	+1:24.97	+1:27.78
2	3:14.70	+12.04	+0.17	+1.80	+4.49	+6.17	+6.88

Analyse data

To open the data of the whole session in the Analysis screen, tap on the green “Route” button on the Session overview screen:



The analysis screen will open, and will look something like this:






You can also hide the analysis windows you do not need. Here’s an example where only Graph window is displayed:



This screen allows you to analyse the recorded data.

Session resume 4 *If you resumed this session, you can change the displayed session resume from the drop-down list.*

 *Tap the Analysis settings button to select what channels you want to display on the graph, etc.*

  *Tap the hide button on each of the analysis windows to hide them. Tap the camera, graph and map buttons to show the windows.*

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Compare to best lap

Maybe you want to compare a lap with the best one.

To do that:

1. Go to the lap you want to compare.
2. Tap on the three dots lap menu.



3. Choose *Compare to best* (if it is not available it means it is already compared to the best lap of the session).

Then you have two options:

- a) Double tap on the lap time: it will open the analysis screen for the whole lap.
- b) Double tap on a split time: it will open the analysis screen for the selected split.

If you want to change the laps you don't need to come back to the previous screen, just use the two drop-down lists available in the analysis screen.



Mark laps as invalid

A bad GPS data might cause erroneous lap or sector times, which you wouldn't want to be included in calculation of "Best lap" or "Optimal lap". You might also want to hide some laps from the list, like your warm-up or cool down laps. You can mark your laps invalid (and then valid) from the menu that opens by tapping the lap number on the list.



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