

Rf Lap Counter



Help for smartphone application

Application 'Rf Lap Counter' version 1.4.0

INTRODUCTION

This application allows the realization of races or training sessions with an android smartphone/tablet.

- Specifications :
- 10 drivers maximum in a run
 - Database that can contain 50 drivers and 20 tracks
 - Parameters of race :
 - training mode (individual timing) / race mode
 - run duration : 1 to 99 minutes or 1 to 99 laps
 - countdown : 1 to 1000 sec
 - Recording of the personal best lap times for every driver.
 - Backup of the sessions
 - Statistics and graphical summary of results
 - Vocal announcement of the lap times

Smartphone requirement : android version equal or upper than 6.0 / 'Bluetooth' decoder

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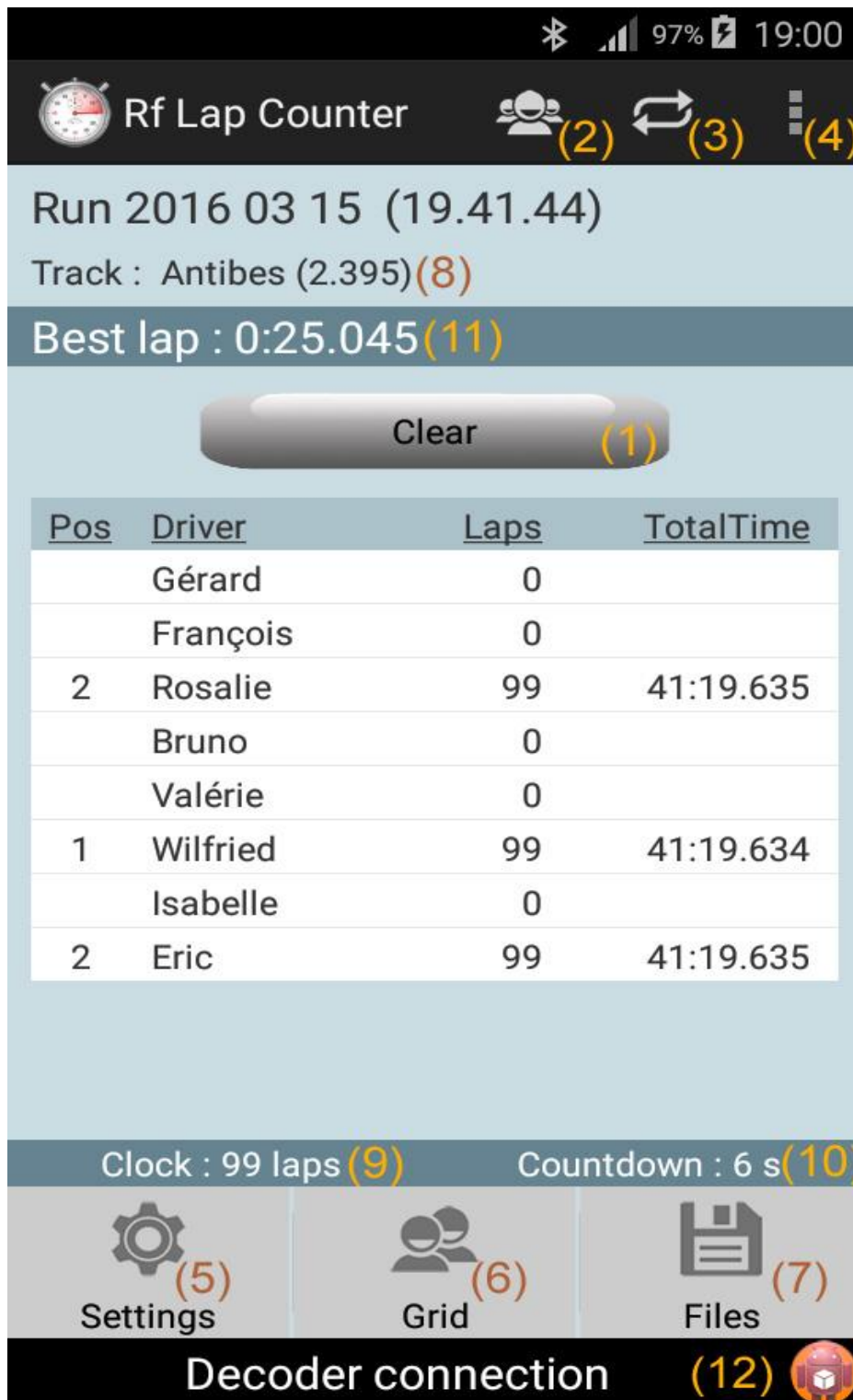
The download and installation on a smartphone can be done directly from the Google play android

For this, proceed as follows :

- With your smartphone, connect to the Google play android : 'https : //play.google.com'
- Then, download the application 'RfLapCounter' : its installation will start automatically.
- An icon for a direct access to the application will be created on the smartphone.

MAIN WINDOW

1- Main window



- (1) - Command button of the race
- (2) - Database drivers
- (3) - Database tracks
- (4) - Main menu :
 - Sound options
 - Backup options
 - Bluetooth connection
- (5) - Parameters of race
- (6) - Starting grid
- (7) - Loading the runs saved
- (8) - Track selected + record laptime
- (9) - Clock / run duration
- (10) - Countdown before the start
- (11) - Indication of the run best lap time
- (12) - Indication of the connection state
 - The indicator turns green, as the decoder is connected to the smartphone

2.1- Driver detailed results

A click in the table of the main window (page 1) shows the detailed results of the selected driver :



(1) Summary of the run : 'Avg' = average lap time of the driver during the run
 'Min' = best lap time of the driver
 'Max' = worst lap time of the driver
 'Consist.' = consistency of the driver during the run (the smallest is this value, the better it is)

(2) Details lap by lap : Details of the passage times and lap times for every lap completed by the driver

(3) Graphics of the run : Gives access to the statistics and graphics about the driver run (see page 3)

2.2- Graphical synthesis of the run

The run synthesis of the selected driver is displayed as statistics data or graphics.

The selection of the display mode is done by using buttons, (1) bellow.

A selection of the laps to take into account can be done, (2) bellow, and validated with the button '->'.



Display as statistics







Display as an histogram





Display as a curve : every lap times can be displayed by doing manual touches on the curve

3- Drivers database



97%

19:02


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(4)

(5)


Drivers database

List of drivers


<u>Names (50 max)</u>
Eric
Valérie
Franck
Christine
Jeff
Gérard
François
Rosalie
Bruno
Wilfried

Selected driver


Name : Wilfried
(6)
Transp : 000011


(1)

New


(2)

Remove


(3)

Edit

button (1) - New : to create and add a new driver to the database.




button (2) - Remove : to remove a driver from the database. This driver must have been previously selected (see area (6)).


button (3) - Edit : to modify the name or the transponder id. of a driver. This driver must have been previously selected.

areas (4), (5) (obsolete)

area (6) - Data of the selected driver. To select a driver, just click on his name in the list.

4- Tracks database



97%

19:10



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Track : Antibes
 Lap record : 2.395 / Eric (5)
 Avg record : 2.428 (2 Laps) / Eric


Driver (7)	BestLap	BestAvg
Eric (6)	2.395	2.428 (2L)
Wilfried	2.557	6.098 (18L)

Tracks available

trcm
 Mandelieu (315m) (4)
 Antibes

 (1)
New

 (2)
Remove

 (3)
Rename

button (1) - New : to create and add a new track to the database.

button (2) - Remove : to remove a track from the database. This track must have been previously selected (see list (4)-).

button (3) - Rename : to modify the name of a track. This track must have been previously selected.

list (4) - List of the recorded tracks. To select a track, click on its name in this list. The chosen track is also the selected track for the races/sessions (see point (8) in page 1).

area (5) - Data of the selected track . 'Lap record' = lap time record of the track and driver owner.

'Avg record' = best average lap time during a run on the track and driver owner.

list (6) - Personal bests performances of the drivers on the track. To clear a driver record, click on his line.

title of the table (7) - By clicking on 'Driver', the table is sort in the alphabetical order of the drivers name.

By clicking on 'BestLap', the table is sort in the order of the best lap times.

By clicking on 'BestAvg', the table is sort in the order of the best averages.

5- Race parameters

The screenshot shows the 'Rf Lap Counter' app interface. At the top, there's a status bar with Bluetooth, signal strength, 97% battery, and the time 19:04. Below the status bar is a header with a clock icon and the text 'Rf Lap Counter'. The main content area is divided into several sections: 'Race settings', 'Type of run', 'Drivers classification', 'Run duration', and 'Other durations'. Each section has a dark grey header and a light grey body. The 'Type of run' section has two radio buttons: 'training (individual timing)' (selected) and 'race (group start)'. The 'Drivers classification' section has two radio buttons: 'according to nber laps+time' (selected) and 'according to the best lap'. The 'Run duration' section has two radio buttons: '99 minutes' (unselected) and '99 laps' (selected). The 'Other durations' section has two input fields: 'Countdown' with a value of '6 s' and 'Min lapttime' with a value of '2 s'. At the bottom, there is a large grey button labeled 'Record'.

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Race settings

Type of run

☒ training (individual timing)

☐ race (group start)

Drivers classification

☒ according to nber laps+time

☐ according to the best lap

Run duration

☐ 99 minutes ☒ 99 laps

Other durations

Countdown s Min lapttime s

Record

'Min lapttime' = software protection, the laptimes under this value are rejected and not taken into account.

6- Starting grid

This window allows to set the starting grid for the next run.

Rf Lap Counter

Starting grid for the run

Starting grid	Database
Gérard	Eric
Francois	Valérie
Rosalie	Franck
Bruno	Christine
Valérie	Jeff
Wilfried	Gérard
Isabelle	François
Eric	Rosalie
	Bruno
	Wilfried
	Isabelle

Record

A run can receive 10 drivers maximum.

To add a driver to the starting grid, click on his name in the right table 'Database'.

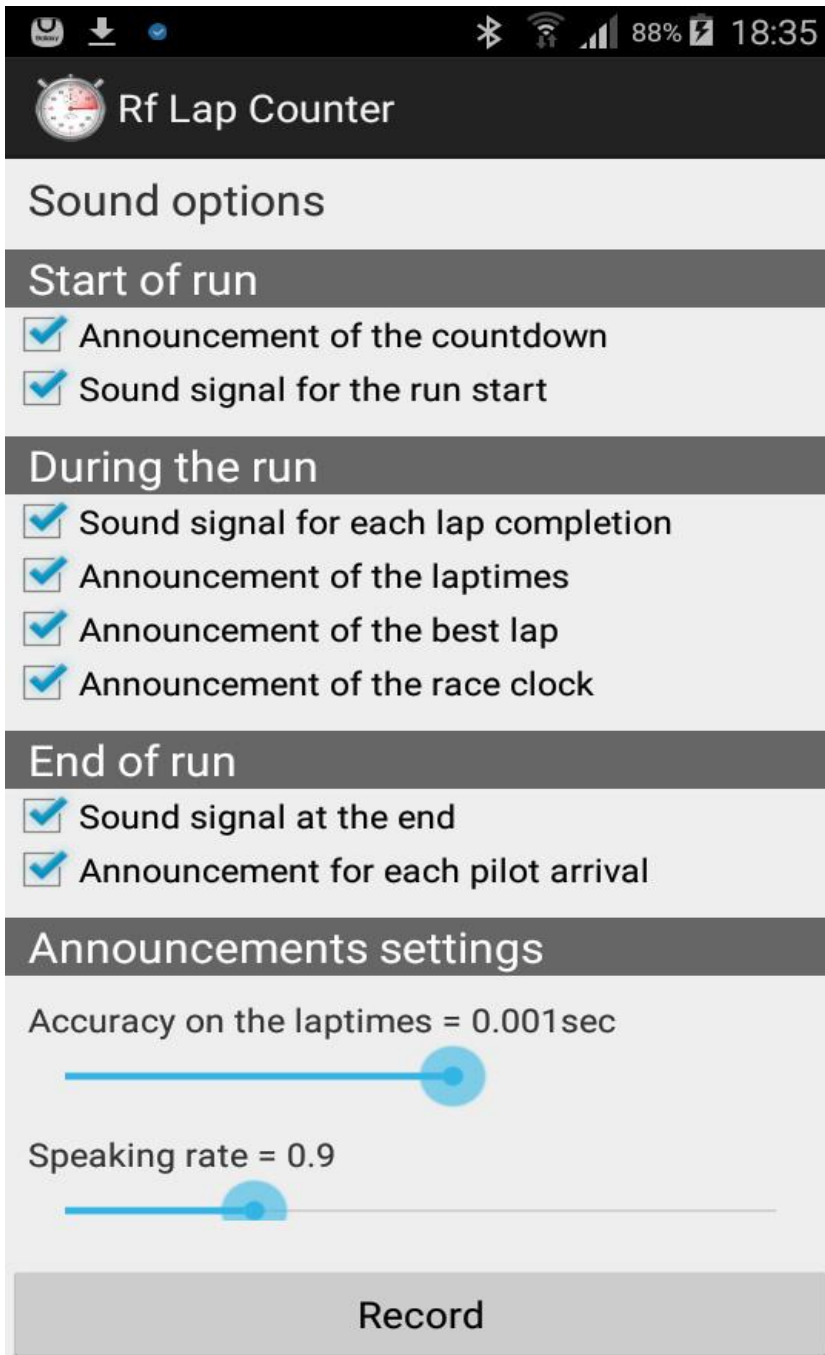
To remove a driver from the starting grid, click on his name in the left table 'Starting grid'.

7- The runs saved

This window allows to load at screen a run previously saved on the smartphone.

SOUND OPTIONS

8- The sound options



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Sound options

Start of run

- ☒ Announcement of the countdown
- ☒ Sound signal for the run start

During the run

- ☒ Sound signal for each lap completion
- ☒ Announcement of the laptimes
- ☒ Announcement of the best lap
- ☒ Announcement of the race clock

End of run

- ☒ Sound signal at the end
- ☒ Announcement for each pilot arrival

Announcements settings

Accuracy on the laptimes = 0.001sec

Speaking rate = 0.9

Record

'Accuracy on the laptimes' : Accuracy on the lap times vocally announced => from 1/1000th of a second to 1 second.

'Speaking rate' : Rate at which the voice announces the lap times.

BACKUP OPTIONS

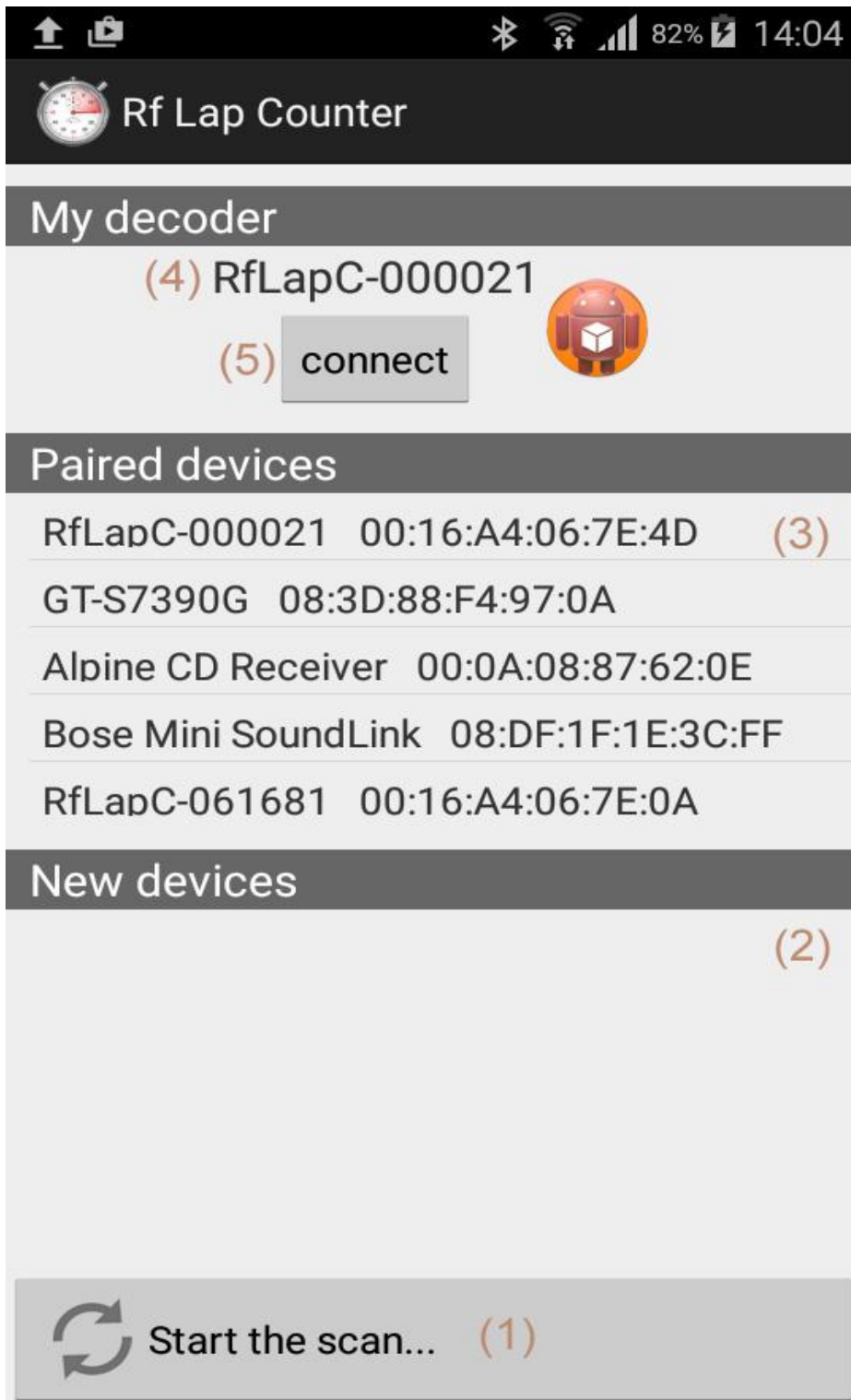
9- The backup options

This window allows to choose the mode of backup for the runs :

'No backup' = The runs are all never saved.

'Manual backup (selected)' = At the end of every run, a box asks the user if he wants to save the run.

'Automatic backup (all)' = All the runs are automatically saved.

10- Connection to the bluetooth decoder

button (1) - 'Start the scan...' : Starts the research of the nearby bluetooth devices (not yet paired).

list (2) - 'New devices' : List of the nearby bluetooth devices found, not yet paired with the smartphone.

list (3) - 'Paired devices' : List of the bluetooth devices already paired with the smartphone.

area (4) - Bluetooth device chosen to be connected to the smartphone, it must be a decoder 'RfLapCounter'.
The selection of this device is made by clicking in the lists (2) ou (3).

button (5) - 'connect' : Initiate the connection of the application with the decoder 'RfLapCounter' selected in area (4).

11- Initialization of the application

The first operation to do is the initialization of the decoder bluetooth connection.

Initialization of the decoder bluetooth connection :

Proceed as indicated in the manual provided with the decoder.

12- Preparation of the database

Before beginning the timing sessions, the database of the application must be filled or updated.

The database 'Drivers' contains the name of all drivers who will race; it must be absolutely completed or updated.

12.1. Update of the database 'Drivers' : proceed as described in the paragraph 3 - page 4.

12.2. Update of the database 'Tracks' : the database 'Tracks' is used for the recording of the drivers personal records.
proceed as described in the paragraph 4 - page 5.

13- Run a session

Find below the steps needed for the timing of a run.

Step 1- Connect the bluetooth decoder (see paragraph 10. in page 9)

Step 2- Update the database 'Drivers' (see paragraph 3. in page 4)

Step 3- Select the track for the recording of the drivers personal records (see paragraph 4. in page 5)

Step 4- Set the race parameters (see paragraph 5. in page 6)

Step 5- Complete the starting grid (see paragraph 6. in page 7)

Step 6- Start the run with the 'Command button of the race' (button (1) on the picture in page 1)