



RR400/410/420 Regularity timer Annexe

The screenshot shows a mobile application interface with a dark background. At the top left, it displays 'RT:2'. To the right, there are icons for a calendar, calculator, settings, and a document, followed by 'Nbr : 224' and a 'Help' button. The main area is a table with columns: 'Ind', 'Km', 'Latitude', 'Longitude', and 'Comment'. The table contains three rows of data, with the third row highlighted in yellow. Below the table, there are four buttons: 'Remove' (red), 'Ajoute chrono' (green), 'Ajoute RoadBook' (yellow), and 'Auto Km' (blue with a checkmark icon). At the bottom, a large display shows '17.850 Km' in pink, a speedometer icon with '60', and '0.100' in a blue box. On the right side, there are vertical buttons for 'Start', '^', 'v', 'End', and a back arrow.

Ind	Km	Latitude	Longitude	Comment
222	17.702	44.163284	1.552415	
223	17.803	44.163284	1.552415	
224	17.850	44.163284	1.552415	end

functions for organizers
(distance/GPS waypoints)

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Important:

The **forum** is now the way to keep up to date with the latest programme updates and documentation, get advice on the main rallies, find a trainer, driver or co-driver... register to benefit from all these advantages and then follow the advice in the **General Advice** section:

<https://forum.crisartech.com>

Videos explaining the operation of the device can be viewed on **CRISARTECH YouTube channel**:

<https://www.youtube.com/user/CRISARTECH>

The latest program and documentation updates can be found on this page:

https://www.crisartech.fr/download/rr400_en.html



1 Recording

1.1 Recording screen

In the 'RT management' screen, push the satellite button  or short press on **page** key of the infrared remote control.

Push the green or yellow button to add a waypoint (green or yellow key on the remote control).

Push the red button to remove the last waypoint (red key on the remote control).

Check/uncheck the 'Auto km' checkbox to start/stop auto selection points (blue key on the remote control).

Maximum number of points per RT: 990 from version 191221

1.2 Files

Each time a key is pressed, the timer adds a line to a file named **gps_zrxx.csv**, for each ZR (xx represents the ZR number). **There is no need to save the file at the end**, this is done at each point. Files are transferred along with distance / speed files using the 'import / export' buttons on the ZR management screen.

The format is:

point_type;distance;latitude;longitude;comment

with :

- point_type: **C** for timing Control waypoint, **R** for Road-book waypoint, and **T** for Trace waypoint,
- distance in meter,
- latitude in degrees,
- longitude in degrees,
- comment: 25 char maximum text.

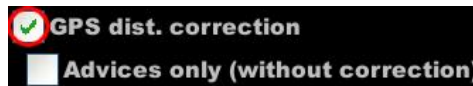
1.3 Usage

1.3.1 Access to the function

In the main menu, switch to "organizer" mode with the bottom mode selection button:



Then the GPS correction function must be enabled in the guidance options page of the main menu. If the checkbox "GPS dist. correction" is not present, the option has not been validated, please contact us.



1.3.2 Comments

You can enter a comment that will be added to the file, at the end of the line:



Important: comment must be entered **before** pressing the button.

Two possibilities:

- with infrared remote control:
 - o press **page** key
 - o press numeric or colored key corresponding the desired text
 - o validate with the **OK** key
- with the virtual keyboard:
 - o press the comment input field (see picture above)

- press the text input field on the top right corner
- type the text on the virtual keyboard
- press twice the **OK** key

Both can be used to quickly enter a relevant comment:

Across		to Nice	
1: Danger: curve	2: Across	3: Danger: hole / bump	Help
4: To the left	5: Pole	6: To the right	
7: Inverted road sign	8: Pylon	9: Road sign	
*: Tree	0: Terminal		Exit
<	>	Entry	Exit
			Ok

1.3.3 Partial counters

Two counters help you to know at each moment the distance from the last green and yellow waypoint.

Example: when current distance is 8.952 km, you know that the last green point had been taken 146 m before and yellow one 70 m. before:

8.806
8.882
0.146
0.070

1.3.4 Distances on 2 or 4 wheels

The system creates automatically a second file named **gps_det_zrxx.csv**, for each RT.

This file contains each wheel distance (the 4 wheels if Peugeot / Citroën with **auxiliary wheels** checked).


The format is:

`point_type;RL_dist;RR_dist;FL_dist;FR_dist;latitude;longitude;comment`

with :

- point_type: **C** for timing Control waypoint, **R** for Road-book waypoint, and **T** for Trace waypoint,
- RL_dist: rear left wheel distance in meter,
- RR_dist: rear right wheel distance in meter,
- FL_dist: front left wheel distance in meter,
- FR_dist: front right wheel distance in meter,
- GPS reception quality (0 to 99),
- course followed by GPS in degrees,
- latitude in degrees,
- longitude in degrees,
- comment: 25 char maximum text.

2 Distance adjustment

Distance adjustment screen is accessed with  button (calculator pictogram):

2.1 Addition

To add a distance to the entire table, enter this distance (with minus sign if subtract) in the first field then press button: **To be added**.

2.2 Multiplication

To multiply the entire table by the same coefficient, enter this coefficient (or its inverse to divide) in the second field and then press button: **To be multiplied**.

2.3 Normalization

When the organizer gives cue points, it is possible to use them to fine adjust the distances taken during sciating by performing a "rule of three" calculation on the table:

- the first is considered right,
- the last point entered will be adjusted to match the "right" distance by multiplying by a coefficient,
- this same coefficient (displayed in the second field) will be applied to all intermediate points.

Enter the distance given by the organizer corresponding to the last waypoint entered in the third field then press button: **To be normalized**.

Note: it is possible to repeat this operation for each box of the road-book, as and when. Check that the **From the point** point corresponds to the previous box that has been normalized.

Example:

- at the start, we take the waypoint 1,
- following the road we take 8 waypoints, from 2 to 9,
- we arrive at a box of the road-book bearing a precise landmark and the distance 2.482 km, while Trip1 indicates 2.490 km. We then normalize, between the waypoint 1 (0.000 km) and the waypoint 10 brought back to 2.482 km. The distance corresponding to waypoints 2 to 9 is modified accordingly,
- following the road we take 9 waypoints, from 11 to 19,
- we arrive at a box of the road-book bearing a precise mark and the distance 9.658 km, while Trip1 indicates 9.649 km. We then normalize between waypoint 10 (2.482 km, the last waypoint considered "right") and waypoint 20 increased to 9.658 km. In the field **From the point** there must be 10 and the distance associated, on its right must be 2.482. The distance corresponding to waypoints 11 to 19 is modified accordingly ...

These functions are to be handled with great caution by the organizers. They were created so that competitors could "stick" their measurements to those of the organizers.

2.4 Moving the start

Do not use in organiser mode.

3 GPX format export

This device allows you to create files in the universal GPX Exchange format from RT waypoints.

These files are created automatically and transferred at the same time as the waypoint files using the **Recordings export** button on the right-hand side of the file exchange screen:

