GPS Lap timer
with
MyChron4

Racing Data Power

SUMMARY

1 – The GPS Lap timer

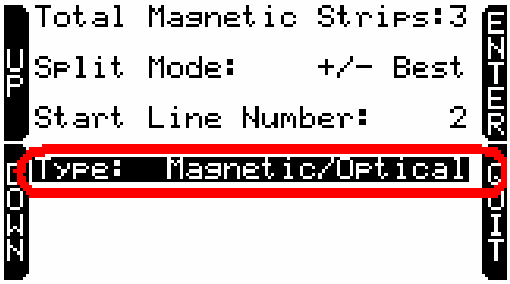
This new feature allows the user to get lap and split times without using neither beacon transmitters nor optical/magnetic receiver. All is needed is a **GPS Module** connected to **MyChron4** / **MyChron4 2T** with **31.56.01 (or later) firmware version** installed.

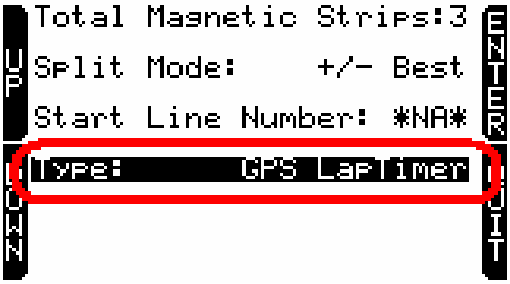
1.1 – Preliminary operations

Before starting GPS setting, two preliminary operations are required.

First of all it is necessary to check and set the correct number of splits (a maximum of 5 splits per track is allowed) in **MyChron4** configuration. For further information on this subject refer to the logger user manual.

The second preliminary operation is to set lap type in **MyChron4** configuration. Here below are shown the two available options. See "Additional information" paragraph for further information on lap/split type working way.



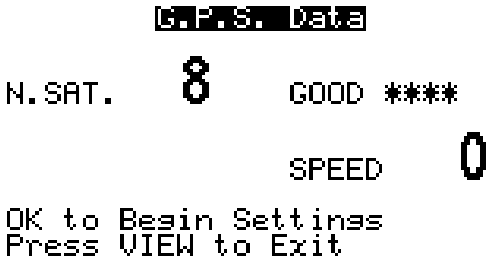


1.2 – Setting GPS Laptimer

Once **MyChron4** is correctly configured it is necessary to go on the track to set lap and split positions giving correct instructions to the **GPS Module**.
This allows **GPS Module** to get beacons.

Warning:this operation is required before racing and once for each track.

To set lap/splits position switch **MyChron4** on and press ON/View button until "G.P.S. Data" page, shown below, appears:

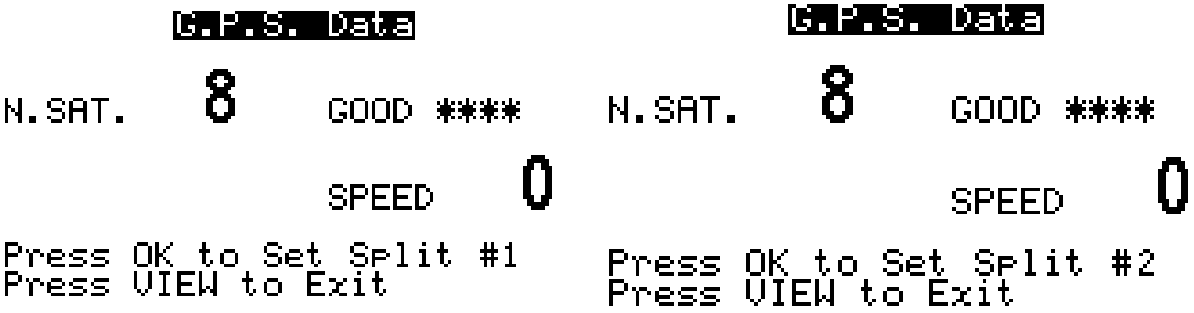


Note: it may occur that at first the page shows "Initializing" in spite of "OK to begin settings" on the button of the page; it is just sufficient to wait for a few moments and the correct message appears.

To correctly set lap and split position it is suggested to run the first track lap so to be able and have the right time to enter the desired points of the track.
Press OK button to begin settings (or VIEW button to exit).
This window appears

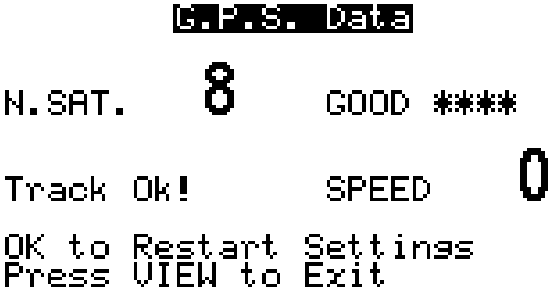
To set GPS Beacon go to the start/finish line and press OK button. Its position is saved (press VIEW button to exit).

In case the logger is configured to record **split times** their **position** is required by the system as shown below.



A number of windows like these shown here above will appear as many splits have been set. Go to the split line and confirm pressing OK button (press VIEW button to exit).

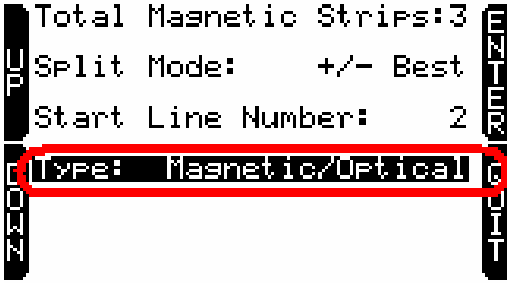
Once the configuration is over, the screen here below appears and the system is ready to acquire lap/split times.

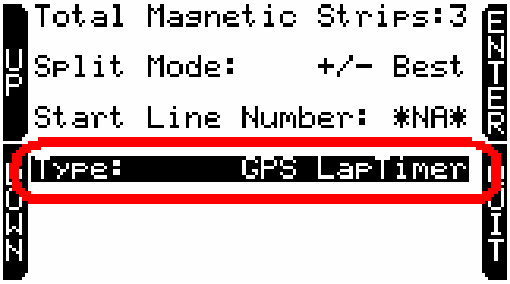


Press “VIEW” button to exit setup or “OK” to restart settings.

1.3 – Additional information

When configuring lap split type it is possible to set “Magnetic/optical” or “GPS Laptimer” as shown below.





Selecting “GPS Laptimer” it is possible to leave the optical/magnetic receiver connected to **MyChron4** and the system will automatically disable it when **GPS Module** with lap timer function is connected.

If, for any reason, **GPS Module** is disconnected from the logger the system will automatically switch to “Type: magnetic/Optical”.

If, on the contrary, the system is set on “Type: Magnetic/Optical” and a **GPS Module** with Lap timer function is connected, the system will automatically recognize the new device and switch on “Type: GPS Laptimer”.

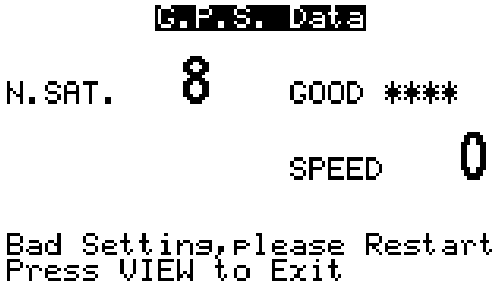
2 – Additional features

GPS Module can record up to 50 track configurations. Once saved, the circuit will be automatically recognised when entering that track with **MyChron4** connected to **GPS Module**.

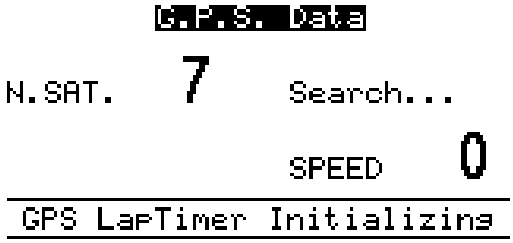
“Track Ok!” message on the left bottom part of the display means that the track has been recognized and the system is ready to get GPS lap and split times.

3 – Troubleshooting

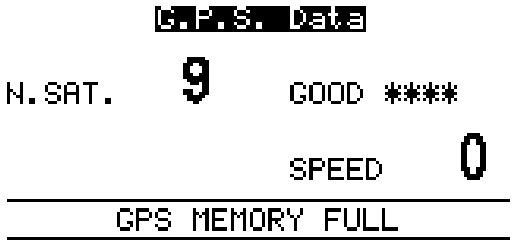
If the screen shows: "**Bad Setting, please Restart**": the beacon setting procedure did not end correctly and needs to be restarted. Press “ON/VIEW” button and restart the procedure.



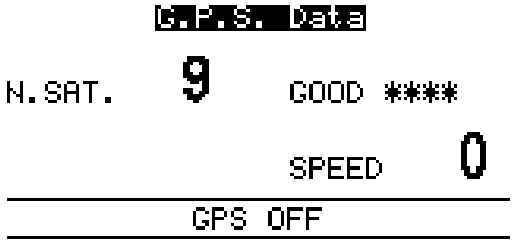
If the screen shows: "**GPS LapTimer Initializing**": the GPS Lap Timer is initializing; just wait for a few seconds.



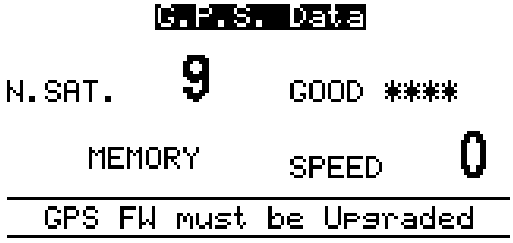
If the screen shows "**GPS Tracks Memory Full**": GPS Tracks Memory is full; it is necessary to save the tracks and erase the memory using **GPS Manager** software.



In case the screen shows "**GPS OFF**": the GPS is Off (CAN connection is broken); it is just necessary to wait for a few seconds and everything will return ok. If this message is shown for more than 10 seconds it is suggested to check CAN connection.

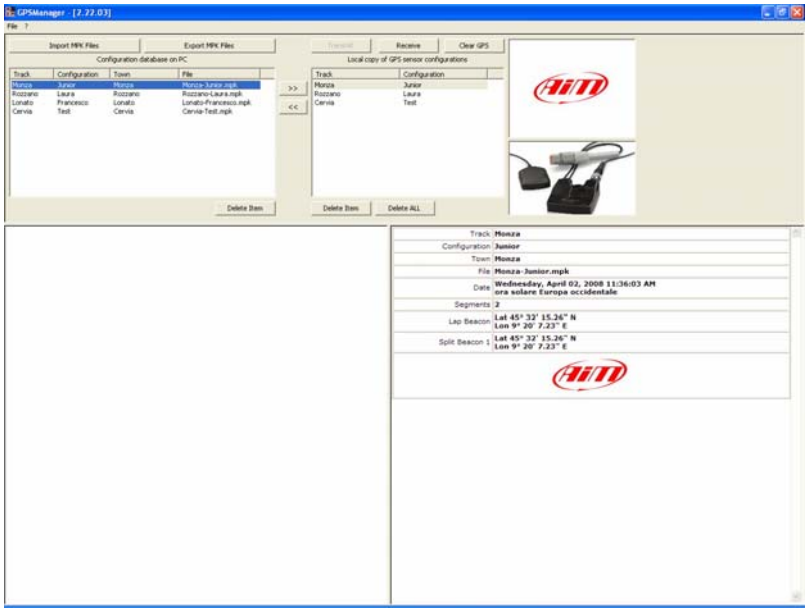


In case the screen shows "**GPS FW must be Upgraded**" it is necessary to upgrade GPS firmware (correct versions are **from 35.14 onward**).

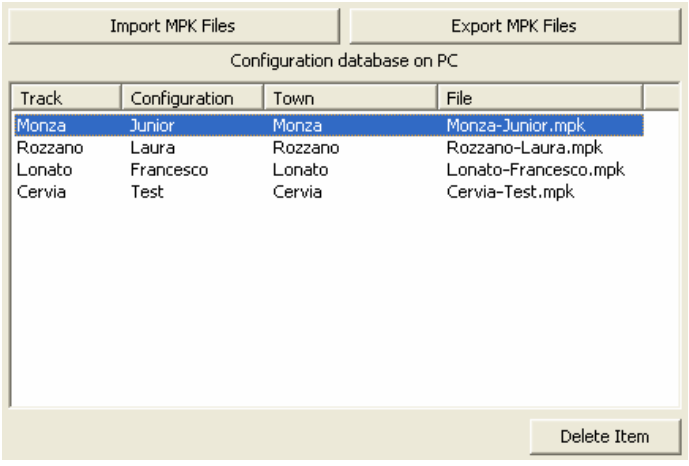


4 – GPS Manager software

GPS Manager is the software that manages track maps stored in the **GPS Module** memory and synchronizes the device with the PC it is connected to. With **GPS Manager** it is also possible to move track configurations from the PC to the Module memory and vice versa.
The figure below shows the software main window.



Top left is “Configuration database on Pc” window, that shows the list of all track configurations available on the PC (if there is any). This list is automatically loaded when the software is run.



Over the window are two buttons:

“Import MPK files”: imports a configuration in the PC memory from an external device (an USB pen drive for example)

“Export MPK files”: exports a configuration from the PC database to an external device (an USB pen drive for instance) so to re-import it elsewhere.

Under this window is “Delete Item” button, that allows the user to delete a single configuration from the PC database.

Between these windows are two displacement buttons that allows the user to move track configuration from une list to the other and vice-versa.

“>>” button moves the configurations from PC database to **GPS Module** one.

“<<” button moves the configurations from **GPS Module** database to PC one.

Note: the configuration is moved from one list to the other only in the software and **GPS Module** is really synchronized only when “Transmit” button is pressed.

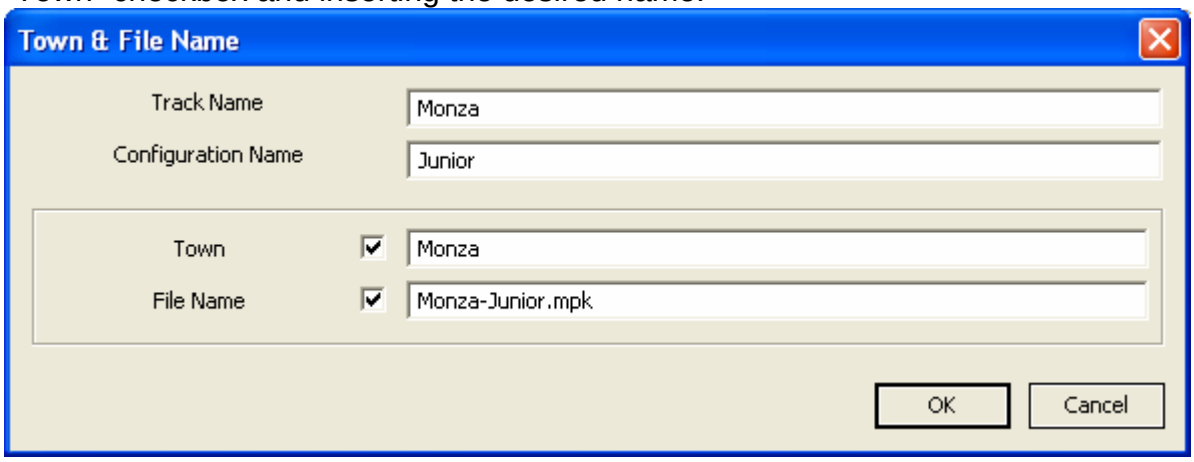
Displacement of a configuration from **GPS Module** database to PC database can create three different situations:

- the configuration has just been created on **GPS Module**. A window asking for Track and Configuration name appears and the configuration is copied in the PC database.
- the configuration of **GPS Module** database has already been copied in the PC database. A window asking for configuration name appears: inserting it and pressing “OK” button a new configuration is added to the PC database. Pressing “OK” without inserting anything nothing changes.
- the configuration of **GPS Module** has been named but there is a copy of it in the PC database. Pressing “OK” button a new configuration is added to PC database.

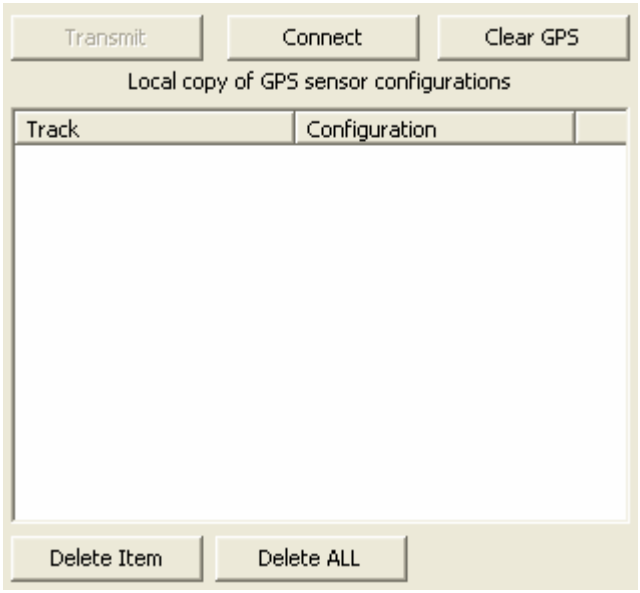
The figure below shows “save as” window where to insert track and configuration name.

File name the system creates it as Track Name + Configuration Name, unless the related checkbox is enabled and another file name is inserted.

Town: by default it is the same as Track Name but can be user defined enabling “Town” checkbox and inserting the desired name.



Top central “Local copy of GPS sensor configurations” window, shown below, shows a list of all the track configurations present in the GPS Module memory (if there are). This list is loaded on demand.



Under this window are three buttons.

“Transmit” button copies the configuration from “GPS sensor” list to the memory of **GPS Module**. The user receives a confirmation message because this operation really modifies the content of the **GPS Module** memory.

“Connect” button loads the list of **GPS Module**. The software copies in the list all the configuration included in the module memory.

“Clear GPS” button completely deletes **GPS Module** memory. The user receives a confirmation message because this operation completely erases the memory of the Module.

Under this window are two buttons.

“Delete Item” button erases a configuration from the PC database.
“Delete ALL” button erases all the configurations from the PC database.
Warning: pressing this button the configuration are deleted only from the local copy of **GPS Module** memory; use “Transmit” button to really erase the Module memory.

Top right the software shows two windows: over AIM logo and under **GPS Module**. When the module is connected to **MyChron4** AIM logo is substituted with **MyChron4** image. The system shows that **GPS Module** communicates with **MyChron4**.

4.1 – GPS Manager software typical use

GPS Manager software typical use assumes that the user goes on the track with **GPS Module** connected to **MyChron4** and sets lap and splits (if configured). When this procedure is over, **GPS Module** will record lap and split times of that track forever.
To copy a lap/split configuration from a **GPS Module** (1) to a **GPS Module** (2) follow this procedure:

1. Connect **GPS Module** (1) to the PC
2. Run **GPS Manager** software
3. Press “Transmit” button
4. Press “<<” button to copy the configuration in the PC database
5. Disconnect **GPS Module** (1) from the Pc
6. Connect **GPS Module** (2) to the PC
7. Press “Connect” button
8. Press “>>”button to copy the configuration from the PC database to the local copy of GPS memory
9. Press “Transmit” button.