



GATE - LITE USER MANUAL



By Athena Evolution

User Manual GATE - LITE software

Rev. 02

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INDEX:

1	SOFTWARE FUNCTIONS	5
2	PRELIMINARY OPERATIONS SOFTWARE INSTALLATION	5
2.1	System Requirements	5
2.2	Installation Program.....	5
2.3	USB Driver Installation	8
3	SOFTWARE START UP	9
3.1	SOFTWARE FUNCTIONS AND WARNINGS	9
4	DOWNLOAD OF REPORTS.....	10
4.1	OPENING A REPORT FILE FROM THE MD60LOG.....	11
5	DOWNLOAD OF SESSIONS RECORDED IN DATA LOGGER MODE	13
6	MX2 LITE: SOFTWARE OPENING COMMAND ARRANGEMENT	14
6.1	MX2 LITE Software Window	15
6.1.1	Analysis area	16
6.2	Software menu bar	17
6.3	Upper tool bar	17
6.4	Navigation bar	17
6.5	MD60LOG Interface Area.....	18
6.6	Track window (Track Bar)	18
7	MX2 LITE: Menu Bar.....	20
7.1	Menu File.....	20
7.1.1	Update data folders command	20
7.1.2	Functions connected to printing of the sessions	20
7.2	Analysis Menu	22
7.2.1	Show/Hide Second Cursor	22
7.2.2	Align with GPS position	23
7.2.3	Reset Alignments	24
7.3	Track Menu.....	24
7.3.1	Session Analysis Function	24
7.3.2	Distance Measurement Tool	24
7.3.3	Zoom	25
7.4	View Menu.....	25
7.5	Options Menu	25
8	MX2 LITE: UPPER TOOL BAR.....	27
9	MX2 LITE: NAVIGATION BAR.....	28
9.1	Browser Bar Button	28
9.2	Channel Bar Button (Visualisation of the channels).....	30
9.2.1	Visible Properties.....	31
9.2.2	Scale Function.....	31
9.2.3	Colour Properties.....	31
9.2.4	Scale and Lock Functions	32
9.2.5	Hertz Properties.....	32
9.3	Track Library (Track Library Management Button)	32
9.3.1	Track Selection.....	33
9.3.2	Application of the track to the loaded session.....	33
9.3.3	Create, delete and copy tracks.....	33
9.3.4	Setting the Finish Line.....	34
9.3.5	Split Points Setting	35
9.3.6	Segments Setting	36
9.3.7	Rotation and zoom of the selected track.....	37
9.3.8	Lap Selection Buttons	37
9.3.9	Track Saving.....	37
10	MX2 LITE: MD60LOG INTERFACE AREA.....	38
10.1.1	Indication of the USB connection status	38
10.1.2	Track Updating from PC to MD60LOG.....	38
10.1.3	Track Downloading from MD60LOG	39
	APPENDIX 1 QUICK GUIDE FOR USE OF THE MD60LOG WITH A PC	40
1	DOWNLOAD AND OPEN SESSIONS RECORDED IN DATA LOGGING	40
2	DOWNLOADING AND OPENING REPORTS FROM THE MD60LOG	43
3	UPDATING THE TRACK LIBRARY	45

Dear Customer,

Thank you for having chosen a product from the **DATA ACQUISITION AND ANALYSIS SYSTEMS** line from **GET by Athena Evolution**.

Certain that our passion and experience will be able to assist you in successfully expressing yourself in any competition in which you may wish to participate, we invite you to read this manual certain that it will assist you in the use of your new **GET by Athena Evolution** device.

1 SOFTWARE FUNCTIONS

The **GATE - LITE** software enables sessions memorised by the **MD60LOG** device to be downloaded and analysed by a PC (in the **DATA LOGGER** mode).

The **GATE - LITE** software is supplied with a data download kit for the **MD60LOG**.

The connection between the device and the personal computer must be established by way of the USB-mini /USB cable supplied in the aforementioned kit.

The software also enables reports to be downloaded from and to synchronise the track library runs on the **MD60LOG**.

Athena Evolution declines any and all responsibility for damages derived from improper use of the **GATE - LITE** software.

2 PRELIMINARY OPERATIONS SOFTWARE INSTALLATION

To use the **GATE - LITE** software it is necessary to perform its installation.

PERFORM THE INSTALLATION WITHOUT CONNECTING THE MD60LOG DEVICE TO THE USB PORT ON THE PC, AS THIS COULD CAUSE CONFLICTS WITH OTHER PERIPHERALS INSTALLED ON YOUR COMPUTER.

2.1 System Requirements

To install **GATE-LITE** in a personal computer make sure that the requirements found in the table below are respected:

	Minimum
Processor	Pentium III or equivalent
Ram	512MB
HD	20 MB free space
Operating System	Win 2000 or superior
USB ports	USB 1.1

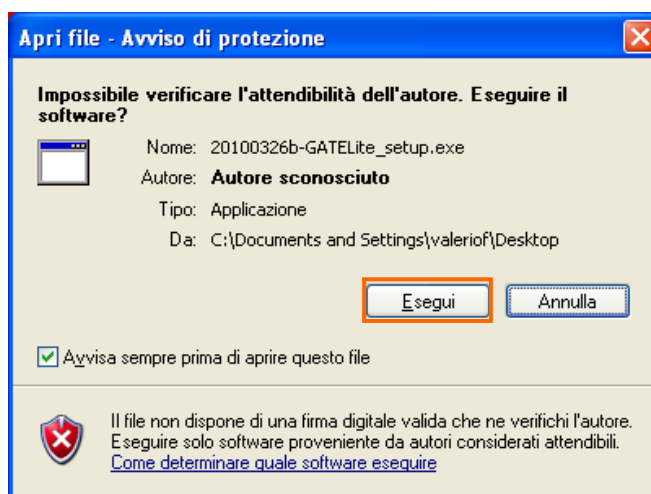
2.2 Installation Program

Before installing **GATE -LITE** make sure that no GET device has been connected to it – including any Ant key - to the USB of your PC.

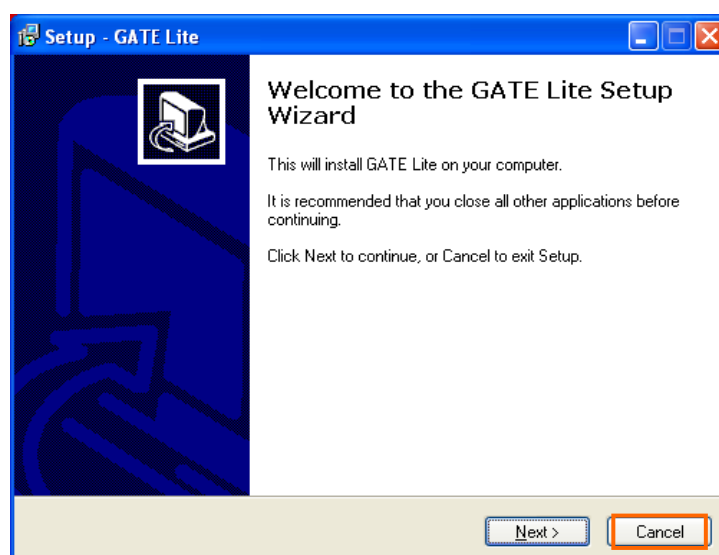
To install **GATE - LITE** software execute the file **GATELITE_setup.exe** – **with a user who has Administrator privileges on the computer** - double clicking on the set-up icon: the guided procedure will start up.



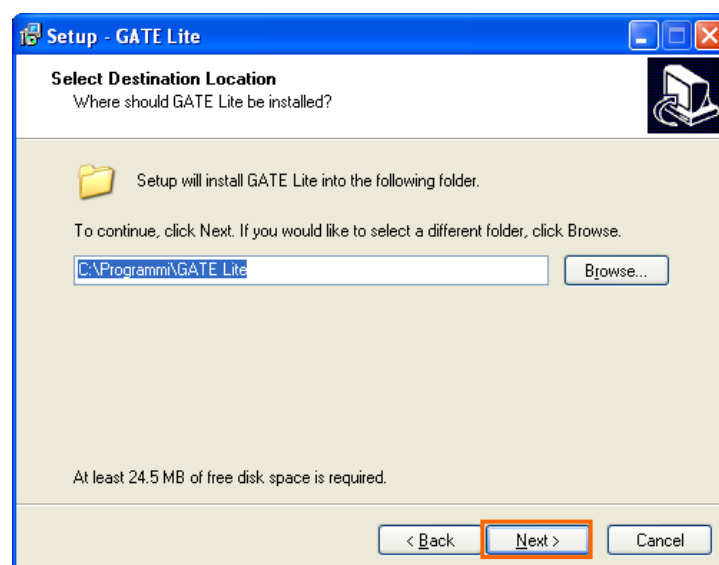
If the message visible in the figure below appears click on the **Run** button



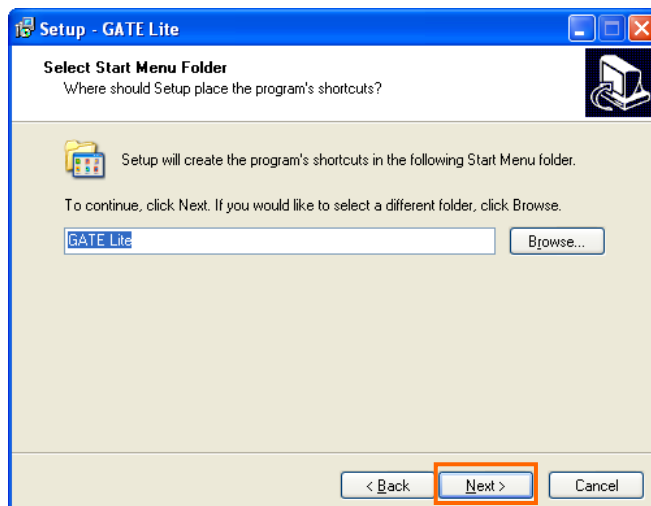
In the initial installation page click on **Next**.



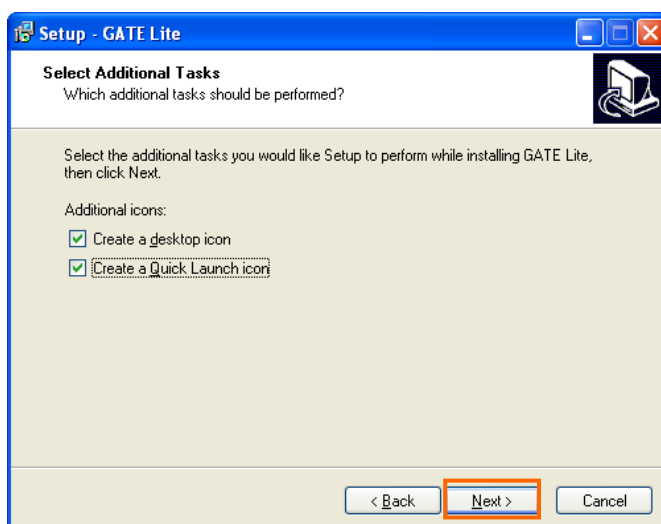
Select the folder in which the program is to be installed or confirm the one proposed by clicking on **Next**.



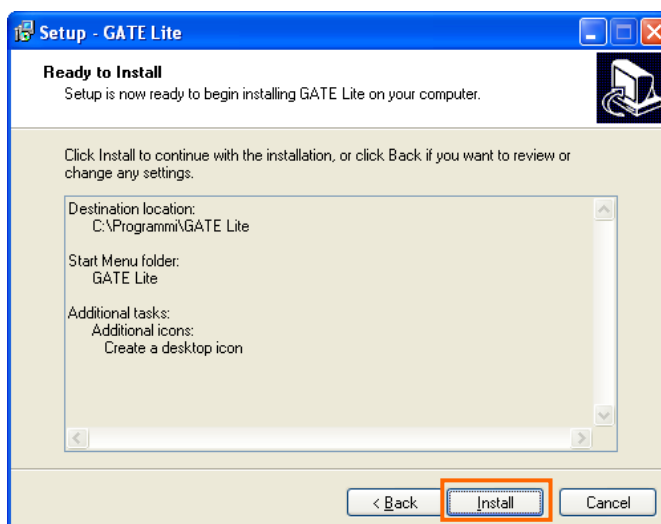
Afterwards it is possible to select a name for the folder that will appear in the “Start” menu of Windows. Proceed by clicking on **Next**.



Select in what point to position the connection icons for the GATE - **LITE** software. Proceed by clicking on **Next**.



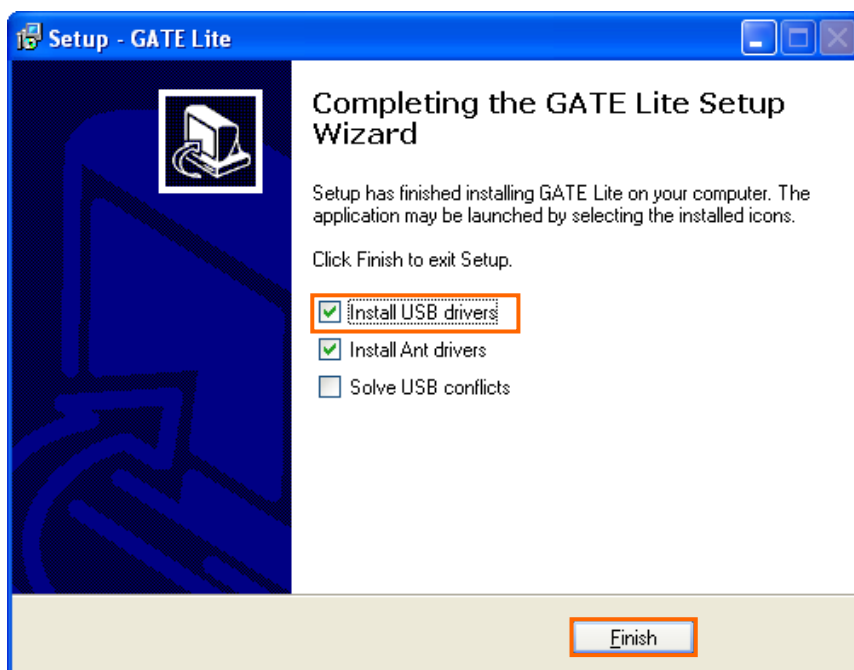
The overview screen below shows all of the choices made up to this moment: it is possible to return to the previous pages (to make any needed changes) clicking on the **Back** button. To proceed with the installation, click on **Install**.



During the installation the files being copied are shown as well as a progress bar: wait for the end of the procedure.

2.3 USB Driver Installation

At the end of the installation, leaving the control **Install USB drivers** selected, click on **Finish**: The USB drivers necessary for the PC to dialogue with the GET receivers are installed. At this point the software installation process is complete.



3 SOFTWARE START UP

Start up of the software comes about by clicking on the program icon.
The **GATE - LITE** start up screen is shown in the figure below:



3.1 SOFTWARE FUNCTIONS AND WARNINGS

Below the software functions and/or its activity modes are listed:



Reduces the **GATE LITE** software to an icon on the Windows application bar.



Closes the **GATE LITE** software.



Indicates the connection to the **MD60LOG** device to the PC: the download button is enabled.



Indicates the disconnection of the **MD60LOG** device from the PC: the download button is disabled.



Executes the download of all of the sessions present on the device onto the path:
C:\Document and Settings\User_name\Documents\Get\MD60Log
At the end of the download, the memory of the unit is cleared.



Carries out the download of the reports from the unit.



Starts up the **MX2 LITE** analysis software



Closes the **GATE LITE** software

4 DOWNLOAD OF REPORTS

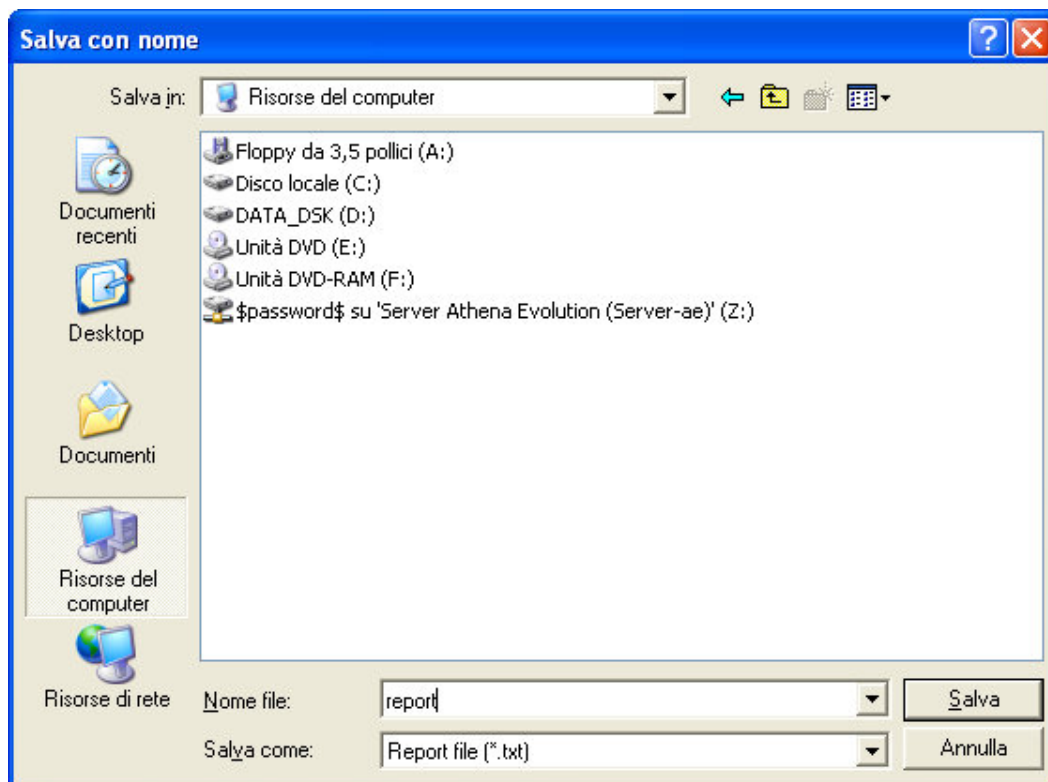
The report downloaded from the **MD60LOG** is saved in a text format (openable with Notepad, Microsoft Word or any other text editor). This contains data relative to lap times, speed etc. present in the unit's memory.

To perform the download of the reports saved inside of the **MD60LOG** to the PC proceed as follows:

- Make sure that the **MD60LOG** is turned on and connected to the PC with the USB cable.
- Start up the **GATE LITE** software.
- Make sure that the device connection status warning light is green.



- Click on the **DOWNLOAD TIMING REPORT** button. 
- NOTE: the DOWNLOAD TIMING REPORT button is enabled only if the CONNECTION STATUS warning light is green**
- Stand by until the report download process has finished: at the end of the operation the user will be asked to enter the name and path for where the file just downloaded is to be saved.

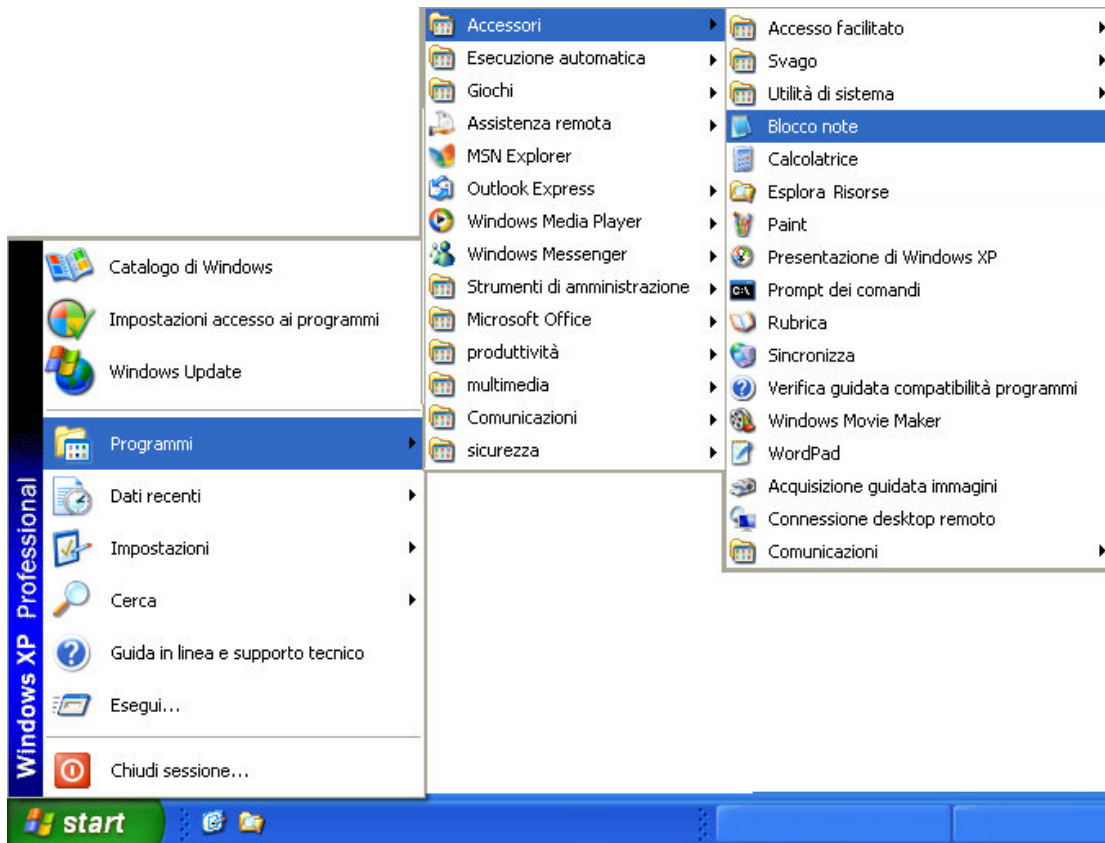


4.1 OPENING A REPORT FILE FROM THE MD60LOG

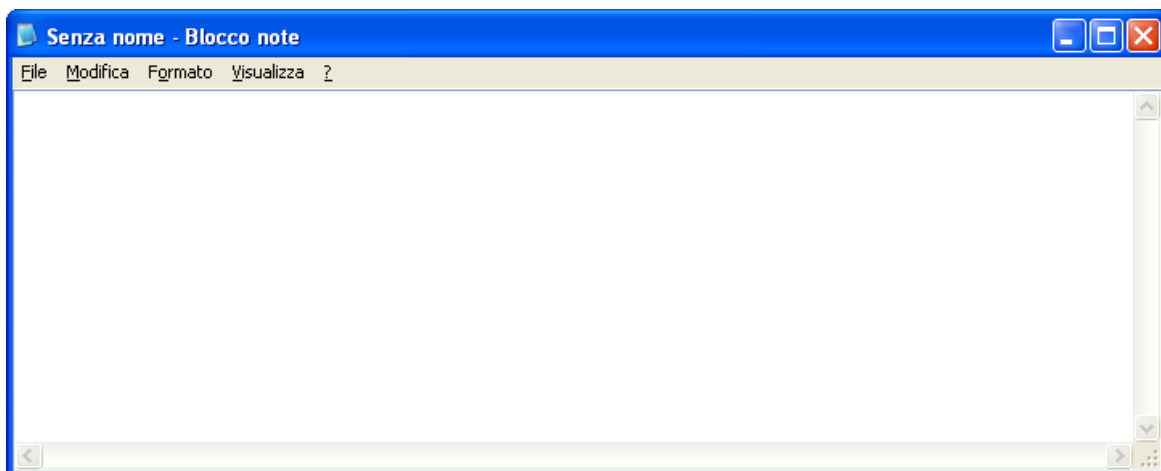
Opening a report file from the **MD60LOG** may be performed with any text editor program.

In this manual the procedure to follow is described with the **NOTEPAD** program from Windows (usually included in all Microsoft operating systems).

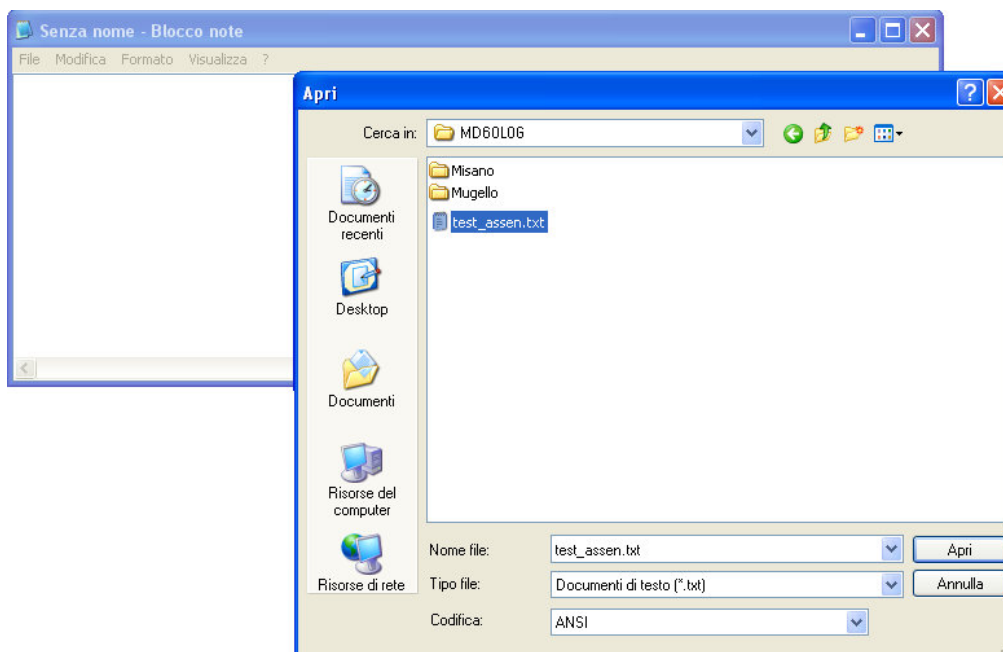
Start up **NOTEPAD** pressing **Start – Programs– Accessories – NOTEPAD**



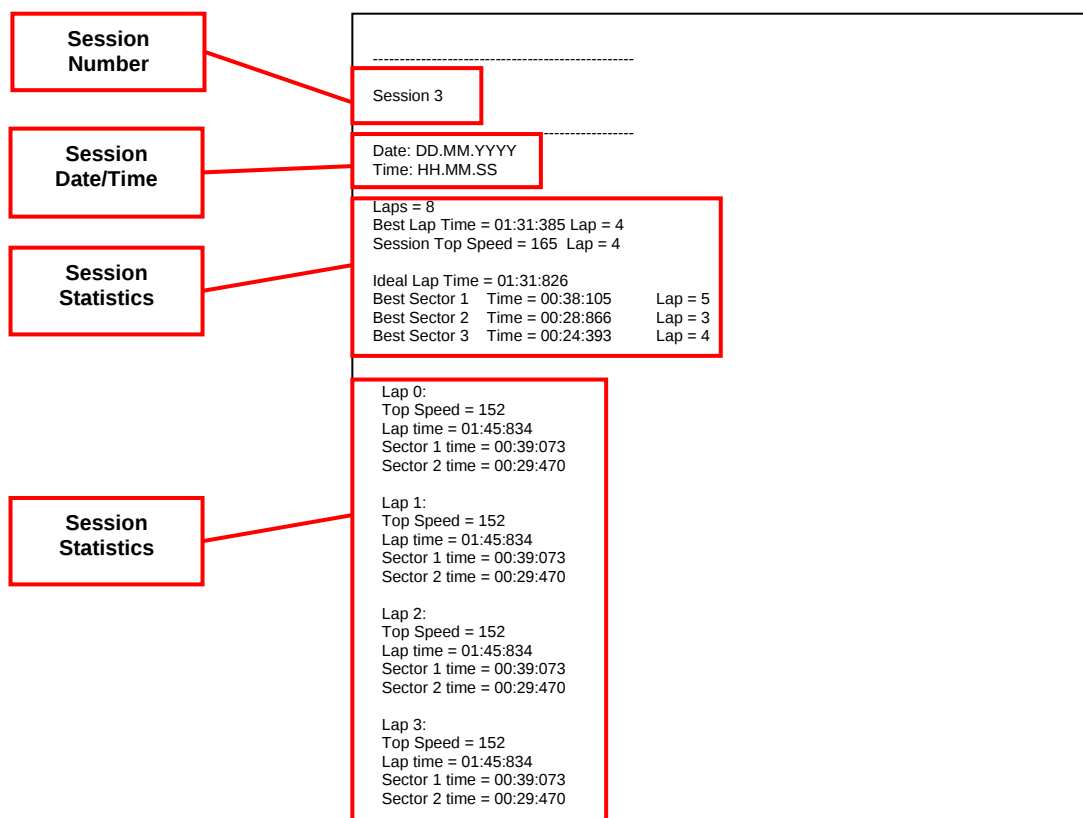
- Once started the **NOTEPAD**, screen will be the following:



- Click on the File menu (in the upper left) and on the item **Open**, search for the file previously downloaded and click on the command **Open**:



- The figure below illustrates an example of a report provided by the instrument:



NOTE: The opening procedure of the file may be simplified by simply double clicking on the report file icon. Windows usually, associates .txt files to NOTEPAD automatically as the default program.

5 DOWNLOAD OF SESSIONS RECORDED IN DATA LOGGER MODE

The sessions realised in the **DATA LOGGER** mode of the **MD60LOG** may be downloaded only by way of the use of the **GATE LITE** software.

The sessions, once downloaded, enable the analysis of the trajectories and the speeds obtained during their recording.

To perform the download of the sessions saved inside of the **MD60LOG** to the PC proceed as follows:

- Make sure that the **MD60LOG** is turned on and connected to the PC with the USB cable.
- Start up the **GATE LITE** software and stand by for the start up screen to appear:



- Verify that the **Connection Status** LED is green.
- Click on the **DOWNLOAD DATA LOGGING** button and stand by for the end of the operation
- The session just downloaded will be saved in the PC in the following path:

C:\Documents and Settings \ User Name \ Documents \ Get \ MD60LOG \ session date \ file name.sxd

Where:

User Name: stands for the name of the Windows user

session date: stands for the name of the folder in which the downloaded file is saved (equivalent to the session recording date)

file name.sxd: is the name of the session file (with the **.sxd** extension). The name of the file contains the date and time of the start of the session downloaded.

ATTENTION: AFTER DOWNLOADING THE SESSIONS THE INTERNAL MEMORY OF THE MD60LOG WILL BE DELETED!!!

When download has finished you can disconnect your MD60 from the PC.

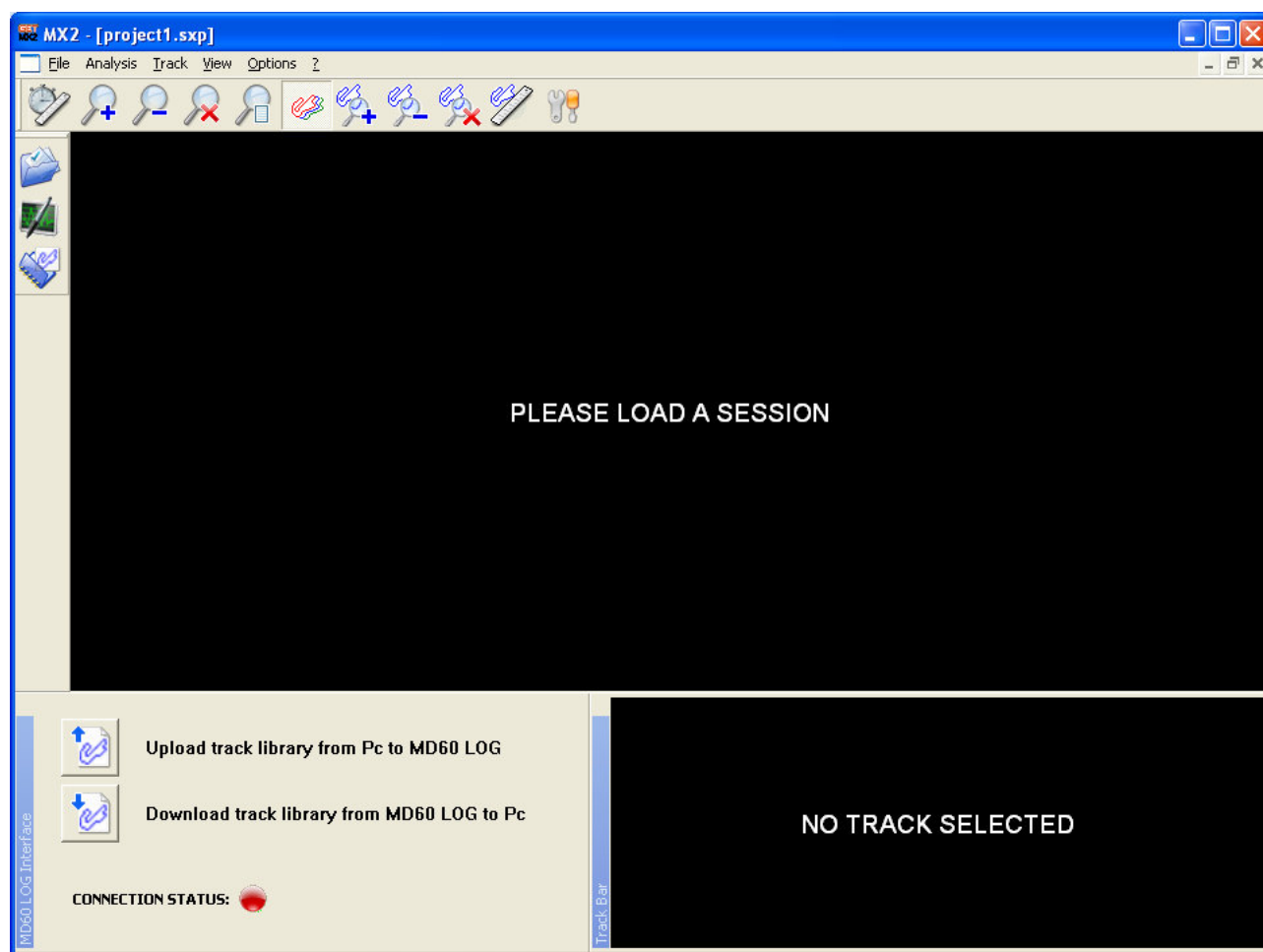
6 MX2 LITE: SOFTWARE OPENING COMMAND ARRANGEMENT

The **MX2 LITE** software enables the user to analyse and compare sessions realised with the **MD60LOG** unit. To start up the program, proceed as follows:

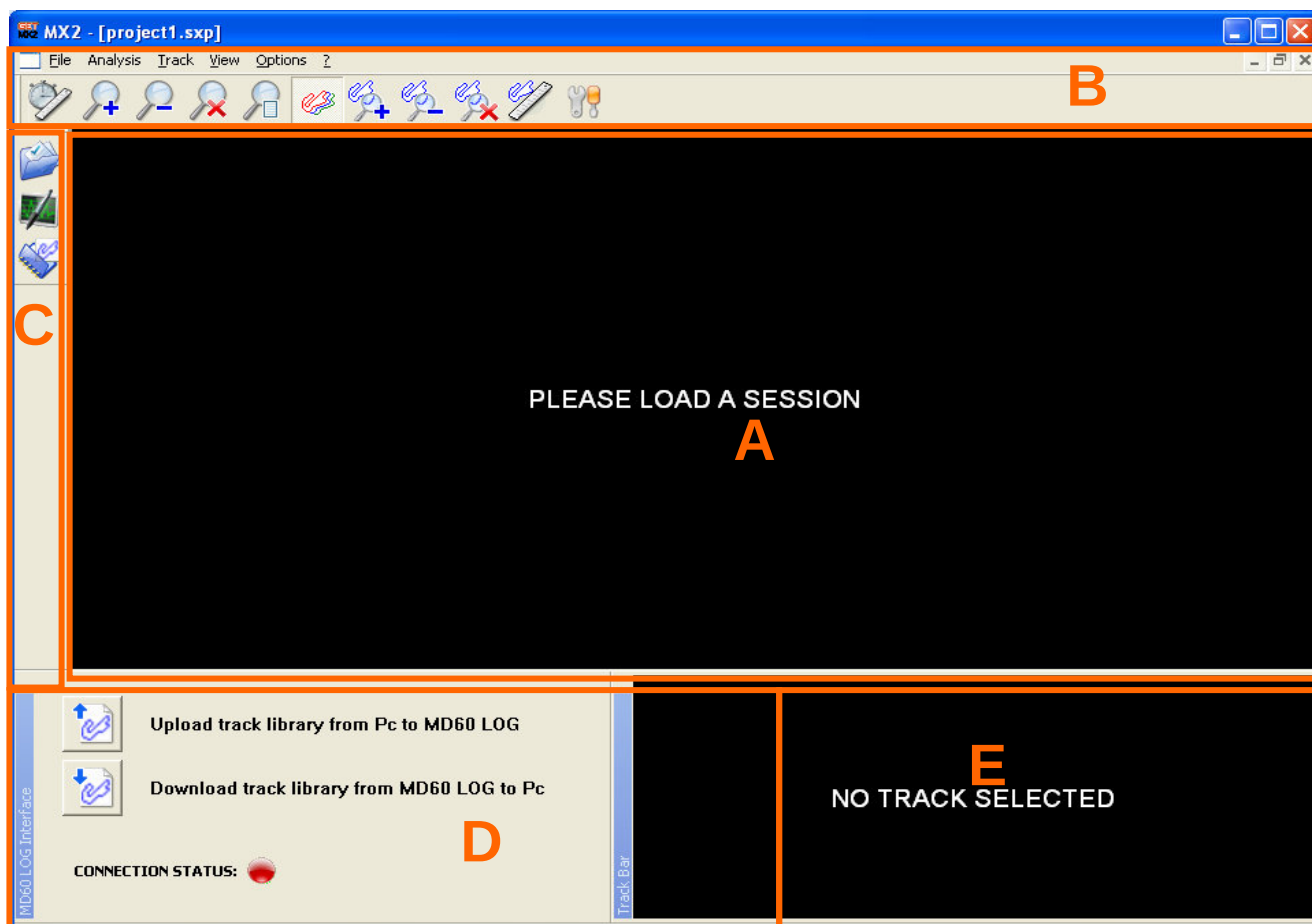
- Start up the **GATE LITE** software and stand by for the start up screen to appear:



- Click on the **MX2 LITE**  button and stand by for the visualisation of the following screen:



6.1 MX2 LITE Software Window



In the figure the different zones of the MX2 LITE window are identified.

A: Analysis Area

B: Tool Bar Menu

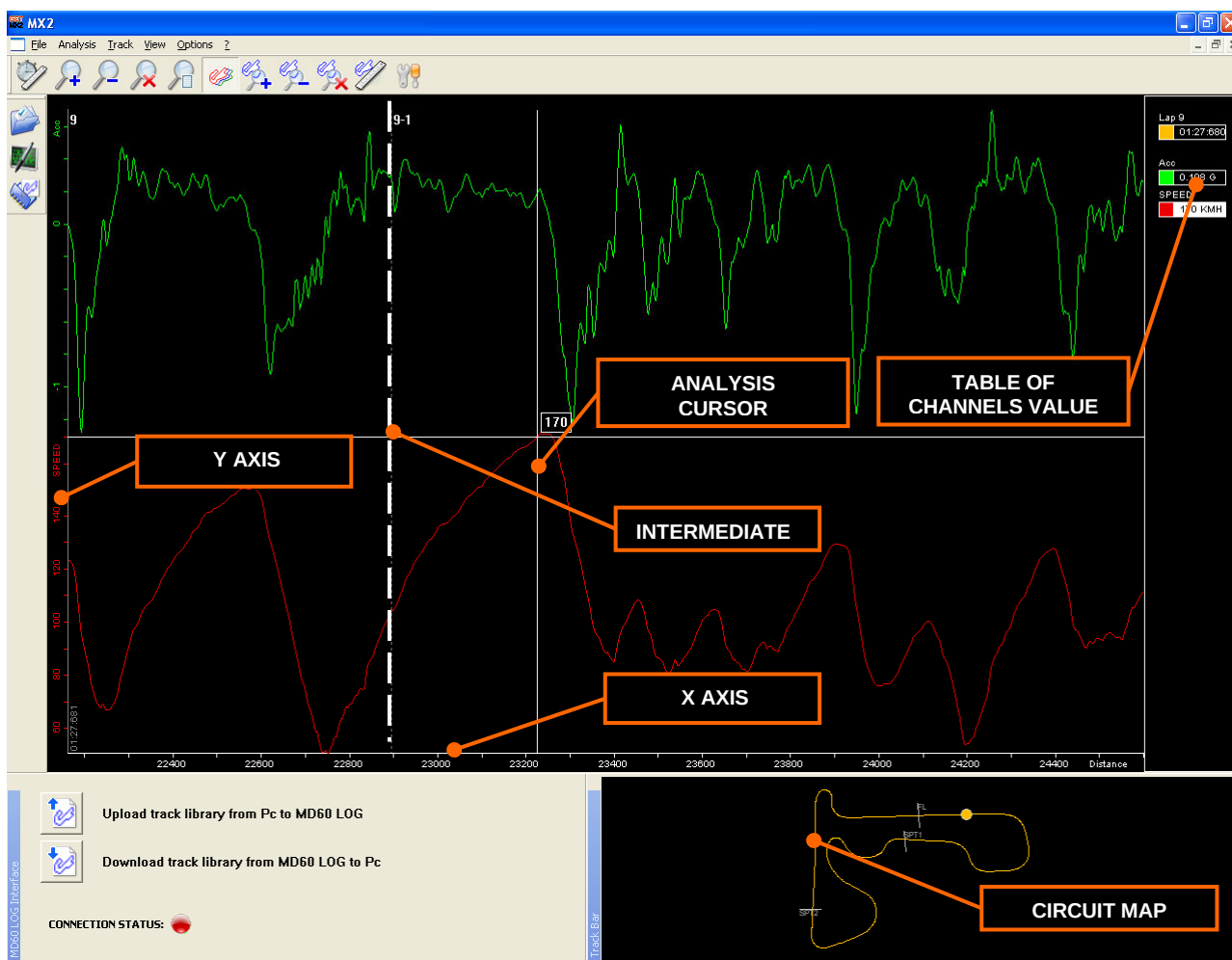
C: Navigation Bar

D: Track Library Management Window MD60LOG (**MD60LOG Interface**)

E: Track Window (**Trackbar**)

6.1.1 Analysis area

The analysis area is the main zone for the MX2 LITE software. In this window the values of the channels acquired are shown in a graphic representation.



In the event that a single lap is being analysed, each channel is represented with a different coloured graph. If this is not the case, that is analysing more than one lap at the same time, the graphs are represented with the colours of the corresponding laps.

The analysis window is furthermore made up of the following elements:

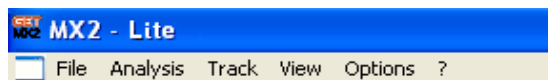
- Y-Axis: carries the scale and the name of each channel visualised, using the same colour of the graph.
- X-Axis: carries the time scale or the distance (according to the setting).
- Circuit map or **Trackbar** (may be viewed in the lower part of the analysis window, under the x scale): If segments have been associated to the session track, the circuit map will visualise the sequence of those segments relative to the zone displayed in the analysis window. Each segment is displayed with the corresponding colour and name.
- Intermediate times: these are represented by broken vertical white lines. They are displayed only if the track in use contains split points (intermediate time points) and only if they have been enabled in the options window of the program.
- Analysis cursor: allow to analyse the channels value in a desired point of graphics
- Table of channel value: show the channels value at the analysis cursor position.

It would be well to remember that the MX2 LITE software limits the display to the laps selected: therefore it is not possible to visualise the entire downloaded session.

It is nevertheless possible to perform the comparison of several laps by overlapping the graphs.

6.2 Software menu bar

The MX2 LITE software menu bar is in the upper part of the software window:



6.3 Upper tool bar

The main tool bar is located in the upper part of the program window and enables rapid access of the most used functions of the software.



The tool bar is made up as follows:

- A:** Selection of the display scale of the x-axis: time or distance
- B:** Analysis window zoom in
- C:** Analysis window zoom out
- D:** Re-set zoom on selected lap
- E:** Zoom of the selected area or report on the maximum and minimum values of the channels in the selected area
- F:** Set lap trajectory comparison mode (trajectory analysis mode)
- G:** Enlarge the track loaded in the project
- H:** Reduces the track loaded in the project
- I:** Reset zoom on the track
- L:** Ruler tool (useful for making measurements in the track window)
- M:** Options window (useful for configuring the MX2 LITE options)

6.4 Navigation bar

The navigation bar is located, by default, in the left hand side of the program window.

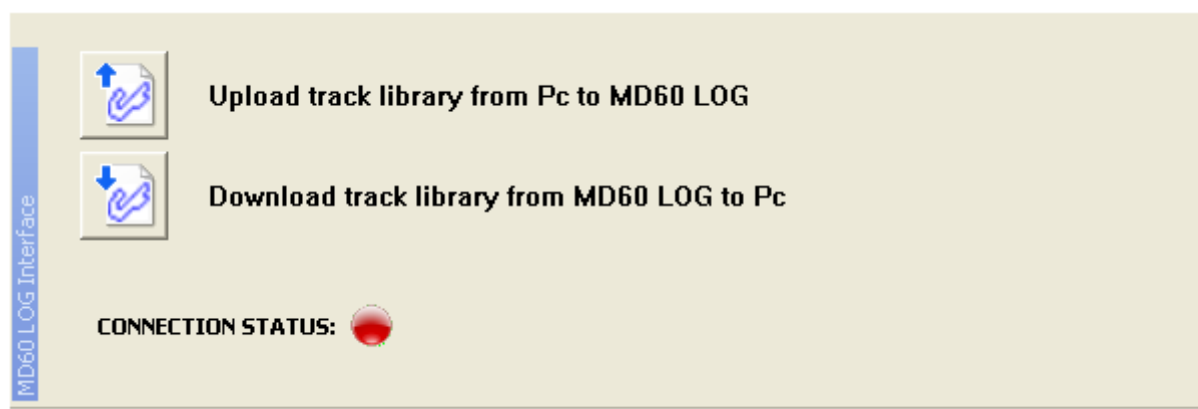


The navigation bar is made up as follows:

- A:** Visualisation browser window
- B:** Visualisation channels window
- C:** Visualisation track library

6.5 MD60LOG Interface Area

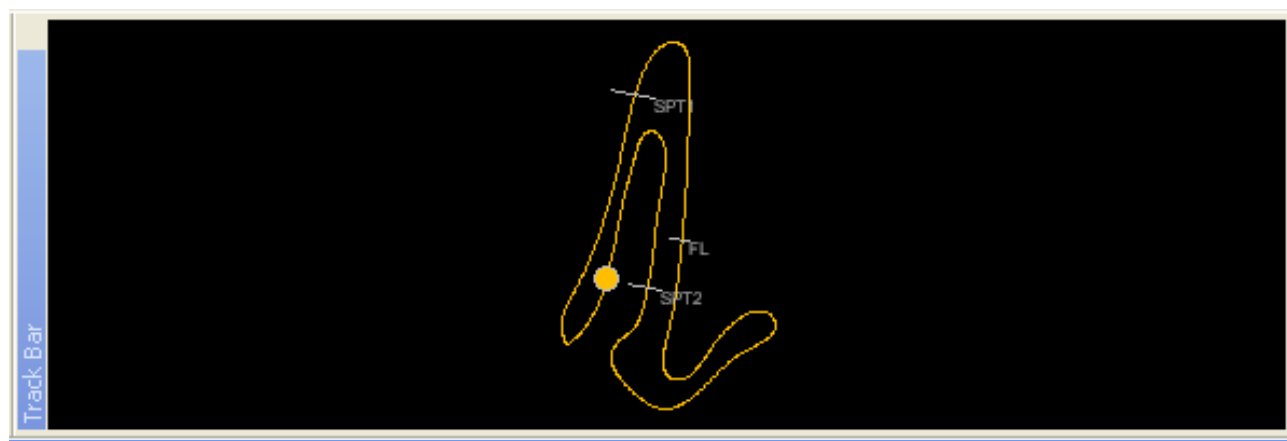
The **MD60Log Interface** area enables the administration of the track library for the **MD60LOG** unit.



For further information please refer to the relative chapter.

6.6 Track window (Track Bar)

The Track Bar window is located, by default, in the lower right hand side of the program window. In this area the image of the track associated with the session being analysed is displayed.

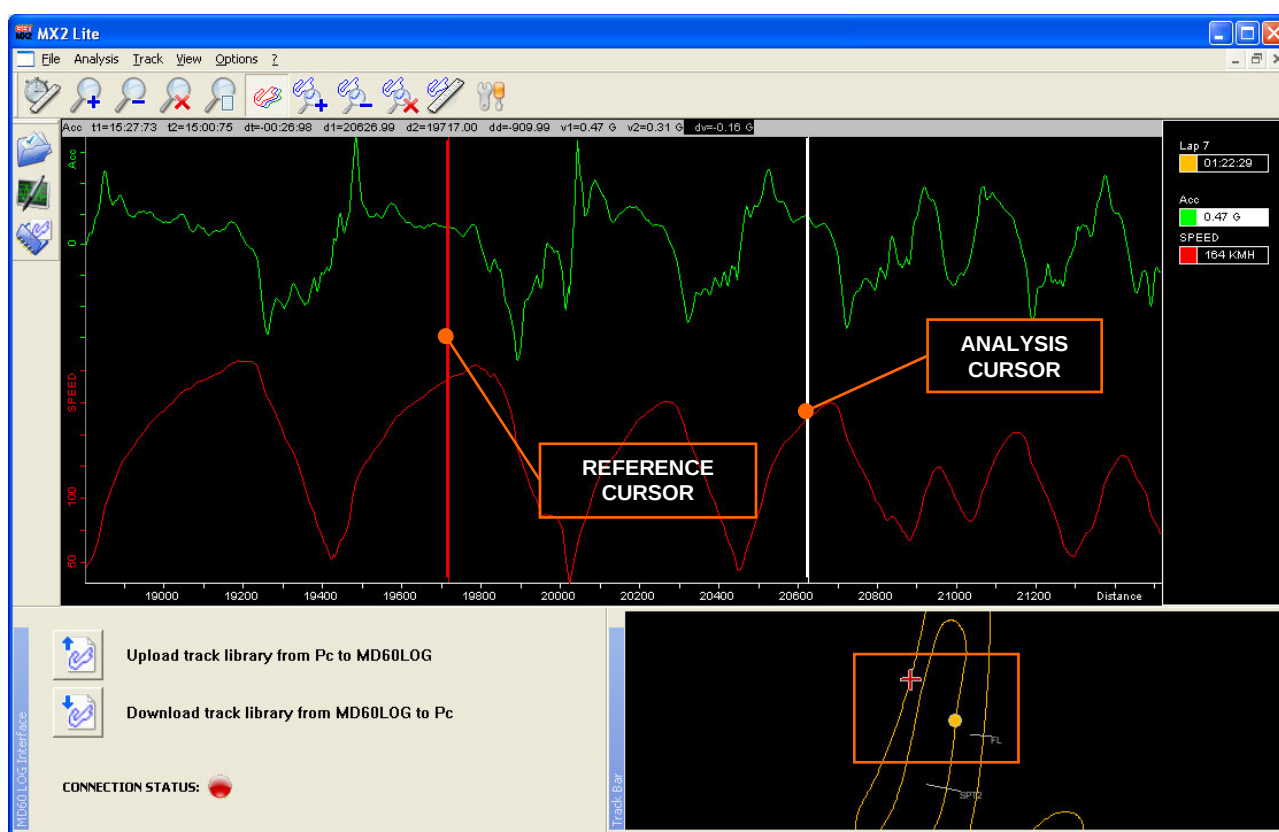


In the case in which more than one lap has been added to the current display, the trajectory of the selected lap will be shown.

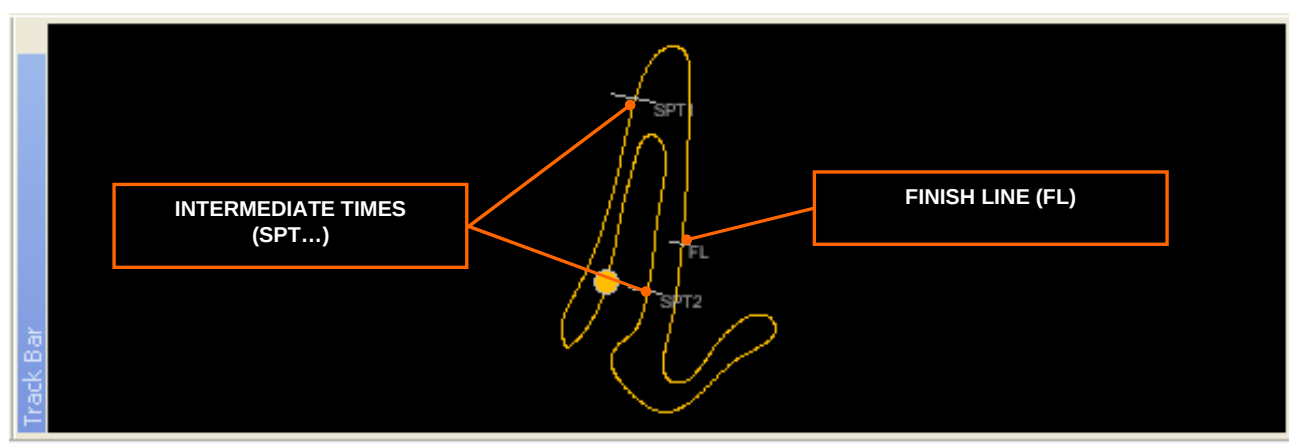
The part of the lap, displayed in the analysis window, is indicated in the track window with a white line beside the selected lap trajectory. This line is visible only if not in trajectory analysis mode (button **F** of the menu bar not selected).

In the track window (**Track Bar**) a circle indicator, the same colour as the lap selected, will appear automatically. The indicator will always be in the same position as the cursor in the analysis window: moving the cursor, the position indicator will shift into the corresponding position on the track.

If in the analysis window the reference cursor is activated, this is visualised in the track window as a red cross.



If finish lines and split points (intermediate times) have been added to the track, these will be displayed in the Track Bar under the form of grey lines that cut the track



7 MX2 LITE: Menu Bar

The functions available in the MX2 LITE menu bar will be dealt with in the following chapters.

7.1 Menu File

The **File** menu contains the following items:

- **Update Data Folder:** performs the update of the data folders visualised in the **Browser Bar**
- **Print:** prints the loaded sessions
- **Print Settings:** enables the choice of the print settings for the data loaded into the MX2 LITE software program
- **Print Preview:** Performs the preview of the sessions to be printed
- **Quit:** quits the MX2 LITE analysis software.

7.1.1 Update data folders command

The **Update Data Folder** command enables the software to update the data folders list visualised in the **Browser Bar**

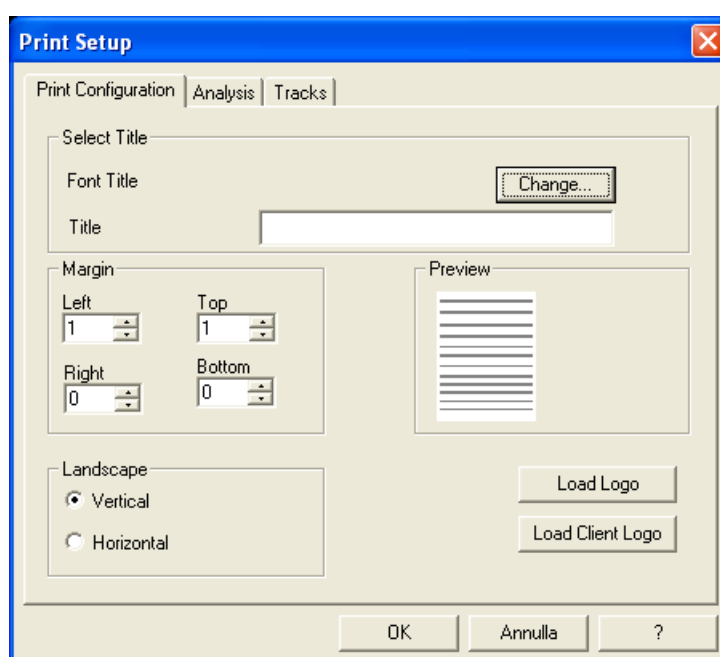
This function may be necessary if the sessions sought are not visible (perhaps after a shift of a file) during their selection in the **Browser Bar**.

7.1.2 Functions connected to printing of the sessions

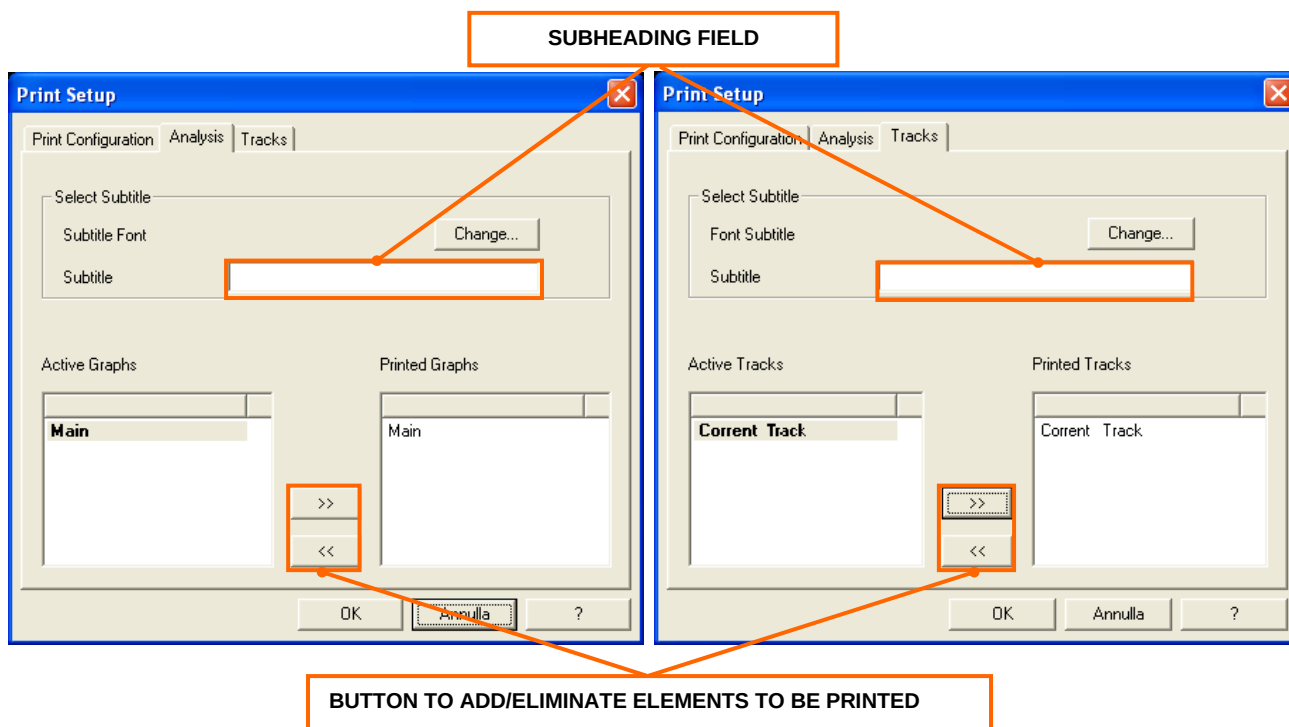
The MX2 LITE software enables the printing of everything that is displayed in the analysis window and in the track window at any moment.

Print functions are gathered in the File menu.

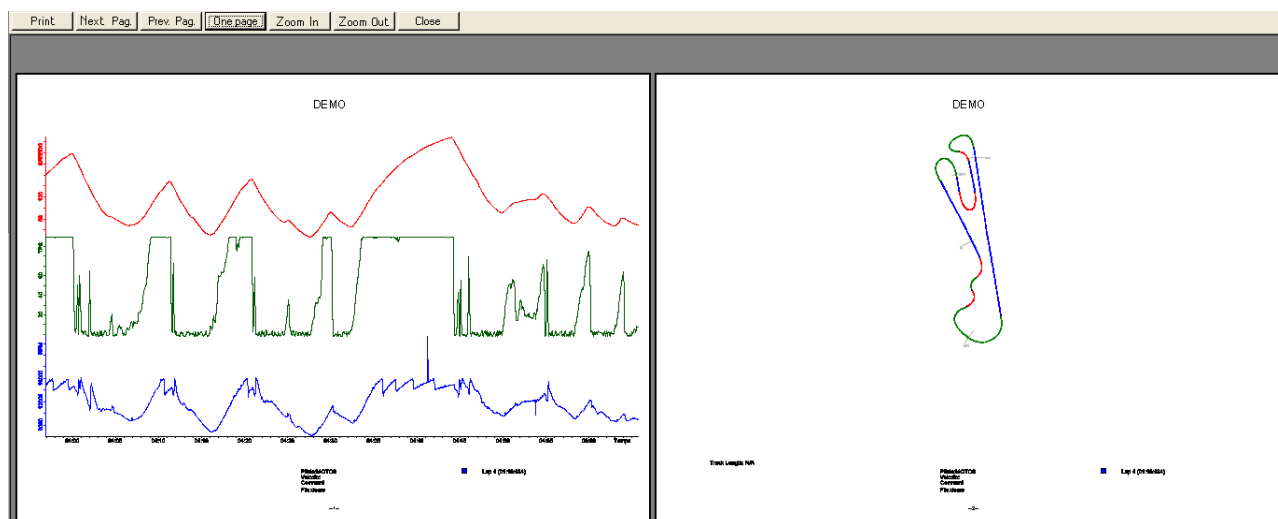
Clicking on the item **Print Settings** accesses the settings window: here it is possible to select the elements to be printed, and as necessary to specify a title to be entered in the upper part of the sheet.



In the **Print Configuration** tab it is possible to select a title that will be printed on each sheet printed. In the subsequent tabs (**Track** and **Analyses**) instead, it is possible to specify the elements to be printed and a subheading relative to each of the elements. To add an element to be printed, select it from the list on the left (clicking on it with the left mouse button) and pushing the >> button. To eliminate it from the print list, select it from the list on the right and push the << button.



Once the elements desired have been added, press **OK**. In this manner the print preview is automatically displayed. To navigate among the print preview pages, use the **Next Page** and **Previous Page** buttons found in the upper part of the window. Press the **Print** button to print or the **Close** button to close the print preview.



The print preview may also be reached with the **Print Preview** button in the **File** menu. The **Print** item in the same menu calls up the Print window instead.

7.2 Analysis Menu

The **Analysis** menu contains the following items:

- **Show Scales:** visualises/hides the scales of the channels on the Y-axis
- **Show Tables:** visualises/hides the channel values
- **Show/Hide Reference Cursor:** visualises/hides the reference cursor
- **Align with GPS position:** Performs the alignment of the graphs by GPS coordinates (useful for comparison of several laps).
- **Reset Alignments:** deactivates GPS point alignments

Given that some menu commands are extremely intuitive, the next chapters will only describe the items **Show/Hide Reference Cursor** and **Align with GPS position**.

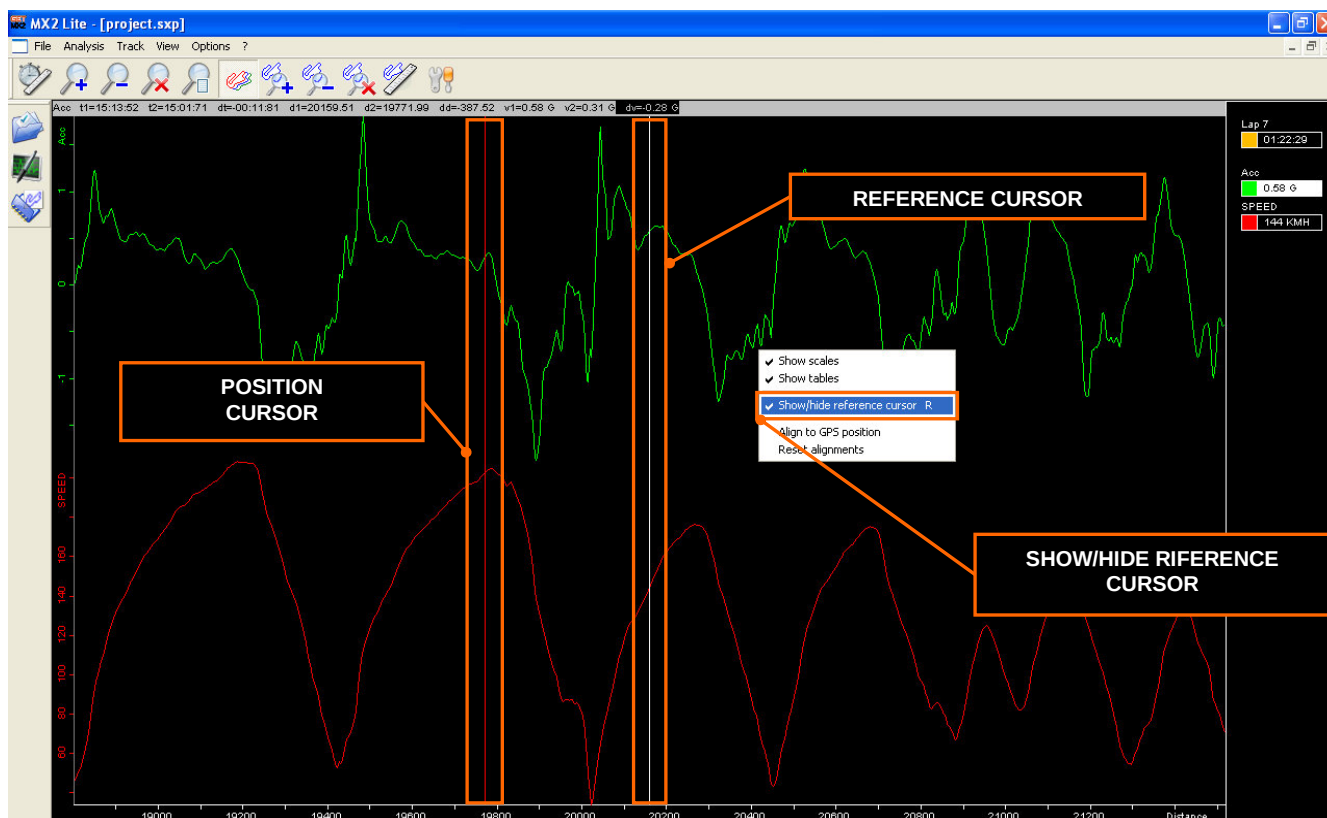
7.2.1 Show/Hide Second Cursor

The reference cursor is an additional cursor that is used as reference for the visualisation of data between two cursors.

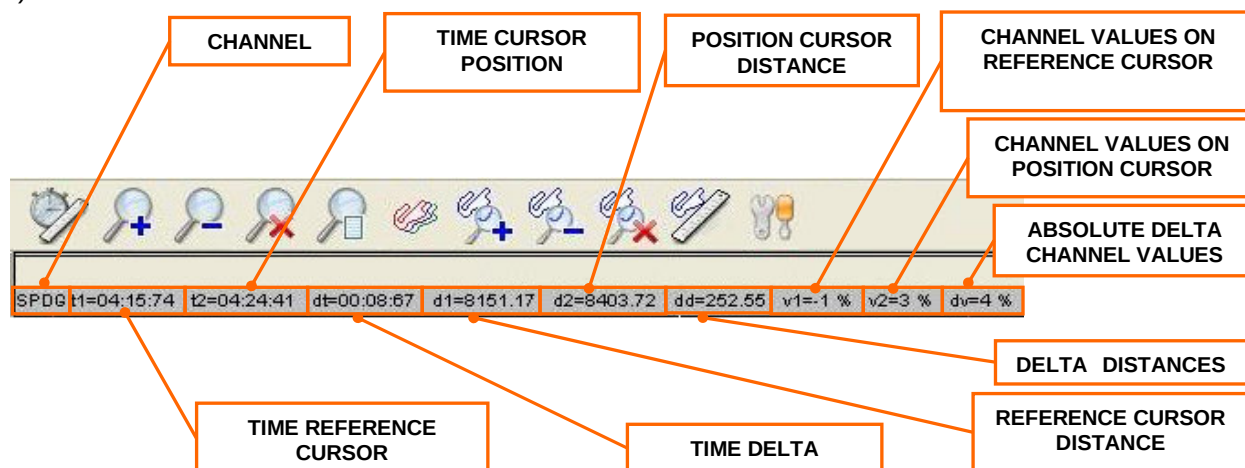
The reference cursor is represented by a red vertical line and may be activated in three different ways:

- Press the shift command on the keyboard and click on any point of the analysis window.
- Press the R key on the keyboard, the reference cursor will appear in the position of the mouse pointer. Press the R key on the keyboard again; the reference cursor will be hidden.
- In the context specific menu in the analysis window, select the item **Show/Hide Second Cursor**. Repeating the operation the reference cursor is hidden.

To move the reference cursor, all of the methods identified are good for the main cursor, but in addition it is necessary to hold down the shift key on the keyboard.



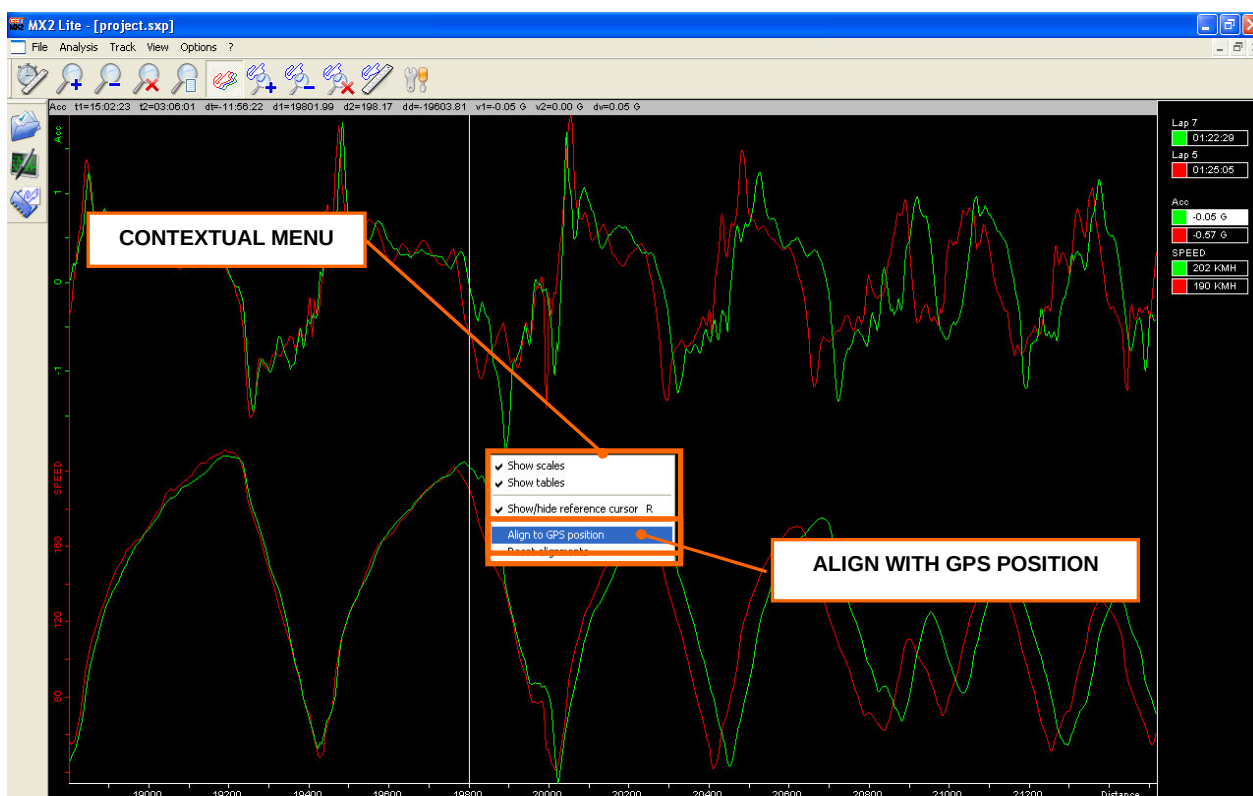
After having activated the reference cursor in the upper part of the analysis window, an additional bar appears. In this bar the data for time, distance, channel values selected in the values table and difference (delta) for the two cursors.



7.2.2 Align with GPS position

If several laps are being compared and it becomes necessary to align the graphs to a precise GPS coordinate it is possible to use the **Align with GPS position** function.

Once the cursor is displayed in the window, shift the cursor to the point desired, therefore, open the contextual menu in the analysis window (clicking on the right key in the channel graph area) and select the item, **Align with GPS position**. In this way all of the laps will be aligned with the GPS point indicated by the cursor.



WARNING: the GPS point - based alignments make no sense on **Diff. Time** and **Diff. Distance** channels.

7.2.3 Reset Alignments

The last item in the contextual menu of the analysis window **Reset Alignments**, enables all of the alignments introduced previously to be cancelled, so as to bring all of the graphics back to their original positions.

7.3 Track Menu

The **Track** menu contains the following items:

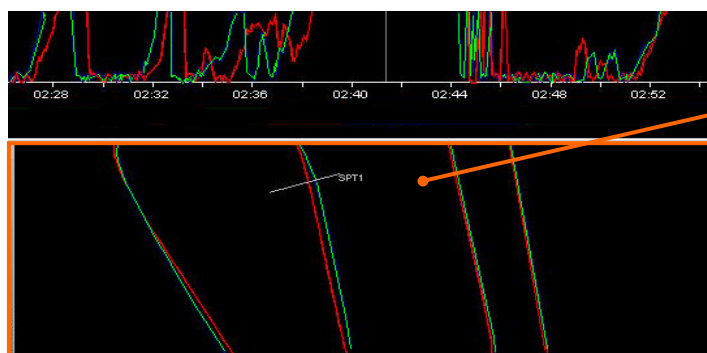
- **Session Analysis**: enables the visualisation with different colours, of the GPS trajectories of the laps being analysed.
- **Distance Measurement Tool**: enables linear measurements to be made in the **Track Bar** window
- **Zoom**: enlarges or reduces the maps displayed in the **Track Bar**
- **Library**: visualises the track library window (**Tracklib**)

7.3.1 Session Analysis Function

Activating the **Session Analysis** function from the **Track** menu (or pressing the  button in the upper tool bar) it is possible to enter into trajectory analysis mode.

By way of this function it is possible to compare the lap trajectories selected in the **Browser Bar** inside of the track window (**Track Bar**): in case only one lap has been selected then only one line will be visualised.

When the function is not activated all of the trajectories of the laps loaded are displayed in white without distinction. To properly visualise the differences among the laps it may be necessary to perform a zoom on the track window.



TRACK BAR WITH
TRAJECTORY
COMPARISON BETWEEN 2
LAPS

7.3.2 Distance Measurement Tool

The **Distance Measurement tool (Ruler)**, which may also be activated by pressing the  button on the main tool bar, enables the distance between 2 points inside of the track window to be measured.

To use this tool, click on the track window, to set a starting point from which the measurements begin, then, holding the left mouse button down, drag the pointer to the final point and release the button. This operation produces a segment in white with indications of the distance in metres between the 2 ends.



POINT TO POINT
MEASUREMENT IN METRES

7.3.3 Zoom

To visualise an enlargement of a specific part of the track place the cursor near the point on which you wish to make the zoom.

It is possible to use the **Zoom forward** and the **Zoom backward** commands (in the **Track** menu) or the main tool bar buttons  to enlarge or shrink the visualisation of the track inside of the window.

The zoom functions are particularly indicated during the trajectory analysis visualisation, to identify the differences among the trajectories of the laps added to the project.

7.4 View Menu

The **View** menu contains the following items:

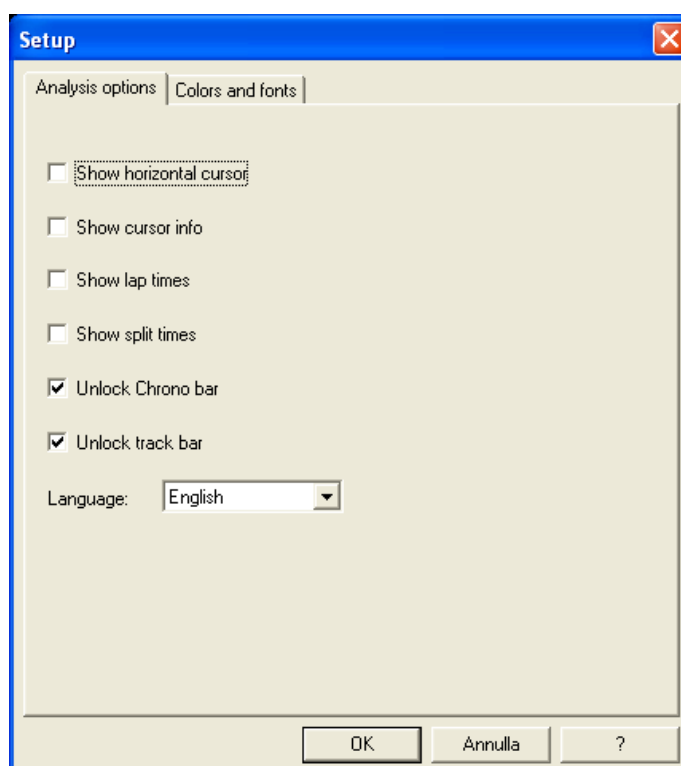
- **Zoom Rectangle**: enables the enlargement of a particular area of the laps being analysed
- **Zoom X in**: enables the enlargement of the area around the cursor
- **Zoom X out**: enables the reduction of the area around the cursor
- **Show all**: visualises the entire lap selected in the **Track Bar**
- **Toolbar**: show/hide the upper toolbar
- **Explore Window**: opens the **Browser Bar**

The options **Enlarge Area**, **Enlarge**, **Reduce** and **Show all** are available also in the upper tool bar of the MX2 LITE software.

7.5 Options Menu

The **Options** Menu contains the item **Setup...**, which enable the modification of the MX2 LITE software options.

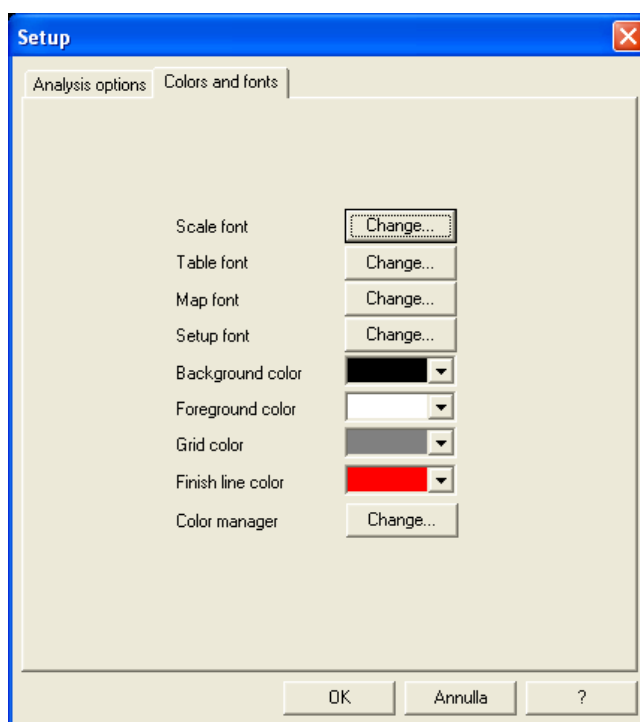
Clicking on the item **Setup...** the user can access the software customisation options: the figure below illustrates the access window.



In the dialogue box there are 2 tabs: the first, **Analysis Options**, permits the setting of the following controls:

- **Show horizontal cursor**: visualises a horizontal line at the intersection point between the cursors and the graphs in the analysis window.
- **Show Cursor Info**: visualises a numeric field that shows the value (relative to the position of the cursor) in the selected channel.
- **Show lap times**: to visualise the time of each lap along the finish line.
- **Show split times**: to visualise the vertical lines drawn in the analysis window that identify the position of the intermediate times.
- **Unlock Chrono Bar**: enables the modification of the position and the dimensions of the **MD60LOG Interface** window.
- **Unlock Track Bar**: enables the modification of the position and the dimensions of the **Track Bar** window.
- **Select Language**: enables the setting of the language for the software menus. Currently the supported languages are Italian and English

The second tab, **Colours and characters**, enable the setting of the colours and characters in the MX2 LITE software.



8 MX2 LITE: UPPER TOOL BAR

The upper tool bar enables quick access to many of the functions dealt with in the previous chapters. Later the functions associated with the buttons will be briefly listed.



Change the X-axis scale: it is possible to choose between **Time** and **Distance**.

If **Time** is set, it will be easier to evaluate the differences in the track positions, at a given instant, when a comparison of several laps is being performed.

If **Distance** is set, it will be easier to evaluate the differences in time, at a given point, when a comparison of several laps is being performed.



Enlarges the graph area



Reduces the graph area



Visualises the entire lap selected in the graph area



Executes the zoom on a selected area: pressing the button and then later, clicking on the graph and dragging the mouse horizontally, in such a manner as to draw a selection rectangle, a context menu will appear (releasing the mouse button) from which it is possible to choose the item **Zoom** (that enables the area selected to be enlarged), or **MaxMin** (that generates a window with maximum and minimum values of all of the channels in the selected area).



Activates/deactivates the comparison of trajectories among the laps selected: if pressed while comparing several laps, the button will differentiate the different GPS trajectories with different colours visualised in the **Track Bar** to enable a faster analysis.



Enlarges the track visualised in the track window (**Track Bar**). The zoom will be centred in the area in which the cursor is positioned (coloured dot) visualised in the track.



Reduces the track visualised in the track window (**Track Bar**). The zoom will be centred in the area in which the cursor is positioned (coloured dot) visualised in the track.



Resets the visualisation of the tracks in the track window (**Track Bar**) if, previously, on this there had been applied the zoom.



Activates the linear measurement tool (**Ruler**) applicable to the **Trackbar**, as described in chap. 7.3.2 in this manual.



Visualises the option window in the MX2 LITE illustrated in chap. 7.5 in this manual.

9 MX2 LITE: NAVIGATION BAR

9.1 Browser Bar Button

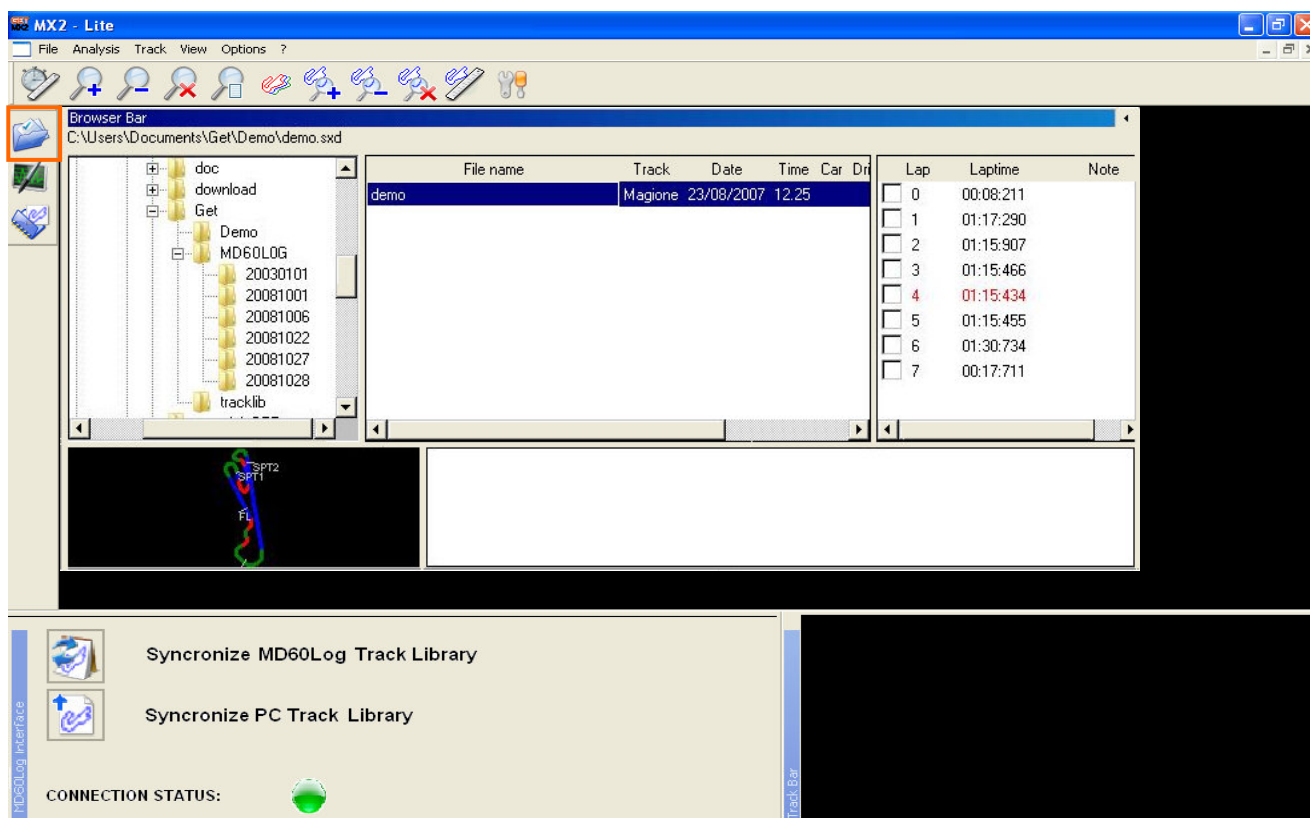
To perform the analysis of the sessions downloaded it is necessary to load them into the software. To select a session among those available, it is necessary to open the **Browser Bar** from the left navigation bar.



The window provides, in the left hand part, a structure representing the folder tree on the hard disk of the computer.

As a default setting, the sessions are downloaded from the devices into the “Documents\Get” folder of the Windows user in use, creating a folder with the name of the device from which the data is downloaded (**MD60LOG**) and a subfolder with the date in which these were created.

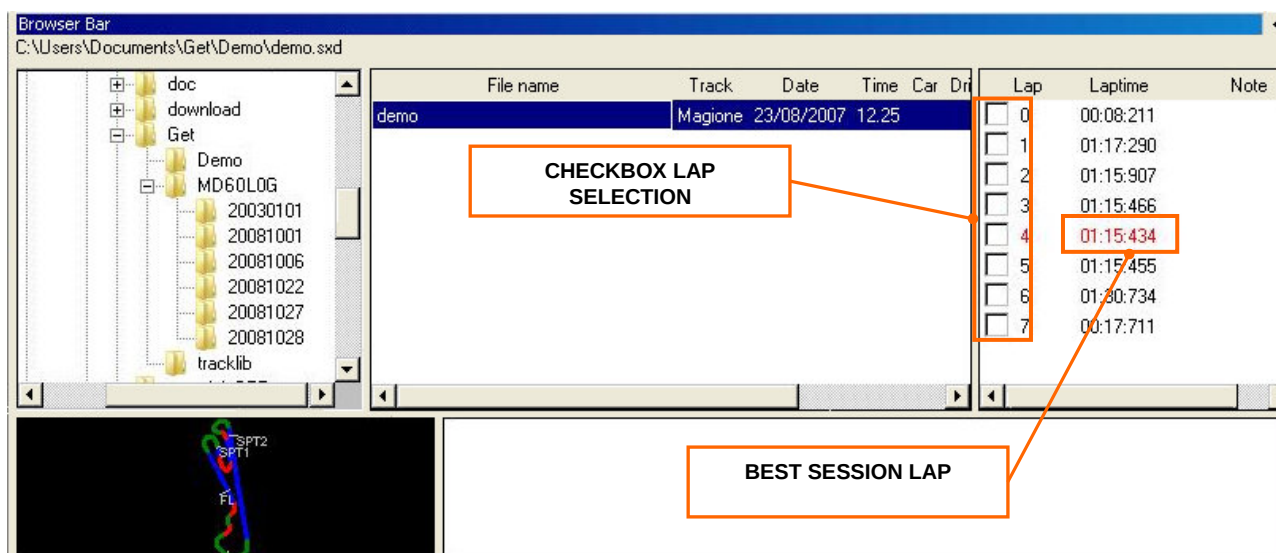
In the **Browser Bar** the main folder holding the different sessions (in the example given below it is GET) it is selected automatically, in such a manner as to speed up the selection operation.



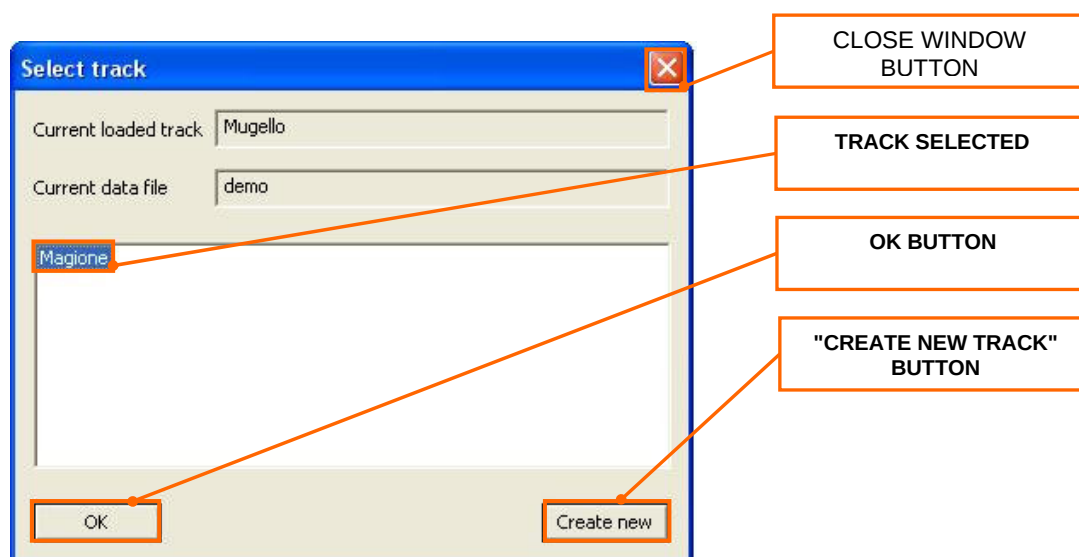
Once the folder is selected from the tree structure, in the control immediately on the right the sessions contained in it are listed.

Selecting a session, in the control immediately on the right the laps available are listed, while in the lower left part a preview of the track to which the session refers is displayed. In the list containing the available lap list there are the corresponding time and any notes present for each item the lap number. The fastest lap of the session selected is indicated in red.

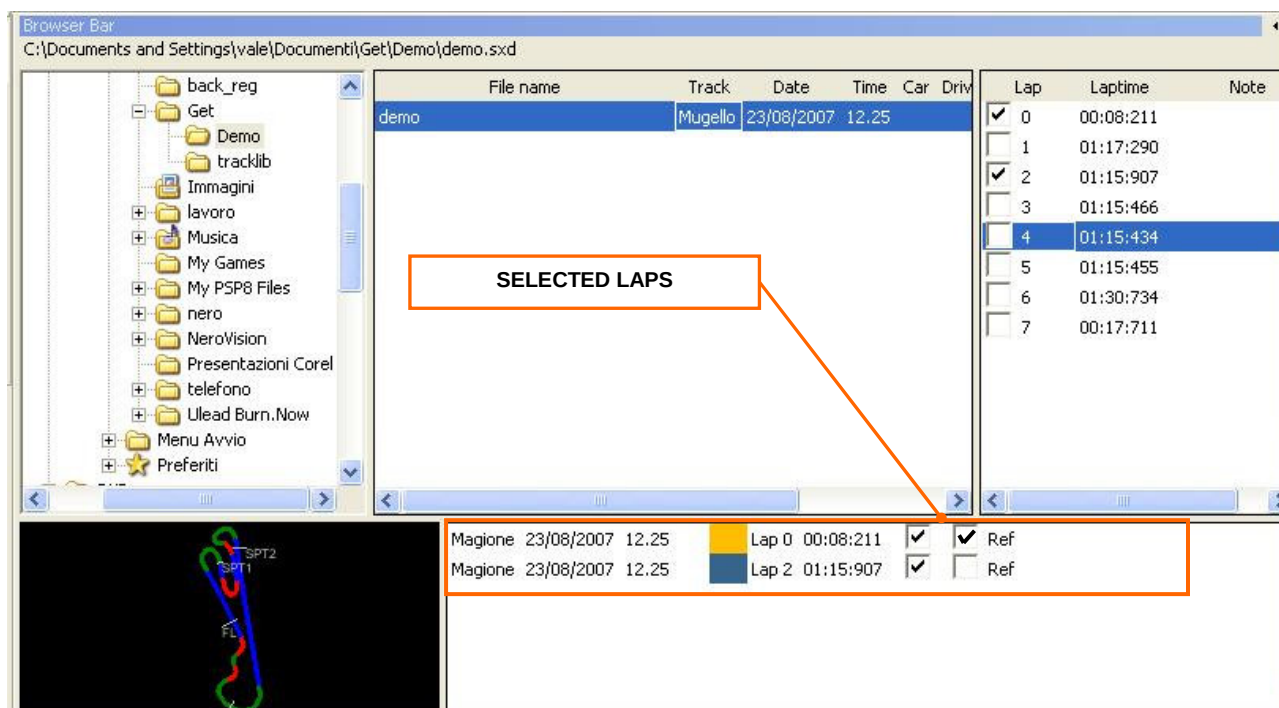
NOTE: only lap 0 will appear if a track has not been applied to the session to be analysed.



To visualise a lap in MX2 LITE it is necessary to click on the corresponding check box in the **Lap** column. The lap is added to the list present in the lower part of the browser bar. In the same manner, to eliminate a lap from MX2 LITE, it is necessary to click again on the same check box so as to eliminate the check sign. Once selected, a lap may appear in the track selection window: then the user is asked specify to which track the selected lap should be associated. Once the track to be used has been selected, it is enough to click on the OK button in the window. It is also possible to click on the button "Create New" in the window to make a new track (useful if the track is not present in the library). In case that one does not wish to apply or create a new track for the lap selected, the window can be closed simply by clicking the **Close window** button in the upper right corner.



The list containing all of the selected laps summarises, for each item, the information regarding the same lap and the corresponding session, so as to be able to quickly and precisely identify all of the laps to be identified.



Remember that the times on the lap are influenced by the position of the finish line applied to the session: in the case that one has official chronometric times and you wish to compare these properly with those provided by MX2 LITE, it is necessary select a track with a finish line as close as possible to that actually used by the track transponder.

The same consideration prevails, obviously, even during the use of the MD60LOG unit: the lap time visualised by the unit, in this case as well, depends upon the position of the finish line of the track used.

The check in the **Ref** check box indicates the reference lap for the data analysis: this property enables the display of the **Diff Time** and **Diff Distance** channels (see chap. 9.2)

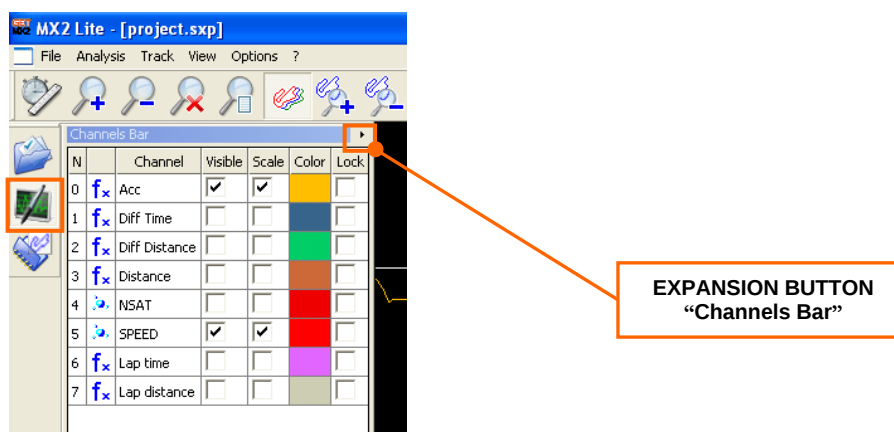
9.2 Channel Bar Button (Visualisation of the channels)

After having added the laps to analyse it is necessary to select the channels to be displayed in the analysis window.

To do this, it is necessary to open the channels window, clicking on the button corresponding to the left hand navigation bar.



In the first start up, the window is opened in a minimised form, therefore it is necessary to expand it clicking on the arrow located in the upper right edge of the same window.



Channels Bar												
N		Channel	Visible	Scale	Color	Lock	Down%	Up%	Auto	Min	Max	Hertz
0		Acc	☒	☒		☐	50	100	☒	0.00	0.00	1000
1		Diff Time	☐	☐		☐			☐	0.00	0.00	1000
2		Diff Distance	☐	☐		☐			☐	0	0	1000
3		Distance	☐	☐		☐			☐	0.0	19185.4	1000
4		NSAT	☐	☐		☐			☐	5	9	5
5		SPEED	☒	☒		☐	0	50	☒	0	211	100
6		Lap time	☐	☐		☐			☐	00:00:000	05:12:149	1000
7		Lap distance	☐	☐		☐			☐	0.0	2795.2	1000

The channels available for analysis are the following:

- **ACC:** Mathematical channel for the acceleration of the vehicle
- **Diff. Time:** Difference in time between the reference lap and any other lap loaded ¹
- **Diff. Distance:** Difference in distance between the reference lap and any other lap loaded ²
- **Distance:** Distance, in metres, driven during the session recorded
- **NSAT:** Number of GPS satellites received by the device during the session recorded
- **SPEED:** GPS speed measured during the session recorded
- **Lap Time:** Time of the lap selected
- **Lap Distance:** Distance, in metres, driven during the lap being analysed

For the listed channels certain functions or properties are available (described in the following paragraphs) ordered in columns.

- **Visible:** If selected visualises the corresponding channel graph
- **Scale:** Visualises the name and numbers of the channel scale on the Y-axis
- **Colour:** Modifies the colour of the channel graph
- **Lock:** Locks the graph display scale
- **Auto:** Activates the graph auto-scale function
- **Min/Max:** Indicate the minimum and maximum values achieved by the corresponding channel
- **Hertz:** Indicates the corresponding channel acquisition frequency

9.2.1 Visible Properties

Selecting or deselecting the **Visible** check box it is possible to show or hide the channel in the area of the graphics in the MX2 LITE software.

9.2.2 Scale Function

Selecting or deselecting the **Scale** check box it is possible to show or hide the name and the values of the scale of the channel on the Y-axis in the area of the graphics in the MX2 LITE software.

9.2.3 Colour Properties

Clicking on the **Colour** property check box in the desired channel it is possible to modify the colour of the graphs displayed by the MX2 LITE software.

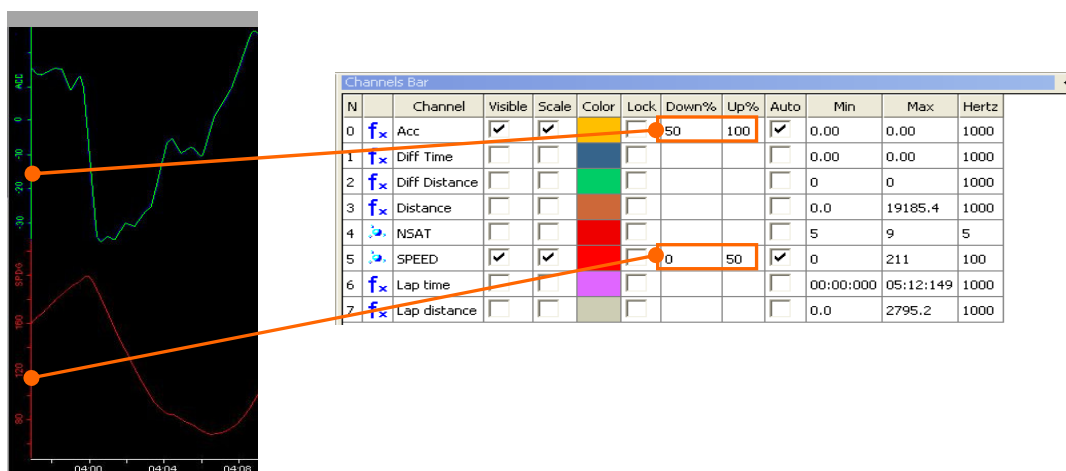
¹ This math channel must be used during data analysis only with X-axis set on Distance

² This math channel must be used during data analysis only with X-axis set on Time

9.2.4 Scale and Lock Functions

Selecting the **Auto** control check box, the software sees to automatically adjusting the vertical dimensions of the channel graph. As a default option, the auto-scale is activated automatically at the moment in which a channel is set to visible.

The **Lock** function is instead used to lock the size and position of the graph (Y-axis) on the values set in the **Down%** and **Up%** columns. These values are set only when the channel lock has not been set and specify the vertical limits (in percentiles) of the positions that the graph assumes inside of the analysis window. For example, with a lower limit of 0% (**Down%**) and an upper limit of 50% (**Up%**), the graph will be displayed in the lower half of the analysis window; while with a lower limit of 50% and an upper limit of 100%, the graph will be displayed in the upper half of the window. It is furthermore possible to display the graphs in the same area of the analysis window giving common values to the **Down%** and **Up%** columns; setting, for example, 0% on all of the **Down%** columns and 100% on all of the **Up%** columns of the channels: the graphs will then occupy all of the vertical space in the analysis window. Once the display limits have been set, it is important to perform the lock of the channel so that its position and size are not reset to the default values of the program.



9.2.5 Hertz Properties

This column indicates the channel acquisition frequencies expressed in Hertz (Hz): for the interpolated channels (ex. **Lap Time**) this is re-sampled at 100 Hz to improve its graphic resolution.

9.3 Track Library (Track Library Management Button)

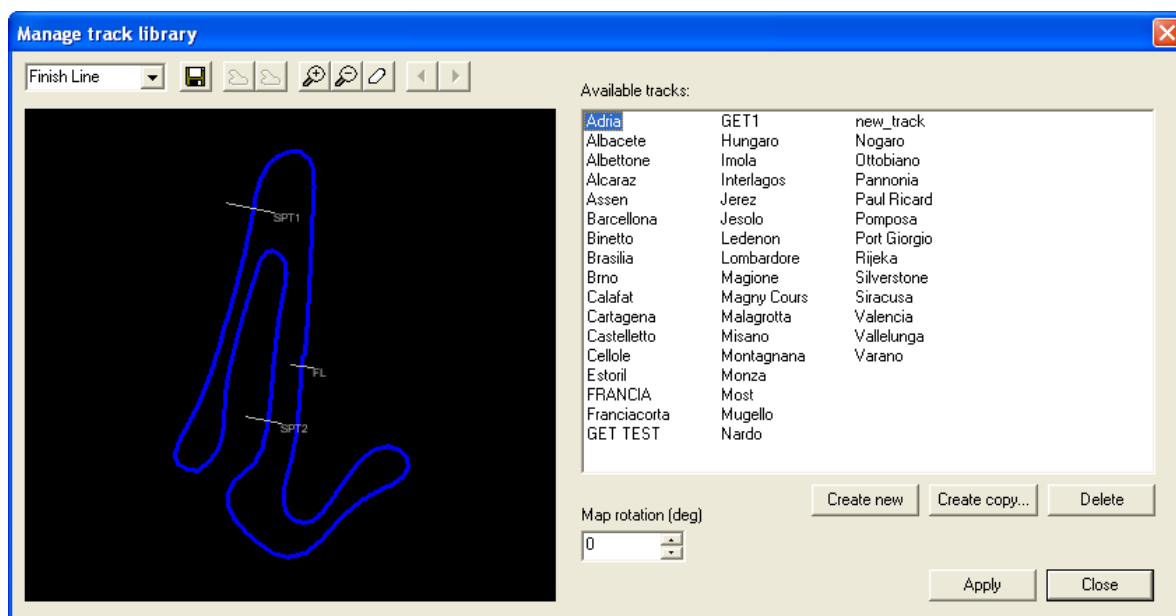
The track library contains the list of all of the tracks memorised inside of the PC. Accessing it the user may work with these TO set finish lines, intermediate time measurement points, divide the route in segments and select the track to apply to the session in use.

To display the Track Library Management window, click on the corresponding button in the navigation bar on the left.



The Track Library Management window shows on its left side a graphic representation of the track, with finish line and intermediate (split) points and segments (if set). See the following paragraphs for further information.

In the right hand side of the window there is instead the list of the tracks available and the buttons enabling the execution of some simple operations on these, such as copy, create or delete. These operations as well are discussed in greater detail below.



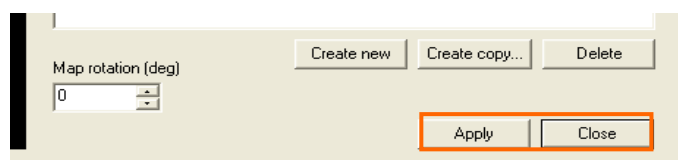
9.3.1 Track Selection

The selection of the track desired is made by clicking once with the left hand mouse button on the relative name (to be looked for in the **Tracks Present** list), which is selected so that the corresponding image will be automatically displayed in the left hand part of the window.

Once a track is selected, it is possible to work with it and save the changes, without necessarily having to apply it to the session in use.

9.3.2 Application of the track to the loaded session

After having loaded one or more laps, it may become necessary to change the default track, so as to be able to use, for example, a track with a different layout of the finish line and points in which the intermediate times are measured. To assign a new track to the session in use, it is necessary to select it from the tracks list, and then press the **Apply** button to apply the choice made. Once the window is closed with the **Close** button, all of the sessions open will use the new track.

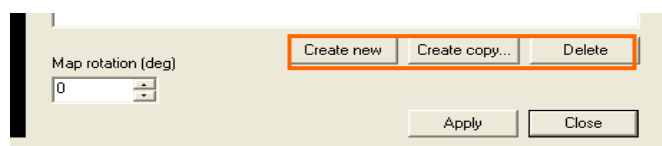


9.3.3 Create, delete and copy tracks

Through the track library, it is possible to perform certain operations on the listed tracks. In case you would like to change the track in use without losing the original settings, for example, a new version of the track may be made by pressing the **Create New** button. In this way, a new track with the name **new_track** is created in the **Tracks Present** list. This track will be a version without finish line, split points or segments of the track applied to the laps loaded in the MX2 LITE.

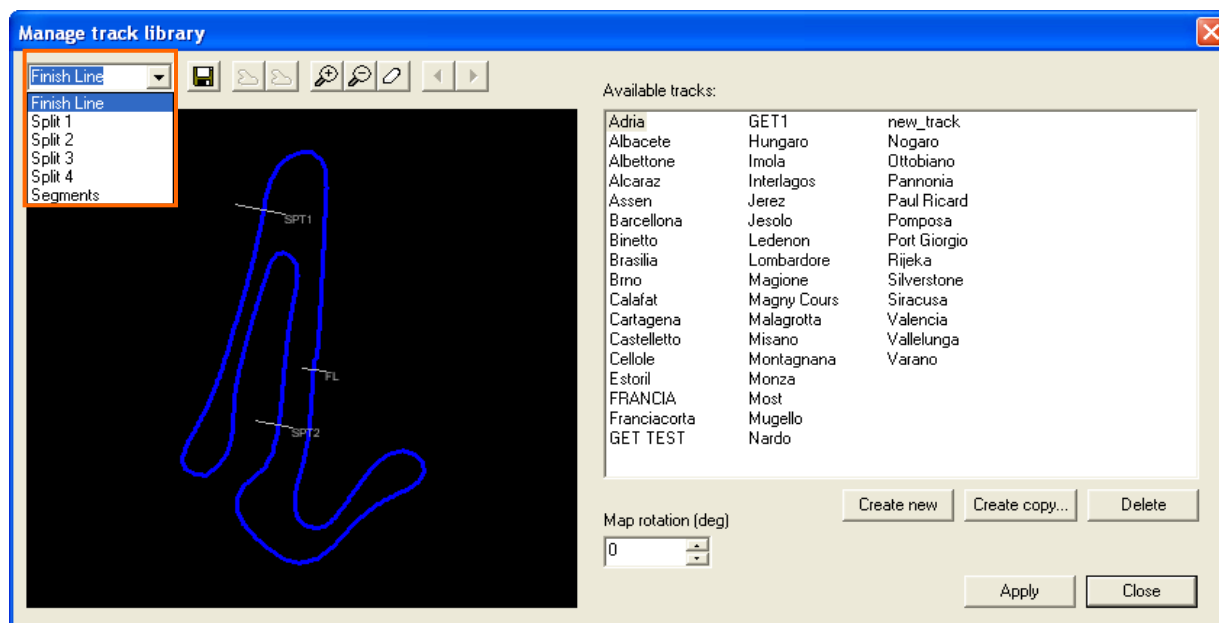
In case you would like to create a copy of an existent track instead, just select the and press the **Create Copy** button. You will be asked to specify a name for the track.

Finally, to delete a track, just select it and press the **Delete** button. The track will be deleted from the list and from the hard disk of the computer.



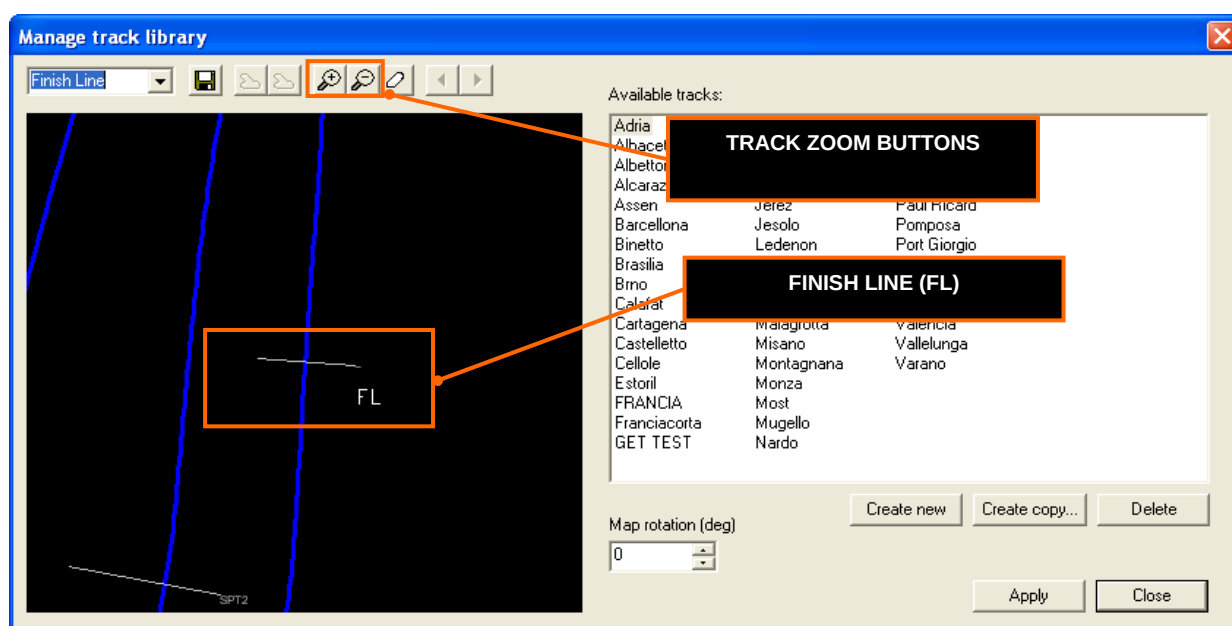
9.3.4 Setting the Finish Line

So that a session can be divided into laps, it is necessary that the track associated have a finish line defined. To set a finish line on a previously selected track, click on the first drop down menu in the upper part of the track library. It is possible to select which element to add or change in the graph display of the track underneath, in the drop down menu.

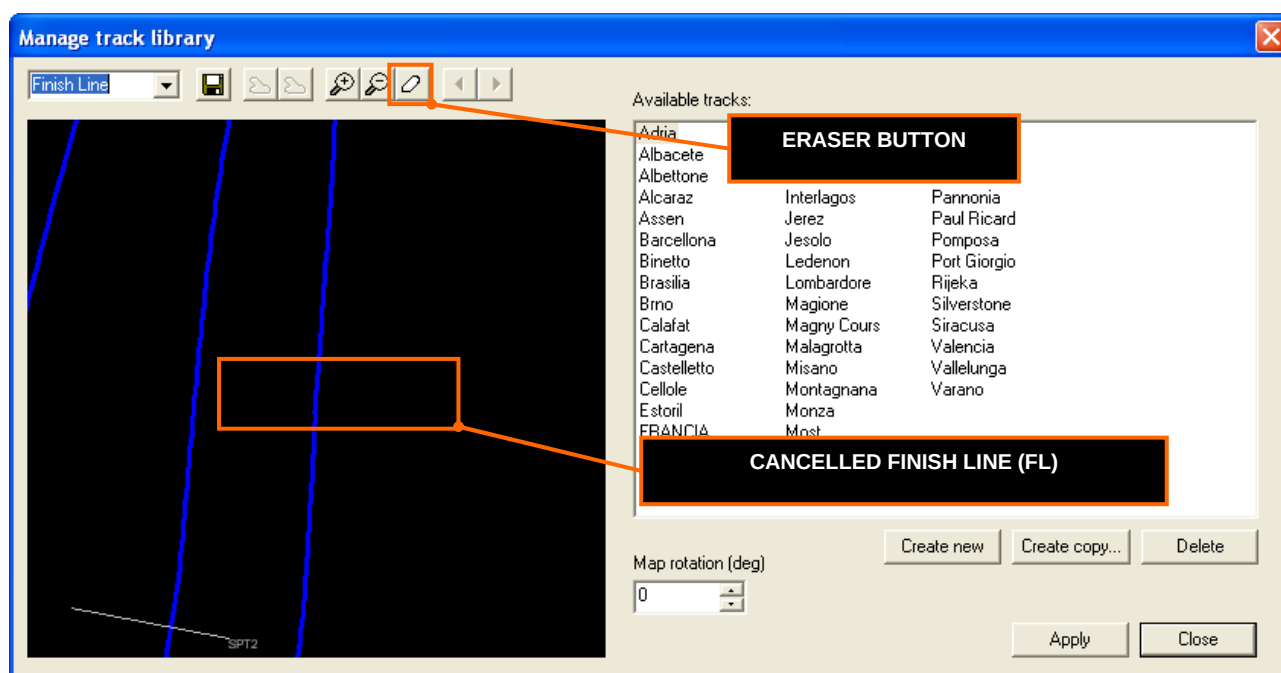


Once the item **Finish Line** has been selected (in the drop down menu in the upper left part of the screen), it is possible to define its corresponding position in the track (**FL**) clicking on the image of the track and dragging the mouse (holding down the left mouse button), realising a line with the dimensions desired. Releasing the mouse button, the finish line is permanently positioned. Make sure that the finish line intersects the track: otherwise the laps cannot be calculated. It is recommended that a line perpendicular to the direction of movement and with a suitable length be created. It should not be too short (otherwise there is the possibility that not all of the laps will be divided) nor too long (in which case the lap may be intersected in more than one point).

If the finish line has already been placed and one wishes to change its position slightly, instead, position the mouse pointer on the corresponding line and drag its end until achieving the position desired.



To eliminate a finish line, make sure that the item **Finish Line** is selected in the upper left drop down menu, then press the **Eraser** button.



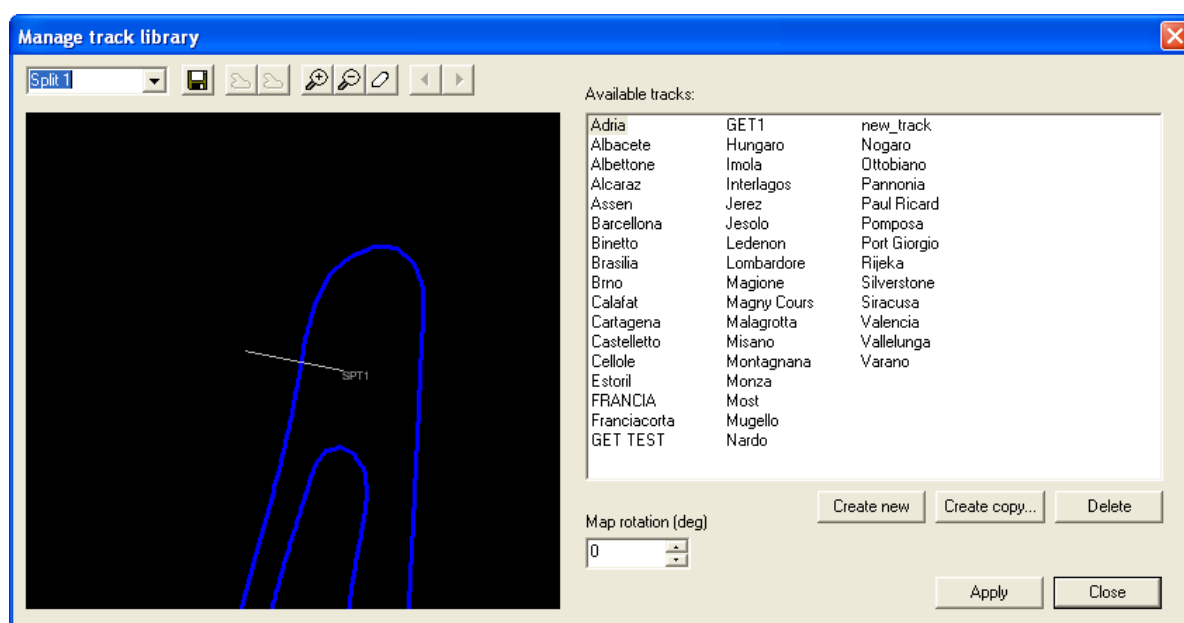
9.3.5 Split Points Setting

To place the lines where intermediate times are measured, select the item **Split** from 1 to 4 in the upper left drop down menu in the Track Library Management window, then proceed to entering the corresponding lines, just as in the previous paragraph.

To add split points it is necessary to respect the order from 1 to 4 following the travel direction on the track.

It is not necessary to add all of the split points.

Make sure that the split points entered intersect the track: otherwise the intermediate times cannot be calculated properly



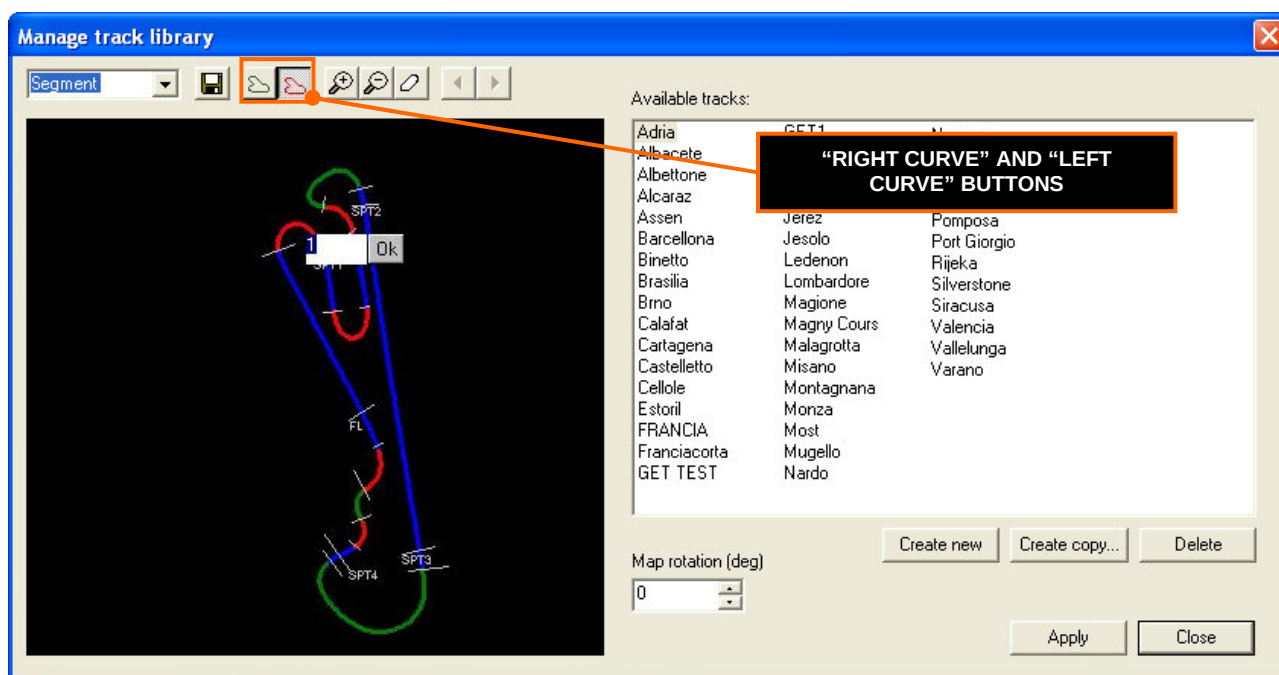
To eliminate a split point, select it in the menu high on the left, then press the **Eraser** button (as seen for erasing the **Finish Line**).

9.3.6 Segments Setting

The final control item in the previous selection, indicated as **Segments**, enables the definition of the sectors that will be visualised in the lower bar of the analysis window. These are used to divide the track into distinct parts, which may be visualised in the linear map of the MX2 LITE analysis window.

The positioning of the segments comes about in the same manner seen before for the finish line and the split points. For the segments, however, it is necessary to specify additional information such as a name and a type. After having entered all of the lines that delimit the segments, click on the **Left Curve** (usually red in colour) or **Right Curve** (usually green in colour)), then click on the corresponding portions of the track to assign the types.

NOTE: The left and right curves are conventionally defined as such based on the direction of travel on the track.



On the portion of the track clicked on the type/colour selected will be assigned, then a name will be requested to define the segment. As a default option, the segments are identified with a number the value of which is increased each time. However, it is also possible to specify a customised name (clicking on the left mouse button in correspondence with the text box with the number on the left of the OK button). Press OK to assign the name to the segment.



The portions of the track, which are not assigned a colour and which therefore remain blue, identify straightaways.

To eliminate a segment, click on one of the ends of the line that delimits it, and then take it outside of the track line so that it does not intersect it. The segment will be eliminated automatically.

To eliminate all of the segments in a track, make sure that the item **Segments** is selected in the left menu then press the Eraser button.

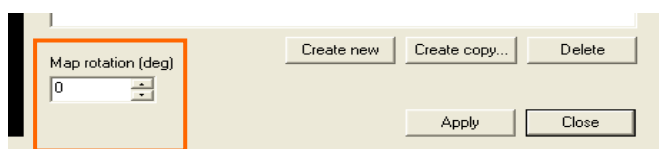
9.3.7 Rotation and zoom of the selected track

To insert a finish line and the split points in a precise manner, position them on the track, then use the **Zoom forward** button to enlarge the corresponding part of the track.



It is possible to correct the position of the line just entered having an enlargement of that part of the track on which you are working available. Use the **Zoom backward** button to return to the original size.

The track rotation function enables the application of a rotation of the selected track from 0 to 360 degrees to facilitate the work of insertion of the finish lines, split points and segments.



9.3.8 Lap Selection Buttons

The Arrow left and right buttons, found in the upper tool bar, enable one to select on which lap to work of the selection used (this is useful in the creation of a new track phase to execute the operations described above in the best track acquired).



There is therefore the possibility of creating a track directly from a recorded session: this option is available when the software is given the command to create a new track during the loading of a session, which turns out to not be divided into laps (see chapter relative to the use of the **Browser Bar**).

Once the finish line has been set (**FL**) the software divides the session in laps and enables its running using the buttons mentioned above.

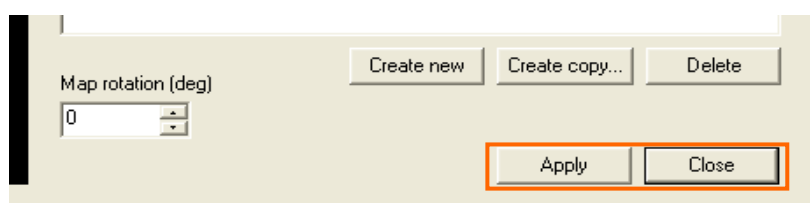
This option enables the track that is best adapted to the needs of the user to be visualised: it is possible, in fact, to carry out all of the operations for the definition of split points and segments working on finished laps and not on laps with entry and exit to and from the pits.

9.3.9 Track Saving

When the settings for a track are changed, for example, inserting segments or shifting the finish line, it is important to press the save button, so as to memorise the changes made.



The saving of the new track does not implicate that the new settings will be used in the session being used. To apply the changes to the sessions being used, actually, it is necessary to press the **Apply** button.



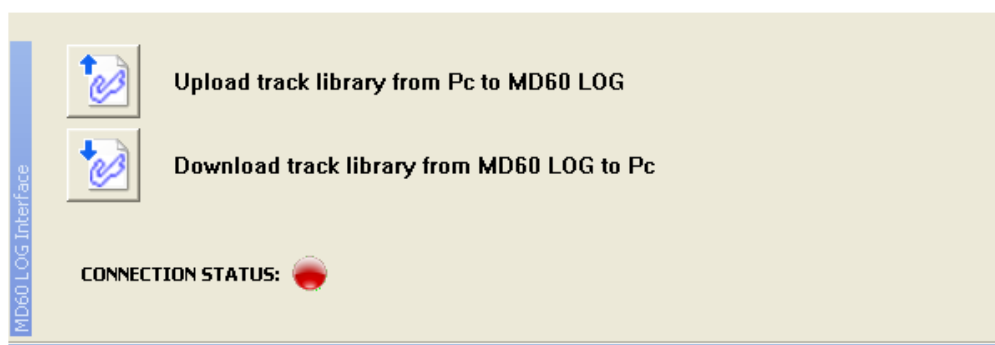
This double passage enables the change of more than one track selecting them each time from the list on the right, without having to, for this reason, change the track used by the sessions loaded in the MX2 LITE.

10 MX2 LITE: MD60LOG INTERFACE AREA

The area called **MD60LOG INTERFACE** enables one to:

- Download the tracks from the PC library to the **MD60LOG** unit (**Update Tracks**)
- Download the tracks from the MD60LOG unit library to the PC (**Download Tracks**)
- Monitor the connection status of the unit to the PC by way of the USB cable.

NOTE: If the unit is not properly connected to the PC, the synchronisation buttons for the tracks are disabled.



10.1.1 Indication of the USB connection status

To monitor the USB connection status from the unit to the PC, a special indicator has been set up in the lower area of the **MD60LOG INTERFACE**.

The states that this may take on are:

-  Indicates the status of the unit connected, the **Track Library Downloading from the PC to the MD60LOG** and the **Track Library Downloading from the MD60LOG to the PC** buttons are enabled.
-  Indicates the status of the unit not connected, the **Upload Track Library from the PC to MD60LOG** and the **Download Track Library from MD60LOG to PC** buttons are disabled.

10.1.2 Track Updating from PC to MD60LOG

If one wishes to transfer the entire track library from the PC to the **MD60LOG** unit, proceed as follows:

- Make sure that the **MD60LOG** is connected to the PC with the USB cable.
- Start up the **GATE LITE** software.
- Start up the **MX2 LITE** software.
- Verify that the device connection status warning light is green.
- Press the **Upload Track Library from PC to MD60LOG**  and stand by for the completion of the synchronisation operation.
- **At the end of the operations unplug the USB cable and restart the MD60LOG**

10.1.3 Track Downloading from MD60LOG

In case you have created one or more customised tracks (custom) with the **MD60LOG** unit, these will not be available inside of the PC library.

It is necessary, therefore, to perform the transfer with the **download tracks** command: this function makes the customised tracks available during the use of the MX2 LITE analysis software.

Proceed as follows:

- Make sure that the **MD60LOG** is connected to the PC with the USB cable.
- Start up the **GATE LITE** software.
- Start up the **MX2 LITE** software.
- Verify that the device connection status warning light is green.
- Press the **Download Track Library from MD60LOG to PC**  and stand by for the completion of the operations: if custom tracks are identified in the unit, the software will save these in the PC asking the user to enter its name.

NOTE: the tracks downloaded as indicated above do not provide the preview in the MX2 LITE track manager (Track Lib) until they are associated with a valid session recorded in that track: after this operation, the preview will be available permanently.

APPENDIX 1 QUICK GUIDE FOR USE OF THE MD60LOG WITH A PC

This appendix is to be used as a quick guide for use of the **MD60LOG** with a PC.
For further information, or to resolve any doubts, refer to what is found in the

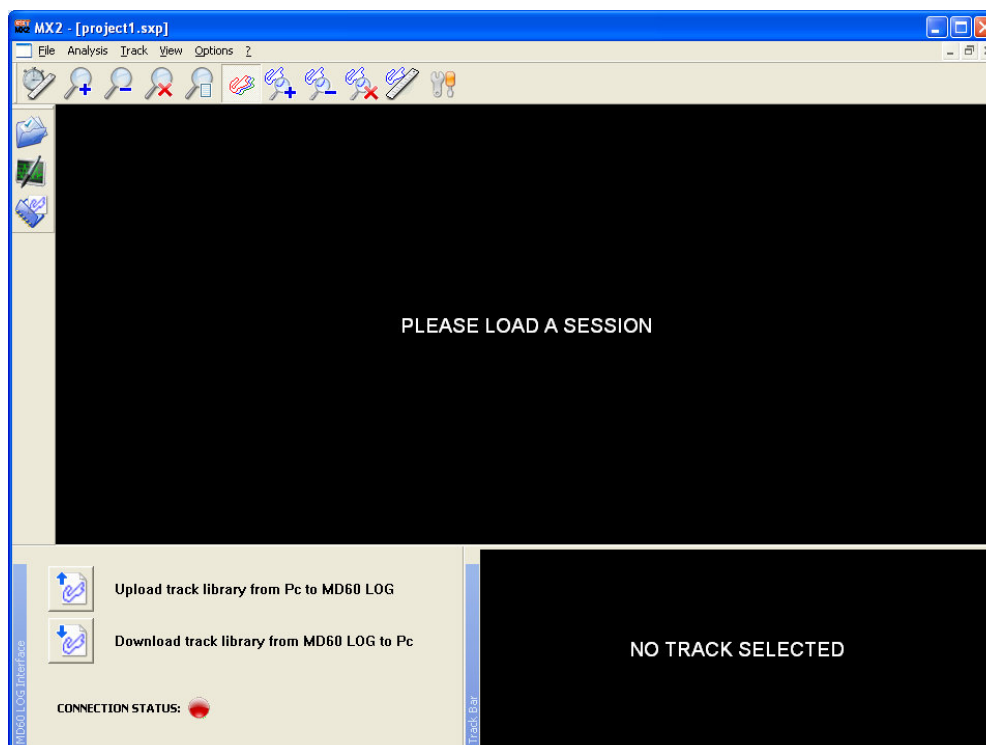
1 DOWNLOAD AND OPEN SESSIONS RECORDED IN DATA LOGGING

To access the analyses of the sessions realised in **DATA LOGGING** mode with the **MD60LOG** proceed as follows:

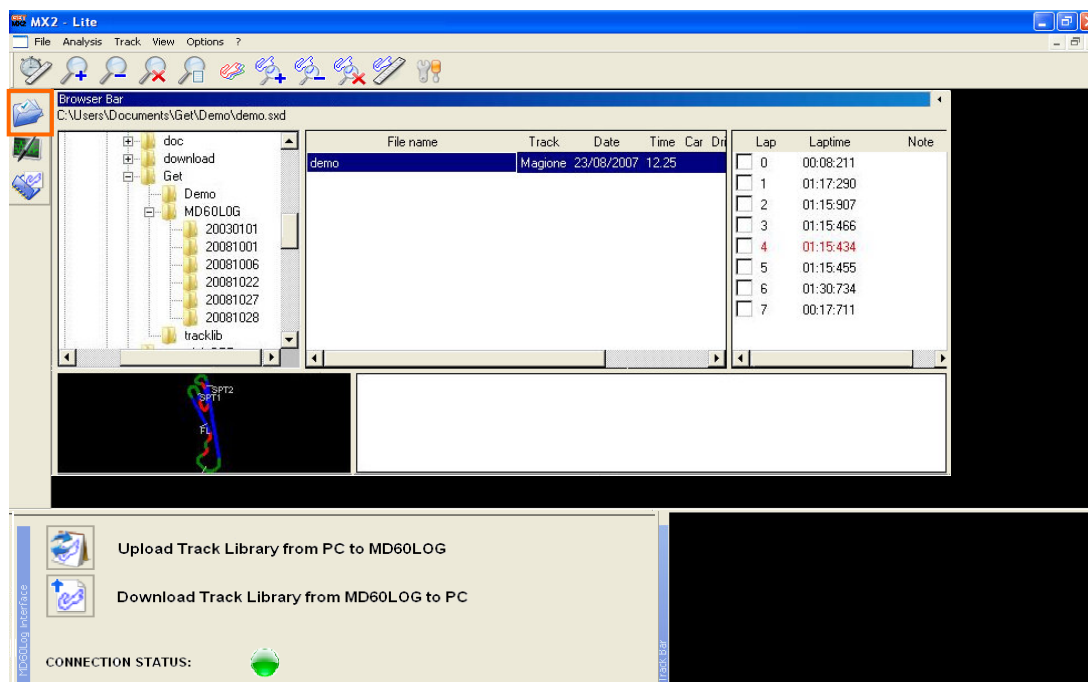
- Start up the **GATE LITE** software and stand by for the start up screen to appear:



- Verify that the **Connection Status** LED is green.
- Click on the **DOWNLOAD DATA LOGGING**  button and stand by for the end of the operation
- The session just downloaded will be saved in the PC: you can disconnect your MD60LOG now
- Click on the **MX2 LITE**  button and stand by for the visualisation of the following screen:



- Open the **Browser Bar**  and search for the session just downloaded in the folder tree.



The sessions downloaded from **MD60LOG** will be archived in the following path:

C:\Documents and Settings*User Name***\Documents\Get\MD60LOG***session date\name file.sxd*

Where:

User Name: stands for the name of the Windows user.

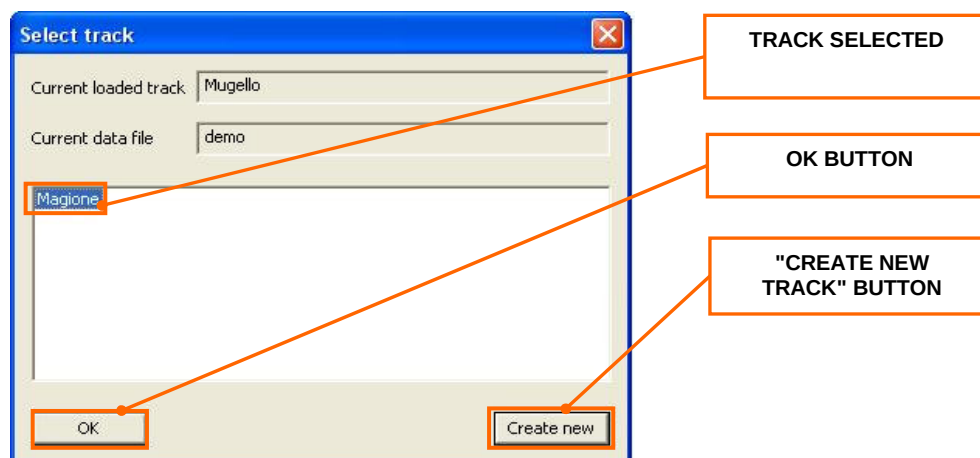
Session date: stands for the name of the folder in which the downloaded file is saved (equivalent to the session recording date) in numeric format **year month day**.

file name.sxd: is the name of the session file (with extension **.sxd**). The name of the file contains the date and time of the start of the session downloaded.

For example, if the session was recorded on March 15, 2010 at 10:30, it will be archived as:

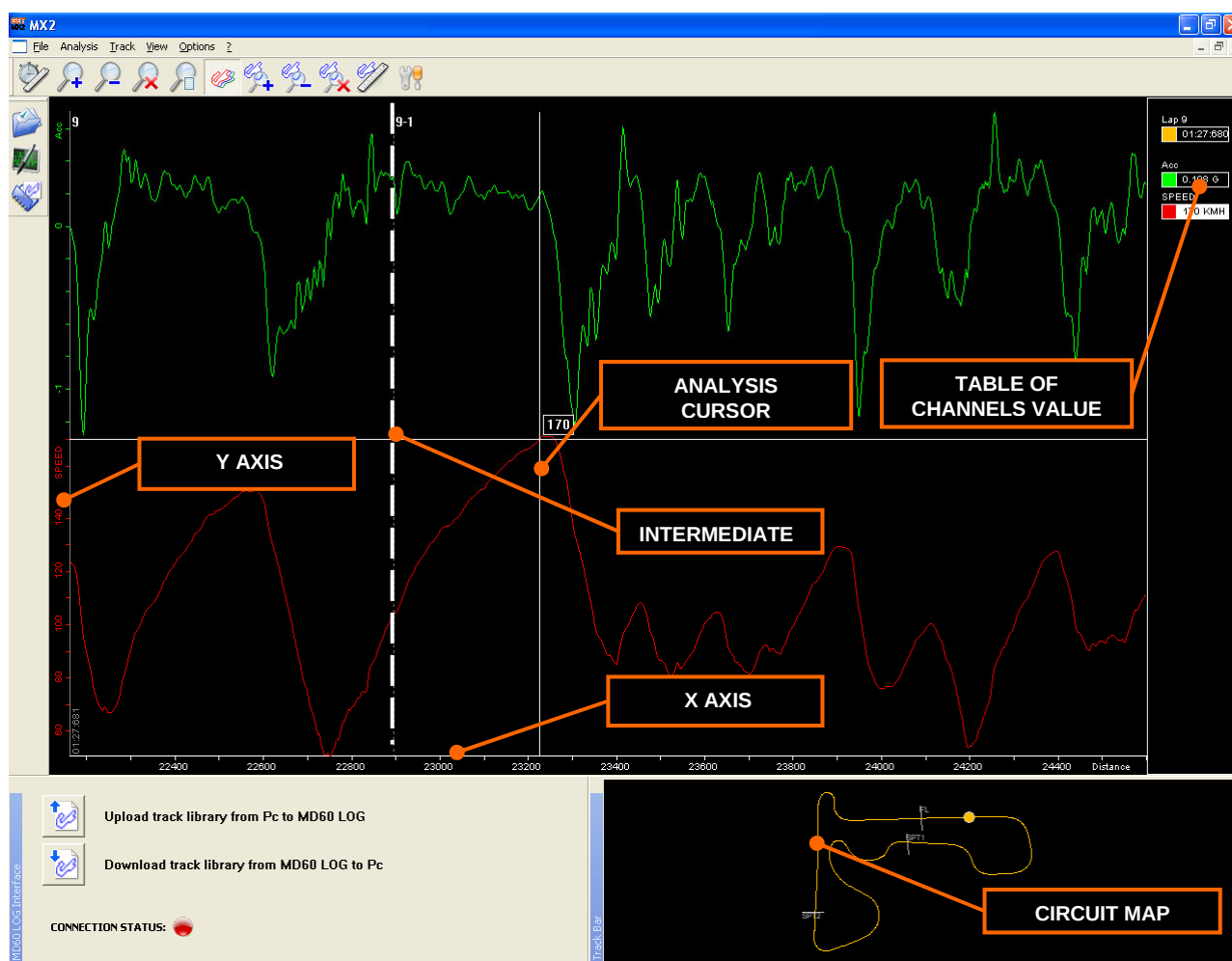
C:\Documents and Settings*User Name***\Documents\Get\MD60LOG***2010031515.03.2010 10.30.sxd*

- Select the session desired among those that appear under the **File name** column
- Apply the track (or create one) at the chosen lap by way of the track selection window, to obtain the division of the laps (if necessary):



NOTE: only lap 0 will appear as long as a track has not been applied to the session to be analysed. Once this operation has been executed the division of the laps will be undertaken: this division will be memorised and made available in later accesses to the same session. Remember that the times on the lap are influenced by the position of the finish line applied to the session: in the case that one has official chronometric times and you wish to compare these properly with those provided by MX2 LITE, it is necessary select a track with a finish line as close as possible to that actually used by the circuit transponder. The same consideration prevails, obviously, even during the use of the MD60LOG unit: the lap time visualised by the unit, in this case as well, depends upon the position of the finish line of the track used.

- The channels acquired are now available in the software MX2 LITE analysis area:

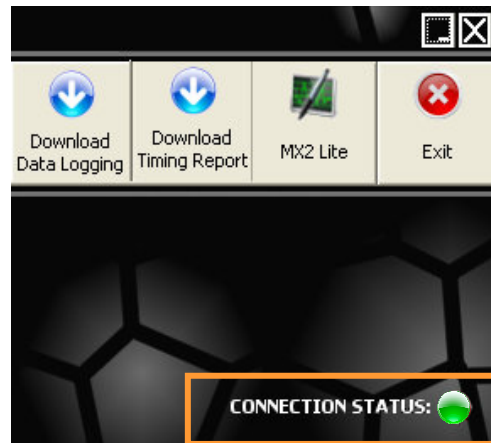


- It is possible to display or hide the acquired channels by opening the **Channel Bar** in MX2 LITE

2 DOWNLOADING AND OPENING REPORTS FROM THE MD60LOG

To perform the download of the reports saved inside of the **MD60LOG** to the PC proceed as follows:

- Make sure that the **MD60LOG** is turned on and connected to the PC with the USB cable.
- Start up the **GATE LITE** software.
- Make sure that the device connection status warning light is green.

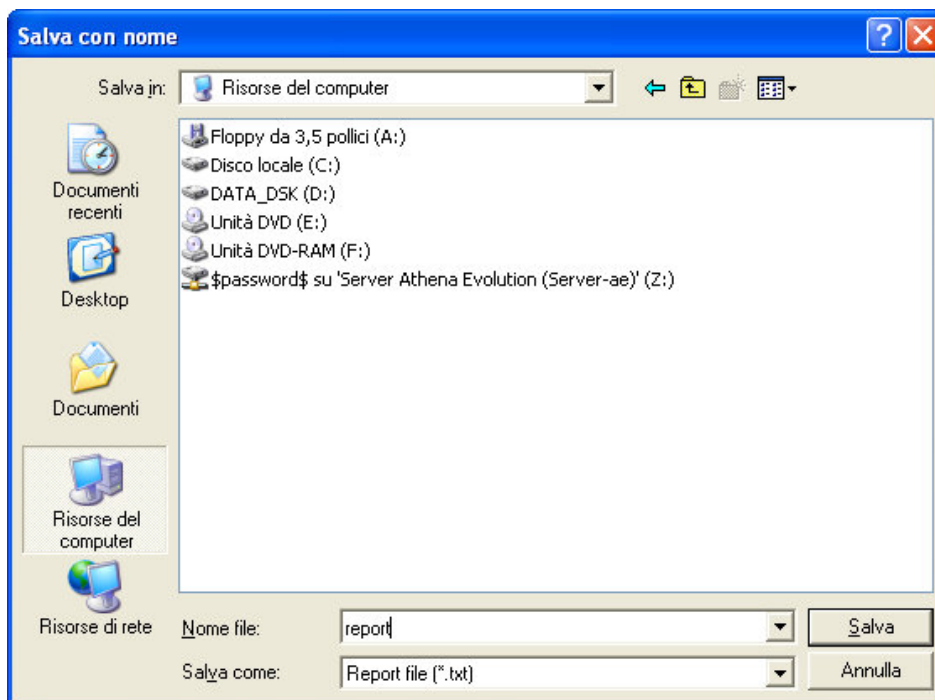


- Click on the **DOWNLOAD TIMING REPORT** button.



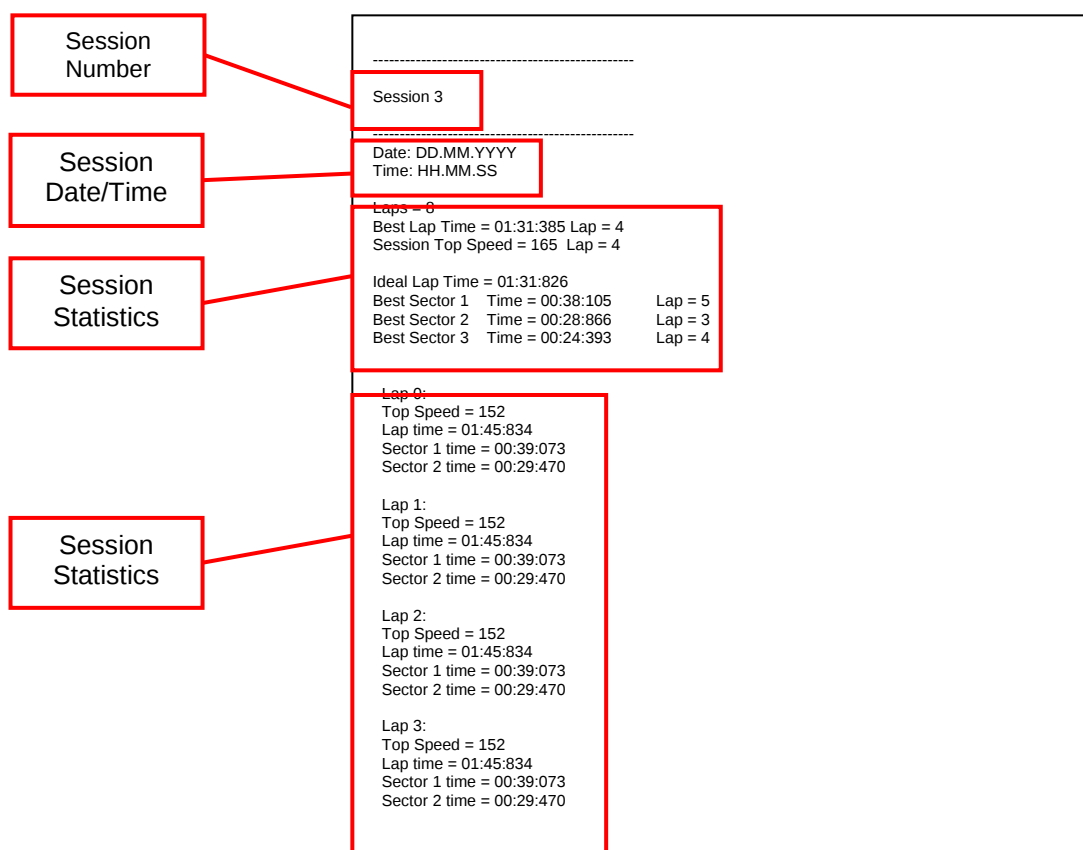
NOTE: the DOWNLOAD TIMING REPORT button is enabled only if the CONNECTION STATUS warning light is green

- Stand by until the report download process has finished: at the end of the operation the user will be asked to enter the name and path for where the file just downloaded is to be saved.



- The reports are downloaded in text format: for their consultation it is possible to use any text editor (such as **Notepad** or **Microsoft Word**).

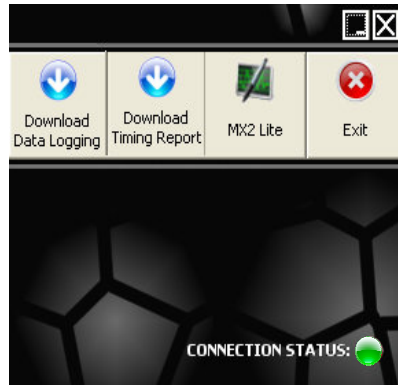
The figure below illustrates an example of a report provided by the instrument:



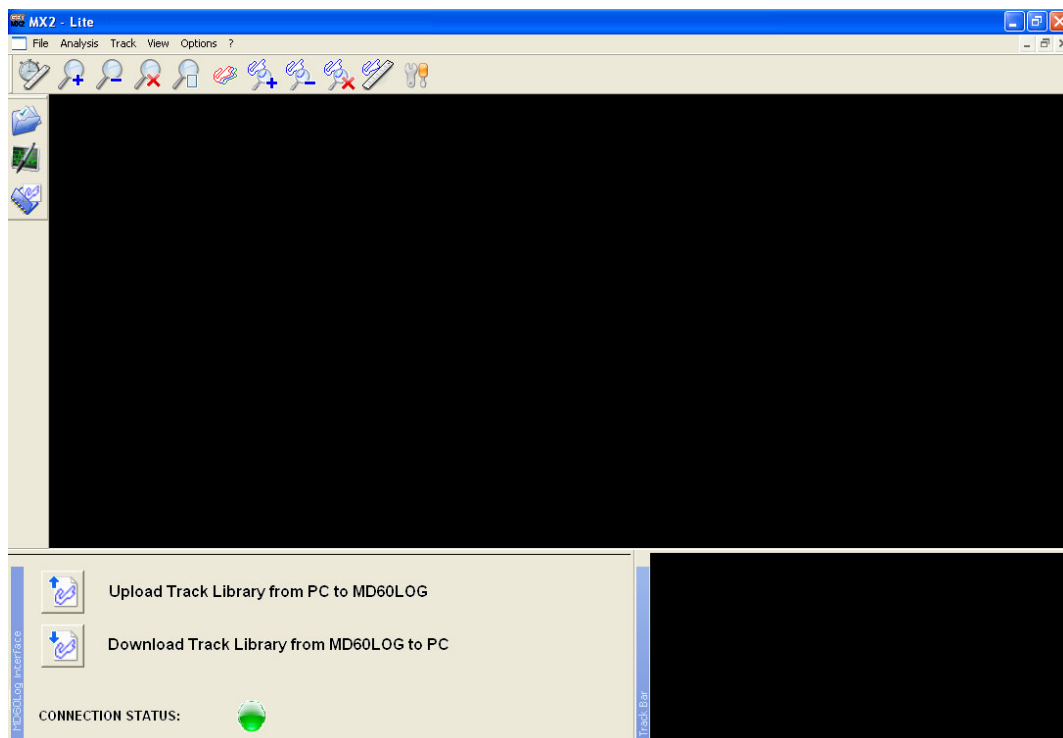
3 UPDATING THE TRACK LIBRARY

To carry out the updating of the Track Library, proceed as follows:

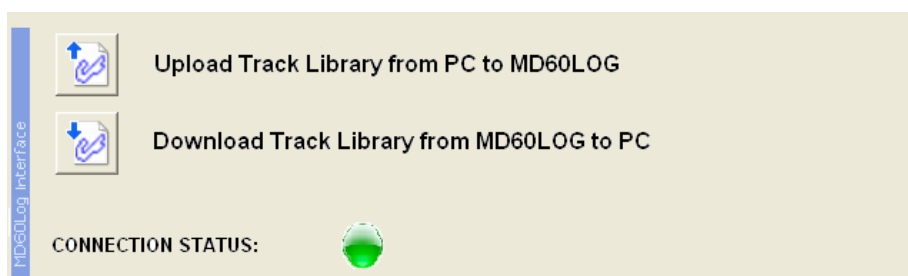
- Make sure that the **MD60LOG** is turned on and connected to the PC with the USB cable.
- Start up the **GATE LITE** software and stand by for the start up screen to appear:



- Click on the **MX2 LITE** button and stand by for the visualisation of the following screen:



- Verify that the device connection status warning light  is green.



- Press the **Download Track Library from PC to MD60LOG**  and stand by for the completion of the synchronisation operation if you want to transfer the track library from the PC to the **MD60LOG**
At the end of the operations unplug the USB cable and restart the MD60LOG.
- Press the **Download Track Library from PC to MD60LOG**  and stand by for the completion of the synchronisation operation if you want to transfer the track library from the PC to the **MD60LOG**
If custom tracks are identified in the unit, the software will save them in the PC, asking the user to enter its name.

NOTE: the tracks downloaded as indicated above do not provide the preview in the MX2 LITE track manager (Track Lib) until they are associated with a valid session recorded in that track: after this operation, the preview will be available permanently.

NOTE / NOTES:



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