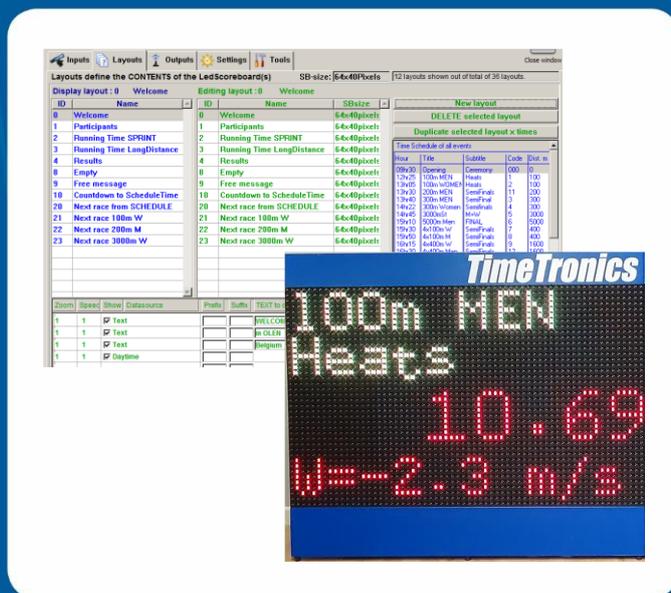


Manual LED Scoreboard Manager



2019v1

SPORT TIMING SYSTEMS



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Manual LED Scoreboard Manager

Welcome to the "LED Scoreboard Manager" user manual.

May we recommend you to gently browse through the entire manual first, just to have an initial idea of how the book is structured. As we can't possibly explain all details simultaneously, this might help you a bit in understanding and tracing things back. Of course, the table of contents will also help you in doing so.

Please note that all pictures are examples, the delivered version can be different than shown in this manual please inform yourself before purchase.

Also take note that this software is a work in progress. Not every option is fully developed yet. The LedSBmanager software is available for Windows operating systems only. We provide no working guarantee for running LedSBmanager using emulation tools like Wine.

If you, after reading this document, have any further question regarding the operation or service of this or any other TimeTronics equipment, please contact your local distributor or TimeTronics directly, by email: info@timetronics.be, or call us at +32 (0) 14 23 19 11.

Please also contact us if you have any remarks or advice regarding this user manual: info@timetronics.be

Good luck and thank you for your confidence in the TimeTronics products and services.

The editors

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1. PREFACE

1.1 What is the "LedSBmanager" software, and when will I need it?

If you have bought triple-color LedScoreboard(s) of TimeTronics, and you only want to show during the races the Running time, Split time(s), and unofficial finish time, you do not need the LedSBmanager, because such timing data can be sent DIRECTLY from MacFinish. This is because the TimeTronics Led-boards are compatible with the (well-known but old) MacFinish scoreboard protocol "IE 1.0.1". And each Led-board is factory-programmed to display such "Running or split or finish time" on a fixed defined setting; like position, size, font and color of this timing text.



You can choose in MF to update the timing display 1/sec or 10/sec! And if you ever would like to change the fixed programmed color (red/green/yellow) of this time-display on your led-board, you could do this by using the LedSBmanager software. And this software is (currently) free of charge!

But the LedSBmanager can do much more, at least if your Led-board is big enough to show more than this timing information only! The LedSBmanager can receive over the ethernet computer network all live timing information of a selected MacFinish camera, and the operator has control over USER-PROGRAMMABLE layouts to display TEXT-messages, TIMING-data, PARTICIPANT-lists, RESULT-lists, INFORMATION of NEXT-race, etc.



So this LedSBmanager software can be used as an extra software running on the MacFinish computer, or on any other (WIN) PC in your computer network. *Please make sure that you have a serial connection (COM-port, or wireless connection) between your "LedSBmanager PC and the Led-boards!*

1.2 Introduction

Scoreboards are evolving. A decade ago, most still consisted of combinations of simple 7-segment **NUMERICAL** displays. Now LED **matrix** displays are the de facto standard, preferably

in MULTIPLE COLORS. TimeTronics offers a variety of boards differentiating in sizes, colors and capabilities. When used for RACES (name of race, time of day, racetime, etc) these Led-boards are controlled by the LedSBmanager application. This manual offers a guide through the different menu's and user interface of the software.

We will continuously use the word "datasource". A datasource in this LedSBmanager program is one of many types of "data fields" which can be integrated in each layout, to form a total display on your Led-boards. An example of a simple and fixed datasource is a "Text" type, for which you can enter a fixed text, like "Welcome" or the name of your meet or city. An example of a variable information can be a "Daytime" datasource field, which will show the Time-of-day of your PC. A last example of a variable datafield can be a "RaceTime" datasource which comes from a MacFinish photofinish, or a "ScheduleTitle" which comes from a user-selection in the TimeSchedule window.

Warning: MacFinish photofinish data is used for several datasources. To properly use the functions described, the TimeTronics MacFinish software version 7.7.2.17 (for MacFinish ethernet cameras) or MacFinish software version 8.0.0.50 (for MacFinish USB cameras) or later version is required.

Warning: The RaceTime datasource update speed **of 10 Hz (=10x/sec)** is only for TimeTronics Led scoreboards with firmware version 3.21 or higher, and to use this speed, the settings (FONT,COLOR, POSITION etc) of this RaceTime datasource have to be "Programmed" by this software in advance in each Led-board. Please read chapter 4.2.7 for this programming!

2. Setup

2.1 Install location

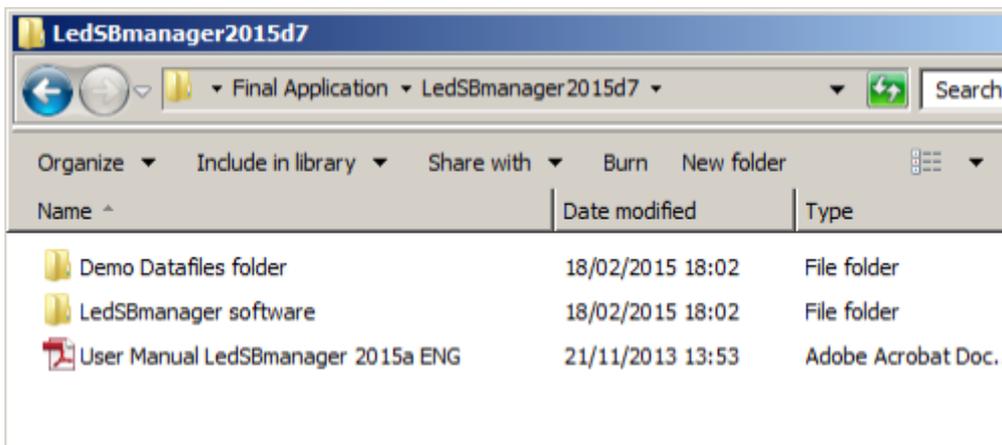
You will first have to “unpack” (Unzip) the downloaded software, and place it somewhere on your PC harddisk. The LedSBmanager application is “portable”, which means it can be unpacked from its archive file, and then placed on your harddisk **wherever** the user desires, assuming that the operator has read&WRITE access to the harddisk location that is chosen.

The recommended location though, is in the system's “Program Files” directory, under “TimeTronics”, e.g. “C:/Program Files/TimeTronics/LedSBmanager2015/”. To place the folder in the Program Files directory, you might need elevated (administrator) privileges on your current host system. In that case, either install the application to your home folder (e.g. “C:/Users/JohnDoe/LedSBmanager 2015/”), or contact your organisations IT administrator.

2.2 Directory contents

In the folder you have just installed, two subdirectories are available, one called “Demo Datafiles folder” and one called “LedSBmanager software”. The first folder initially contains a demonstration (4D-database) **datafile** that you can use to start using your LEDscoreboard. Step by step you will/can (but do not have to) make changes to the default settings of the software, to personalise the usage of the software. The second folder contains the actual LedSBmanager software used to control the LED boards.

In this way, it is possible to back-up your personalized LedSBmanager settings and layouts by simply copying the folder “Demo Datafiles folder” to a secure directory.



NOTES for later: If you ever want to BACKUP or DUPLICATE your current (LedSBmanager database) datafile, copy ALL 3 files which have the name of your current datafile (in the example

below = "datafile LedSBman ALLsizes"), so copy and keep together the files "xxx.4dd" + "xxx.4DINDX file" + "xxx.MATCH File". You can rename these files to any other chosen name, as long as you rename all 3 files with same new name. If you want to USE a (renamed) other datafile, press IMMEDIATELY the "Alt" key on your keyboard AFTER you started up the LedSBmanager program. You will then see a window to select another datafile.

Name ^	Date modified	Type	Size
temporary files	19/02/2015 1:26	File folder	
datafile LedSBman ALLsizes.4DD	19/02/2015 2:02	4DD File	385 KB
datafile LedSBman ALLsizes.4DIndx	19/02/2015 0:17	4DINDX File	193 KB
datafile LedSBman ALLsizes.Match	19/02/2015 0:17	MATCH File	1 KB
DatasourceDefinitions 20150206	6/02/2015 14:43	Text Document	4 KB
DEMO schedule for IMPORT	6/02/2015 14:26	Text Document	1 KB

2.3 Running the application

The LedSBmanager executable file (application) is found in the sub-folder "LedSBmanager software" and is called "LedSBmanager.exe".

KernelIPC.dll	27/08/2011 3:06	Application extension	180 KB
LedSBmanager	12/02/2015 18:51	Application	17,010 KB
LedSBmanager.rsr	22/04/2011 9:35	RSR File	4,878 KB
libeay32.dll	14/09/2011 11:48	Application extension	993 KB

For easy access in the future, you could add a shortcut to your desktop by right-clicking the executable, choose "Send To" and selecting "Desktop (create shortcut)".

Kernel.dll	27/08/2011 3:06	Application extension	1,122 KB
KernelIPC.dll	27/08/2011 3:06	Application extension	180 KB
LedSBmanager	12/02/2015 18:51	Application	17,010 KB
LedSBmanager.rsr	22/04/2011 9:35	RSR File	4,878 KB
libeay32.dll	14/09/2011 11:48	Application extension	993 KB
Microsoft.Windows.Common-Infrastructure	29/06/2011 9:25	MANIFEST File	2 KB
Monitors	13/09/2011 1:25	Application extension	120 KB
msvcmm	15/06/2011 22:09	Application extension	220 KB
msvcpr	15/06/2011 22:09	Application extension	557 KB
msvcr9	15/06/2011 22:09	Application extension	638 KB
Server		Application extension	219 KB
SQLCo		Application extension	110 KB
SQLSe		Application extension	947 KB
ssleav		Application extension	196 KB

2.4 Connection setup

Start the LedSBmanager application (see 2.3 Running the Application). If you set-up the cables correctly, you are greeted by a message similar to “The serial port nr:3 is now opened for SB-communication.” If this is not the case, re-check your cabling or serial port selection setup (see later in this manual in chapter 4.3). Click OK to continue.

The board should now display the first LED layout it has found (“Welcome”, ID 0 by default).

If everything checks out okay, we can now begin to start using the LedSBmanager application.

3. Operation

3.1 Basic principle

LedSBmanager uses a defined set of rules called "layouts". By utilizing these layouts, LED board operators can display different groups of information at different stages in the event.

For example:

- **Welcome message + current time**
- **Name and scheduled time of next race or other event (like "Opening Ceremony")**
- **Listing of participants (In "Slide-Show" mode = one athlete at a time)**
- **Race timing information (like RaceName, Live Racetime, Time of first finisher, Windspeed, etc)**
- **Listing of race results (In "Slide-Show" mode = one athlete at a time)**

Manipulating these layouts (designing, using and modifying them whenever you want) is what LedSBmanager is designed for.



3.2 Intro screen

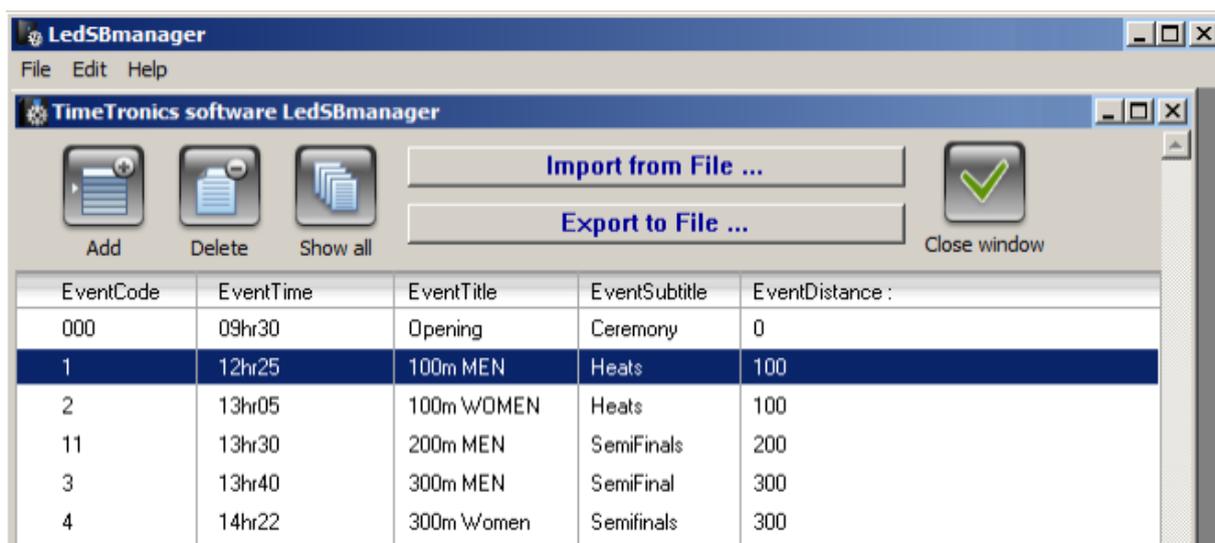
When you start LedSBmanager you will see a window like shown above, with a photo of a real (400m) race. The starter is visible, but also a LEDscoreboard used for timing, and a possible layout to show the name of the race and the live Racetime.

Using the "File" menu (see picture above), different parts of the program can be accessed. The majority of operation will be in the "Show CONTROL WINDOW" item and is further explained in chapter 4. CONTROL WINDOW. We will now first explain the other menu-items which occasionally can be useful, but definitely will be less used and less important.

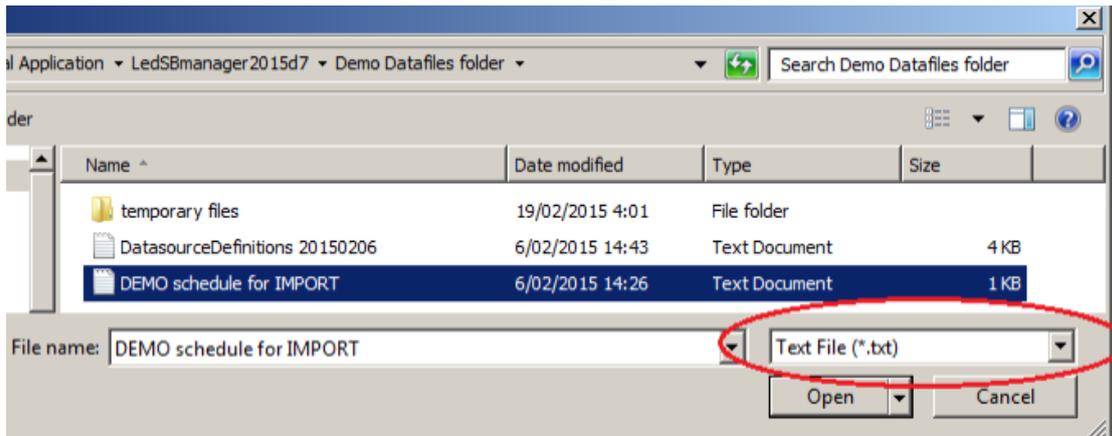
IMPORTANT NOTE: When switching between menu-items, first close the current window (so that you again see the photo like above), then select a different menu-item.

3.3 File menu: "Show time schedule"

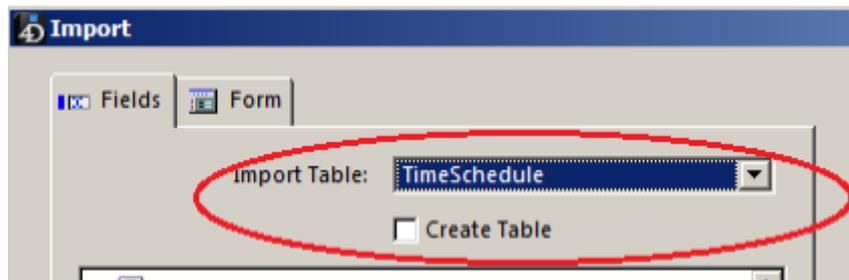
This menu selection will show a window with your current list of events and time schedule. You can MODIFY this list, using the "Add" and "Delete" button, and you can EDIT a specific item by "double-clicking" that item. You can also "IMPORT" such list with the Button "Import from File..." from a simple ".TXT" type of file, which you can create with (preferably) a spreadsheet program, like "Microsoft Excel" or "OpenOffice or LibreOffice Calc". You can find an EXAMPLE of such .txt file (named "DEMO schedule for IMPORT") in the folder "Demo Datafiles folder". Use the button "Close window" if you are ready with this schedule list, and want to close the window.



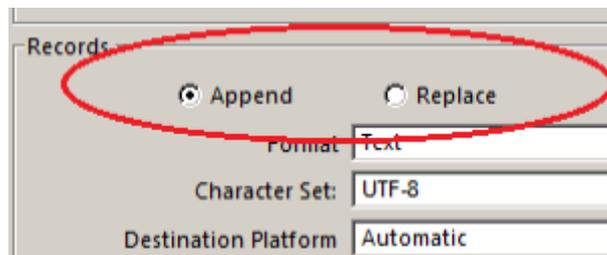
When importing a new "Time Schedule" .txt file, do not forget to display all ".TXT" type of files (see bottom right of picture below).



In the next screen, do not forget to select the TABLE for import as "TimeSchedule". See picture below:



Furthermore you can choose to Append (= ADD to existing TimeSchedule data in the LedSBmanager), or Replace the existing TimeSchedule with the new imported datafile.



You will then see a window with the data from your .txt type of importfile. If everything looks ok, press the "Import" button (bottom right of import window)

EventCode	EventTitle	EventSu...	EventTime	EventDis...
000	Opening	Ceremony	09hr30	0
1	100m MEN	Heats	12hr25	100
2	100m WOMEN	Heats	13hr05	100
11	200m MEN	SemiFinals	13hr30	200
3	300m MEN	SemiFinal	13hr40	300
4	300m Women	Semifinals	14hr22	300
5	3000mSt	M+W	14hr45	3000
6	5000m Men	FINAL	15hr10	5000

3.4 File menu: “Show types of datasources”

This window shows you which possible DATASOURCES can be used to fill a layout of the LED display boards. It is useful to study these different types, and their meaning, to get a good idea what can be shown. Editing this list is NOT possible, to make sure that the coding of these items can not (accidentally) be changed, which would prevent a correct functionality of the software. You can notice different **groups** of datasources, like the one that start with:

- “Race...”= Live race-data; TIMING from the selected MacFinish photofinish, automatically transmitted.
- “ParticResult...”= Live race-data; PARTICIPANTS or RESULTS which are manually sent from any MF photofinish.
- “Schedule...”= Live SCHEDULE-data from the selected event in the schedule list.

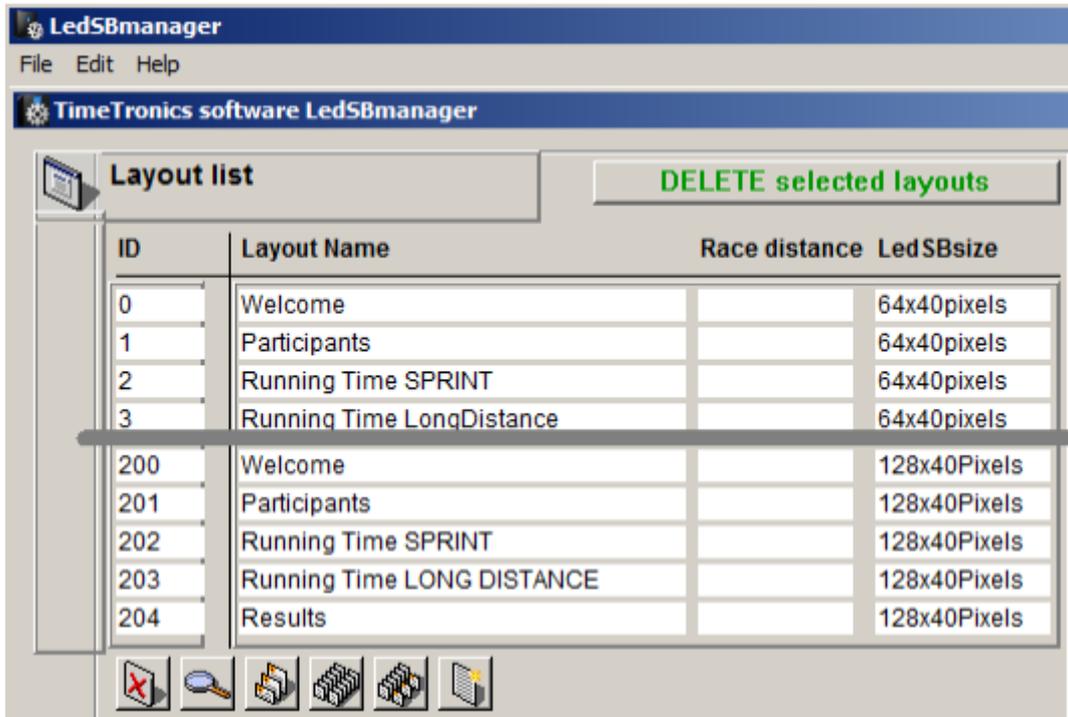
Number	Name :	Prefix (default)	Suffix (default)	Description :
1	Picture			A bitmap picture to show on the LED-pane
2	Text			A (ascii) TEXT to show on the LED-pane
3	Date			The current DATE of the PC on which the
4	Daytime	Hr=		The current TIME of the PC on which the
5	RaceEventName			The NAME of the current race (NOT YEAR)
6	RaceTime			The LIVE time of the current race (keep:)
7	RaceWindSp	W=	m/s	The WINDSPEED result of the current r
8	RaceWindType			The type of WindSpeed measurement (p
9	RaceSplitTime			The SPLIT time of the current race, afte
10	RaceSplitDistance		m	At which distance is that split time taken
11	RaceSplitSpeed		Km/Hr	What is the average running speed on th
12	RaceLapTime			The LAP time of the current race = perio
13	RaceLapDistance		m	At which distance from start is that LAP I
14	RaceLapSpeed		Km/Hr	What is the average running speed for th
15	RaceFinishTimeFirst			What is the unofficial time of the FIRST

3.5 File menu: “Show list of layouts”

This window shows you which LAYOUTS currently are available in the datafile. You will notice that we have created 3 “groups” of display board sizes, with 64x24, 64x40, 128x40 pixels, respectively for a small (max 3 lines) LED board, a larger (max 5 lines) LED board, and 2pcs of the larger (max 5 lines) ledboards (horizontally next to each other).

We have made our own preferred layouts with settings for these different sizes of boards, but you will understand that it is possible for you to make modifications, or your own layout(s) with your preferred settings. Use the bottom-right icon to create a totally **new layout**.

In this window you can only EDIT the name, ID and size of each layout, after double clicking on a layout. If you want to delete (one or more) layout(s), you can select them (click and shift-click with mouse to select a range) and use the button with the green text "DELETE selected layouts". No warning is given after clicking this button!



4. Control window

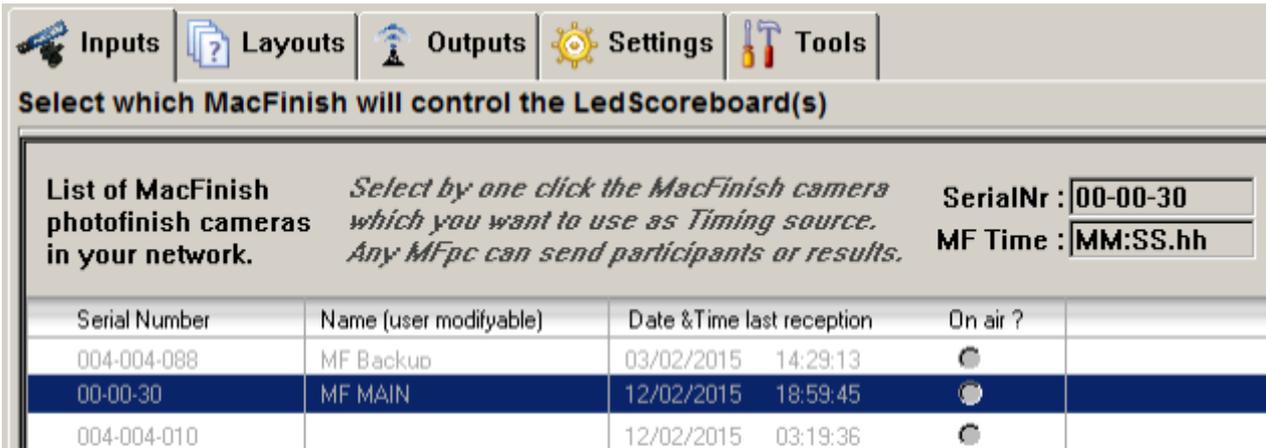
When opening the main CONTROL WINDOW (see ch. 3.2; using the File menu "Show CONTROL WINDOW"), you will notice 5 different TAB buttons on top of the window. We will explain these TABs one by one, and their respective functionality.



4.1 Inputs tab

This leftmost tab-control allows you to **CHOOSE** which MacFinish photofinish camera from your network will be the ACTIVE camera to send the LIVE RACE TIMING to the LedSBmanager, and therefore also to the Led-boards. Just make sure that you click on the camera that you want to use from that moment on. In the example below the camera with serial number "00-00-30" is activated (blue row), this is also visible in the header of the window where you see the serial nr and the live racetime of that MF. If you click (for about 2 seconds) on the "Name" column, you can change the name of a particular MF-camera to your preferred name. You can delete a MF record from this list (select one and use button "Delete"), but the great thing of this software is that you do NOT have to CREATE this list with YOUR camera(s) yourself, this is fully AUTOMATIC ! Continuously the software will "listen" over the entire network (within IP-range) to connected MacFinish cameras, and update this list with new camera(s). Of course the MF7.x or MF8.x will have to be running, because it is not the camera itself, but the controlling MF-software which will communicate with the LedSBmanager. Notice in the rightmost column "On air?" that you can continuously see there WHICH MF is "On air" = active in the network. When it is active you will see a (small) dot inside the radio button, and that whole row will be shown in normal color (black) instead of the grey color used for inactive camera(s).

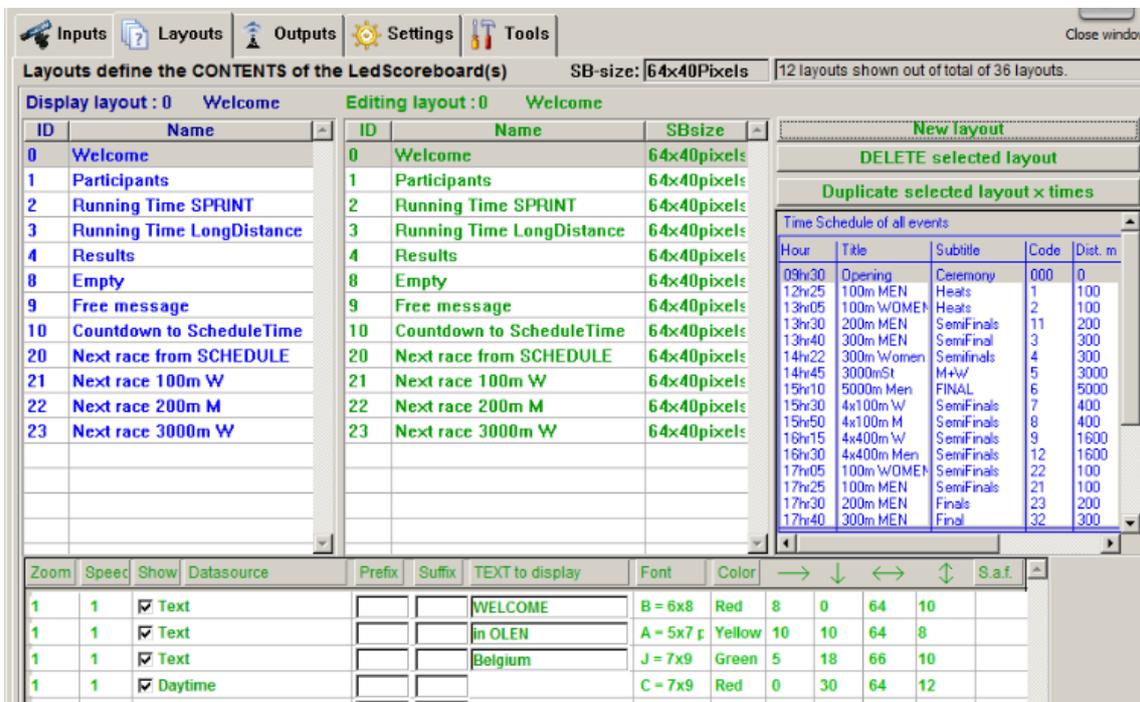
Conclusion: You do not have to fill in serial number(s), IP-addresses, or any other code to find and select your MacFinish camera.



4.2 Layouts tab

This second tab-control is the **most used and most important window of the software**. It can be used to SELECT which layout has to be sent live to the Led-boards (Dark-blue area on the left named "Display layout"), the selection of the current EVENT in the Time schedule (Light blue area on the right), but also to EDIT all details of a chosen "Editing layout" (in the GREEN text areas).

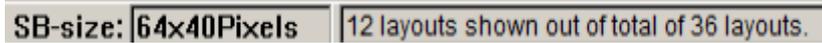
WARNING: If you do not immediate have a display of a selected layout on your Led-boards, please first check chapter 4.3 to verify that the correct SERIAL PORT NUMBER is selected to control your led board by serial cable, or the correct wireless interface selected if you use such a wireless connection.



We will now explain the different elements of this window.

4.2.1 Selection of SB-size

First select which size of Led-display board(s) that you have, by clicking in the pull-down list to the right of "SB-size". You can choose from three different sizes; 64x24, 64x40, 128x40 pixels (Hor x Vert). After a new selection only the corresponding layouts will be visible in the blue and green lists, to make the further operation easier.



4.2.2 Selecting which layout is sent to the LED-boards

At any time you can select which layout has to be sent to the LED-BOARDS, by clicking on the desired layout in the DARK BLUE list on the left of the window. All other features are intentionally disabled in this blue list; in this window you can NOT edit the name of the layout, delete a layout, create a new layout, change the order in the list, etc ...

Display layout : 2		Running Time S
ID	Name	
0	Welcome	
1	Participants	
2	Running Time SPRINT	
3	Running Time LongDistance	
4	Results	
8	Empty	

4.2.3 Selecting which layout to Edit or Delete or Duplicate

In the GREEN list of layouts you can select a particular layout for ;

- EDITING ; Change Name of layout (long click), but also add, remove or modify datasources and settings (in bottom window)
- DELETE; Select a layout to be deleted, and use button "DELETE selected layout".
- DUPLICATE; Select a layout to be duplicated, and use button "DUPLICATE ...". Then type #copies and first Idnr of the new layout.

After each click (=selection) on another layout in the green list, you will see that the components of that layout (DataSources) and their settings (Font, Color, position, rectangle size, etc) are updated in the bottom window !

EXAMPLE: When you selected the first layout in the size 64x40 pixels ("Welcome" layout, with ID=0), you see the components and settings from the picture below:

Zoom	Spec	Show	Datasource	Prefix	Suffix	TEXT to display	Font	Color	→	↓	←	↕
1	1	<input checked="" type="checkbox"/>	Text			WELCOME	B = 6x8	Red	8	0	64	10
1	1	<input checked="" type="checkbox"/>	Text			in OLEN	A = 5x7 p	Yellow	10	10	64	8
1	1	<input checked="" type="checkbox"/>	Text			Belgium	J = 7x9	Green	5	18	66	10
1	1	<input checked="" type="checkbox"/>	Daytime				C = 7x9	Red	0	30	64	12

We will explain this example in detail, to make you understand what the different settings mean, and how you can change them later. This layout contains 4 items: 3x "static" TEXT-fields with programmable text, and one variable field with the daytime (time-of-day of your computer).

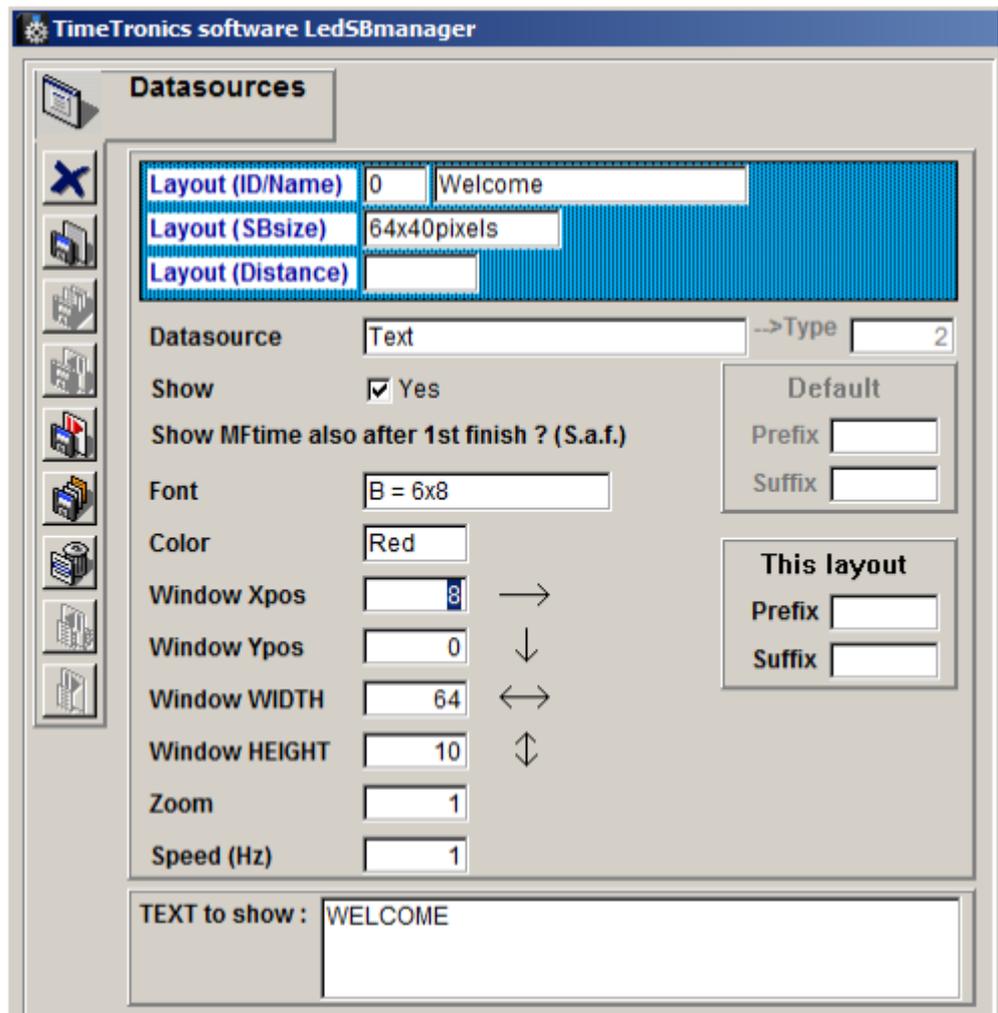
- Each of these fields is "Activated" to be shown (Column SHOW is selected by checkbox).
- 4 different FONT sizes are used, just for demonstration. "B=6x8" means that font "B" is used, which takes 6 Led pixels horizontal and 8 pixels vertical.
- 3 different colors can be chosen. The LEDboards contain only 2 colors of leds (red and green), but also yellow can be shown by illuminating both colors (red+green).
- The **HOR. POSITION** (pixel number from the LEFT side of the board) of the datasource can be chosen in the "----->" column.
- The **VERT POSITION** (pixel number from the TOP side of the board) of the datasource can be chosen in the next column.
- The **HOR SIZE** (width of a rectangle to enclose the contents) of the datasource can be chosen in the "<--->" column. Any parts of the datasource display OUTSIDE this rectangle will NOT be shown !
- The **VERT SIZE** (height of a rectangle to enclose the contents) of the datasource can be chosen in the next column. Any parts of the datasource display OUTSIDE this rectangle will NOT be shown !
- The **ZOOM** factor can be used to enlarge the chosen datasource. Do not forget to make the hor and vert size of your 'rectangle' bigger, in case you use larger fonts or use a zoom-factor.
- The **SPEED** selection can be used to change an update rate; 1x/sec or 10/sec (only for MacFinish RACETIME datasource).
- Each datasource can contain a **PREFIX** and/or **SUFFIX** user-programmable textfields. A prefix means that this optional text will be shown IN FRONT of the datasource, a suffix will be shown AFTER the datasource.
- The "S.a.f." column (= "Show After Finish") indicates that you want to continue to show the update of a **RACETIME** field after the finish of the first athlete. Mostly used (like in our demonstration file) only for long distance races, where you want to show the unofficial (photocell) time of the winner, but also want to continue to show the running time of the race for the other athletes which did not yet finished their race, and perhaps still have 1 or 2 laps to go... Warning: If you use this "S.a.f"-feature in your own (new) layout(s), make sure that the racetime and first finishtime datasources do not overlap, in part or complete. The reason is that you can not show two different datasource fields at the same time on the same position. In the example of the SPRINT layout both mentioned fields are programmed at the same position on the Ledboards, but for sprint races it is not usefull to let the time display continue after the finish of the winner, so switch off the "Saf" option for a SPRINT race display.

Notes:

To ADD A NEW datasource in the bottom window, double-click below the bottom row, in other words, in an empty row. You will then see an "Input window" where you can choose the type of datasource, and all further mentioned settings.

Some of the settings of a datasource (like zoom,speed,show,position,size and S.a.f) can be edited directly in the bottom window, the other settings can be edited in the "Input window" after double-clicking on the row of the datasource.

Picture of the "Input window" to edit the settings of a new or existing datasource. Here you can edit ALL detailed settings. Note that some fields are only applicable for some datasources ; like the field "Text to show" can only be edited for a datasource "Text", and "S.a.f. can only be edited for a "Racetime" datasource.

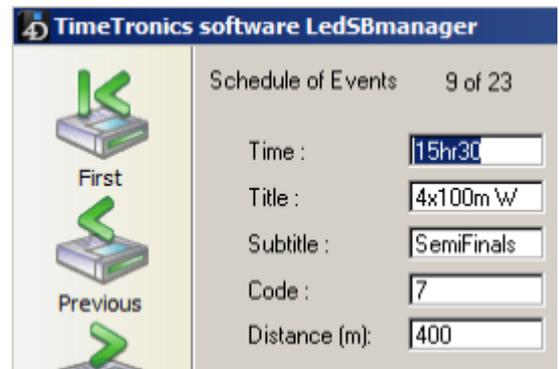


4.2.4 Selection of Event in Time Schedule

In this part of the window you can select the CURRENT or NEXT or PREVIOUS event (depending if you want to show a layout with the racetimes of the CURRENT event, or a layout with the scheduled time and name of the NEXT event, or the slideshow results of a PREVIOUS event). The datasources beginning with "Schedule..." (like ScheduleTime, ScheduleTitle,...) will take the contents from the selected event in the TimeSchedule to display on your Led-boards.

Hour	Title	Subtitle	Code	Dist. m
09hr30	Opening	Ceremony	000	0
12hr25	100m MEN	Heats	1	100
13hr05	100m WOMEN	Heats	2	100
13hr30	200m MEN	SemiFinals	11	200
13hr40	300m MEN	SemiFinal	3	300
14hr22	300m Women	Semifinals	4	300
14hr45	3000mSt	M+W	5	3000
15hr10	5000m Men	FINAL	6	5000
15hr30	4x100m W	SemiFinals	7	400
15hr50	4x100m M	SemiFinals	8	400
16hr15	4x400m W	SemiFinals	9	1600
16hr30	4x400m Men	SemiFinals	12	1600
17hr05	100m WOMEN	SemiFinals	22	100
17hr25	100m MEN	SemiFinals	21	100
17hr30	200m MEN	Finals	23	200
17hr40	300m MEN	Final	32	300

Fast changes of the time or title or subtitle can be made directly in the schedule list (click, wait and click again), or by fast double-click in the list to see the input window of the schedule to edit any particular item in the TimeSchedule.



4.2.5 How to use the "Participants" layout

When you choose the "Participants" layout, a slideshow of all participants of a race can be shown on the Led-boards, when the MacFinish operator will press the "F4" functionkey on the keyboard when using the MF software (MF window has to be active=frontmost window). This is the MF-function to communicate with a TimeTronics MM (MeetManager) or AM (AthleticsManager) software, and to ask for the participants of the next race. This is normally done when the athletes are ready for their next race, and are standing behind their starting blocks (or behind the start line in the long distance race).

As soon as the MF has received this list of participants, it will send this list further to the LedSBmanager, which will display this list (in a slideshow mode= one by one, one screen for each athlete) on the Led-boards, IF a "Participants" layout is selected manual or automatic. The automatic switch-over to a participants layout is explained in the chapter 4.4. Also the delay period between each "slide" of the slideshow is programmable, and explained in same chapter 4.4.

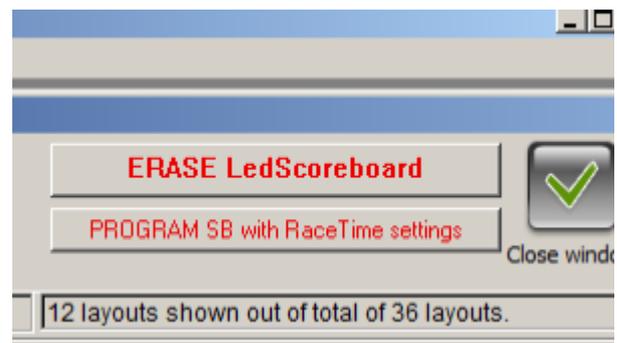
4.2.6 How to use the "Results" layout

When you choose the "Results" layout, a slideshow of recent or old results of a race can be shown on the Led-boards, when the MacFinish operator will send a result of one or all athletes. The result of ONE athlete is sent when you click in the MF-photo (with "Cntrl" button on keyboard pressed at same time). The results of all athletes of that race can be sent by the MacFinish menu-selection "Send results".

As soon as the MF has sent the result(s) to the LedSBmanager, this last one will display this data (in a slideshow mode= one by one, one screen for each athlete) on the Led-boards, **IF a "Results" layout is selected manual or automatic.** The automatic switch-over to a result layout is explained in the chapter 4.4. Also the delay period between each "slide" of the slideshow is programmable, and explained in same chapter 4.4.

4.2.7 Program SB with RaceTime Settings (In our example file for sprint layout)

When your layout contains a datasource of type "RaceTime" which you would like to display **10 times/sec**, you need to **PROGRAM** the Ledboard(s) to remember ALL the settings of that Racetime (Like FONT, Color, Position, dimensions). This is necessary because otherwise the display board would not be fast enough to display the running time 10x/sec. Because such settings can be kept the same all the time, they can be programmed ONCE in the board, and will be memorised by the board. Of course if you would change the setting in a Racetime layout, you would have to reprogram the ledboard.

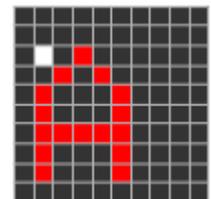


For safety reasons, this button "PROGRAM SB with Racetime settings" is only visible if you selected a "Editing layout" which includes ONE "Racetime" datasource.

Note: All available boards that are connected can be programmed with this function at the same time.

4.2.8 Extra information on Position (Xpos and Ypos of field)

Xpos and Ypos determine the starting position of a displayed text (any alphanumeric text= message, time, ...) relative to the top-left pixel of the LED scoreboard. Text is then rendered relative to the pixel selected with Xpos and Ypos.



Example: This LED scoreboard is 10x10px in dimensions. Remember that the LED in the top-left of the board is at position called 0,0. A datasource with font "A = 5x7 pixels" and text to show "A" is created. Xpos is set at 1, Ypos is set at 2. This is how it will be generated on the LED scoreboard (the white square is also dark in real life).

The white pixel here signifies where the text will start: 1 pixels to the right (**Xpos**) and 2 pixels to the bottom (**Ypos**) of the top-left-most pixel of the board. The "A" character is displayed starting at the white pixel and is 5 pixels wide and 7 pixels high (font "A=5x7" chosen in this example). Note that the ledboard will use 1 blank pixel hor and vert between each character, so that each character of FONT A=5x7 will take 6x8 pixels, respectively hor and vertically.

4.2.9 Extra information on Rectangle dimensions (Width and Height of field)

Width and height can be used to achieve a "crop" effect. If the width or height is smaller than the amount of pixels required to generate a line of characters, the remaining pixels will be cut off, and not displayed as a result.

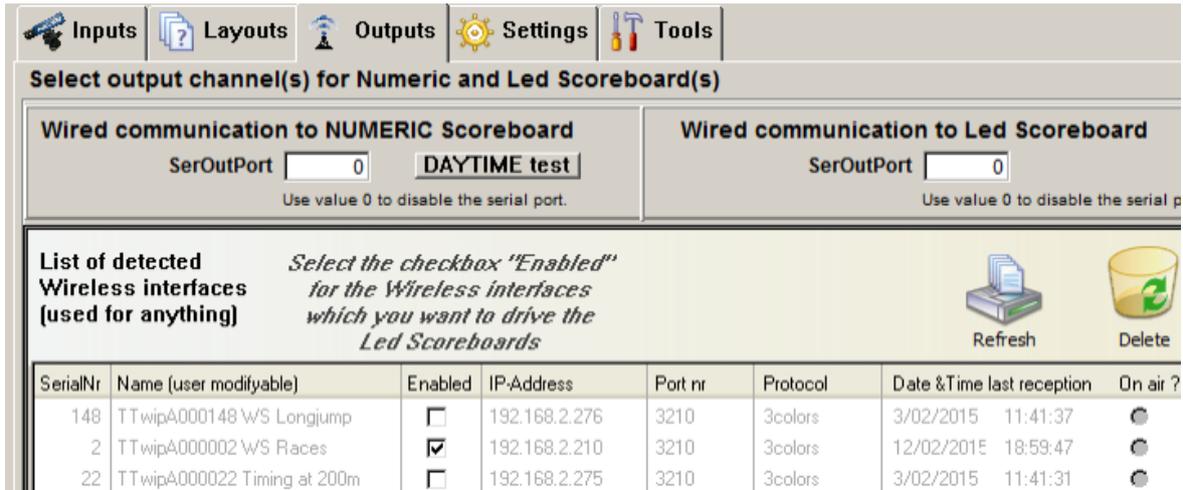
Example: A single line text datasource with text "TimeTronics" and font A = 5x7 has given a width of 30 and a height of 8. The result is the LED scoreboard only displaying "TimeT"; because max 5 chars can be displayed on the width of 30 pixels ($30/6=5$).

NOTE: When a character cannot be displayed fully, the entire character is not displayed. E.g.: a cropped "L" will never display as "I".

4.3 Outputs tab

In this chapter we will explain which connections can be made with one or more Led-boards (and optional old NUM board).

- Serial cable connection to all Led-boards together (probably trough the MF-interfacebox and 12-wire MF cables).
- Wireless connection, by WIFI network and a TimeTronics Wireless serial interface for one or each Led-board.
- Serial cable connection for running-time display on older (TimeTronics) NUMERIC timing boards.

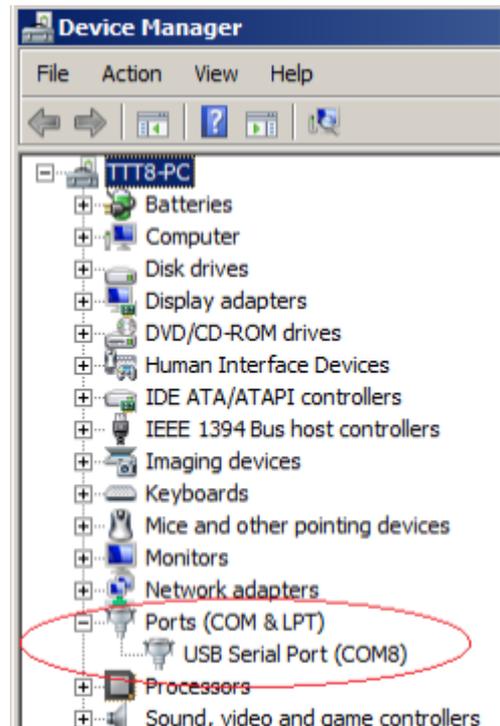
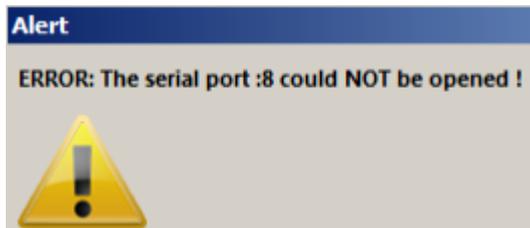


In the top-left section you can choose the serial port number for a serial cable connection to your NUMERIC TIMING-boards. Choose port number "0" if you do not use this feature.

In the top-right section you can choose the serial port number for a serial cable connection to your Led-board(s). Choose port number "0" if you do not use this feature.

If you do not know which the number of your serial port interface(s) is (probably a USB-to-serial interface), look in the "Device manager" of your WINDOWS machine. See picture on the right.

WARNING: Please make sure that the port number is always less than 10, so you could use any serial port ("COM"-port) from 1...9. And of course, please realize that each serial port can only be used for ONE connection, so never use same port number for Numeric board AND for Led-boards, because you will get an alarm that this is not possible. This alarm will also be visible when another software is already using this serial port (for example MacFinish), for the same reason as mentioned above.



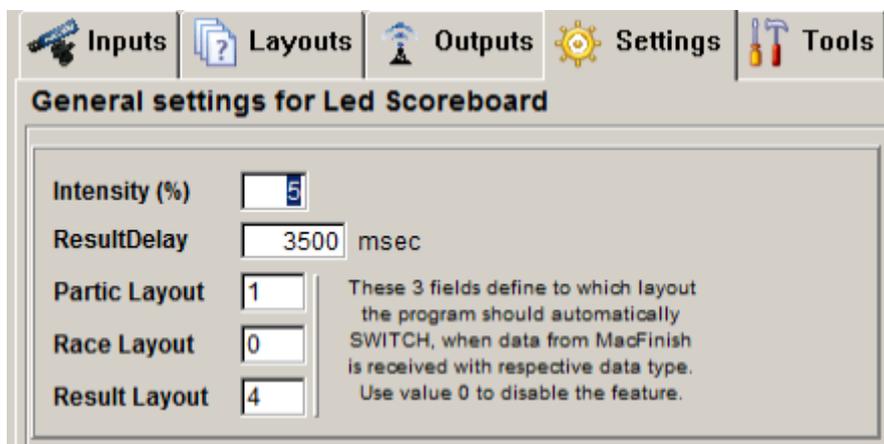
The list of Wireless interfaces is filled automatic, just like the list of MacFinish cameras (see chapter 4.1). You can enable one or more interfaces by setting the corresponding check-box, and see which interface(s) are "On-air". You can edit the name of each interface to your desired name, for easy operation. *NOTE: Such an interface can be driven by one or more computers, so*

the limitation mentioned above that each **serial port** can only be used once is not valid here for wireless interfaces , because they are linked by a (wireless) network connection, which is much more modern than an "old-fashion" serial port in windows ! This means that you could install multiple copies of LedSBmanager on your network, and drive one or more Led-boards from different locations (PC's). Of course, make sure that the different programs/operators do not disturb each other by sending different data to a particular board at the same time!

4.4 Settings tab

In this chapter we will explain which general settings can be made ;

- Change the light intensity of the Led-boards; low value (f.e. 15) for nighttime and high (f.e. 95) when full sunshine
- Choose the DELAY-period between each slide-show screen in PARTICIPANTS or RESULTS layout mode. Example 3500 msec = 3,5 seconds
- Enable the AUTOMATIC switching to another layout (number to be chosen, or 0 value if not used), to Participants, Race, or Results layout number, if the activated MacFinish is in such corresponding mode. This means in the example picture below that the LedSBmanager will switch automatically to the Results-layout (nr 4) when a MacFinish on the network will send one or more athlete RESULTS (by click in photo, or "Send results" menu selection).



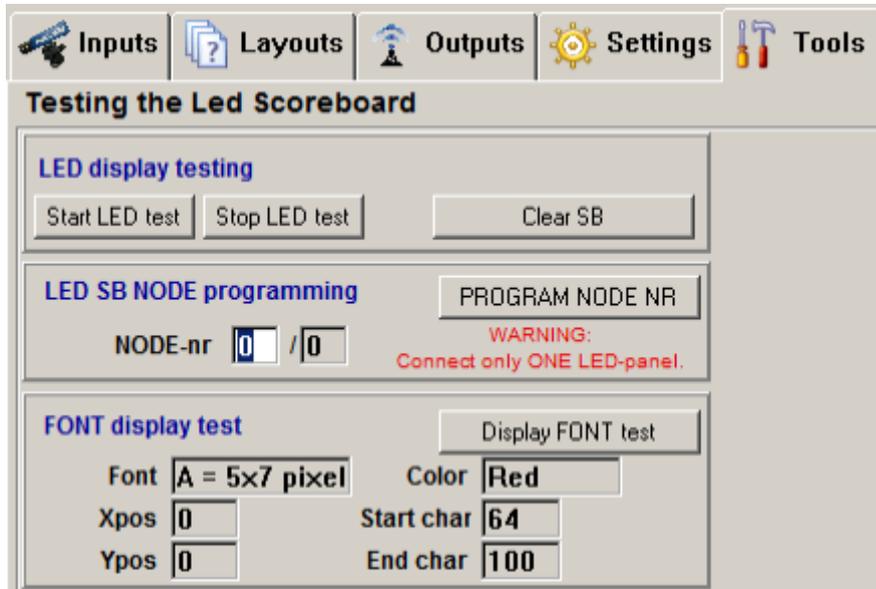
4.5 Tools tab

In this chapter we will explain which software tools can be used, for example to test cabling and/or Led-boards ;

- "Led display testing"; Press buttons "Start LED test" for showing a "SHOW" of rows and columns of lighting leds.
- "Clear SB" button to clear the whole Led-board screen(s).
- "LED SB NODE programming"; type numbers X/Y for programming ONE board to ROW "X" and COLUMN "Y". Normally you do not have to use this feature, because when you

have only one board (for each display position on your track), keep each board on Node-nr 0/0.

- FONT display test; You can show a list of characters on the Led-boards, in a chosen FONT, on chosen start position (Xpos/Ypos), from "Start char" to "End char" (ASCII codes in decimal format ; A=65, B=66,...)



4.5.1 How to use the "Node programming" feature

When using a set-up with multiple inter-connected LED scoreboards next to each other, each scoreboard ("node") can be programmed individually, so that multiple boards act together as "ONE LARGE BOARD".

Edit the first value (before the slash "/" sign) to edit a node on the vertical axis (ROW), and the second value (after the slash "/" sign) to edit a node on the horizontal axis (COLUMN).

Example:

Node 0/0	Node 0/1	Node 0/2
Node 1/0	Node 1/1	Node 1/2

Warning: Only connect **one** LED scoreboard at a time when programming, because **all** connected (and powered on) scoreboards will be programmed with the chosen node number X/Y.

4.5.2 How to use the "Font Display Test"

Because a LED scoreboard works with a matrix of LED's, it's resolution is limited. As a result, fonts need to be specially adapted to displaying characters using a minimal amount of pixels. Use the FONT display test to try out how different fonts look on the board.

Options:

Option	Description
Font	Select a font to use the test with. Currently, about 15 different fonts (A,B,..) are available.
Xpos	Start generating the test text on this x position.
Ypos	Start generating the test text on this y position.
Color	Selects a color in which to display the font (default: red). Currently, only red, green and yellow are available.
Start char	Starting character ASCII value (default: 64, meaning '@').
End char	Ending character ASCII value (default: 100, meaning 'd').

The result of the standard settings font display test:



5. Photos of our example layouts, for 3 display sizes

Reminder: If you want to use 2 (or more) Ledboards next to each other, please program them (see chapter 4.5.1) first with their corresponding ROW (=0) and COLUMN (=0,1,2..) number ; see photo on right :



Here below you see each time 3 examples of same layout-type, but for different sizes of Ledboards. Smallest is one board of (HxV) 64x24 pixels, middle version= 64x40 pixels, largest example shows 2 boards of 64x40 pixels = total of 128x40 pixels display.

As each pixel is 20mm or 2 cm, the largest **display area** (the boards themselves are larger) is 128x20=2560mm wide = 2m56 and has a height of 40x20=800mm = 0m80. Note that there is no limitation to place more than 2 boards next to each other to create larger display areas !

“Welcome” layout,
ID=0,100,200



“Running time SPRINT” layout,
ID= 2,102,202



“Running time LongDistance” layout,
ID= 3,103,203





"CountDown" layout,
ID= 10,110,210



"Next Race" layout,
ID= 20,120,220



Appendix A: New features LedSBmanager version 2019

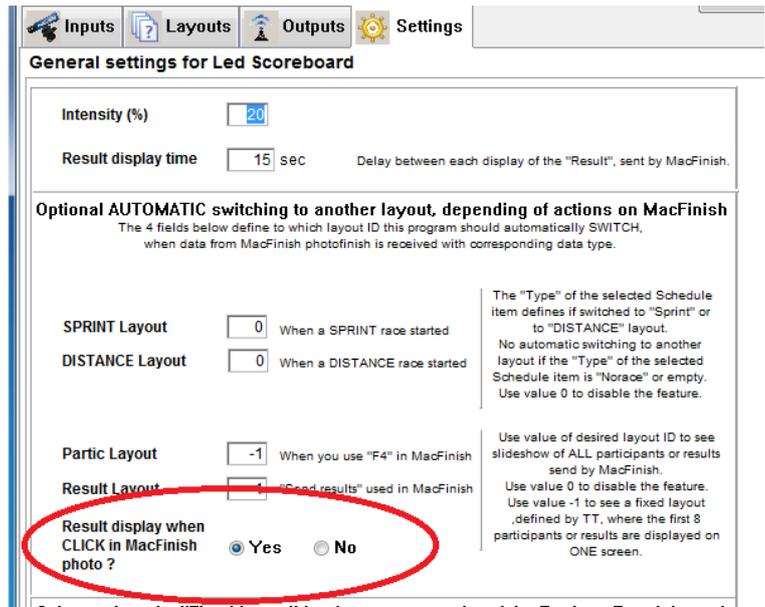
List of corrections or improvements:

- The display on the LED-panel of the unofficial finish time, immediately after the finish of one or more participants, will now stay on the ledboard after the the photofinish operator will click on the "Stop"button in the MacFinish control panel. In the past this finish time display was erased, which gave the spectators not enough time to read the unofficial finish time.
- No flickering anymore on the LED-display if the operator would change the layout selection during a live race.
- Correct display of lane number, even when there are 2 athletes in one (same) lane.

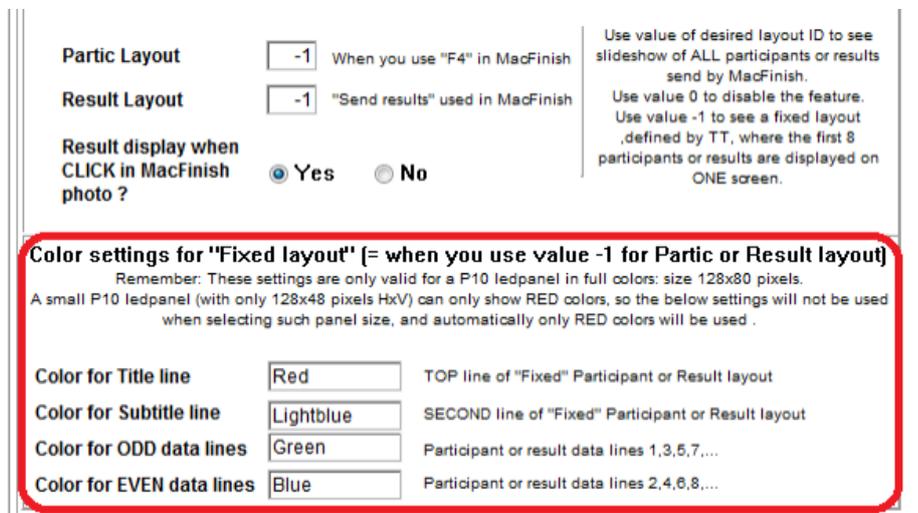
New features of the version 2019

- Display of 1/10s of RunningTime. The speed of the live running time display is increased, so that it is now possible to show live the 1/10 sec updates.

- Enable or Disable the LIVE display of MacFinish results, DURING the reading of the MacFinish photo= when "Clicking" in the MacFinish photo to read a time. This can be done by means of a new setting (Radio button Yes/No) which is added under the "Settings" TAB. See picture on right.



- Use alternating colors for Odd and Even line numbers in the "Fixed timetronics layout", when displaying a Participants or Results list. See picture on right.



- User settings of text color for Title, Subtitle , Odd and Even line numbers; see picture on right.
- Display of "Fixed timetronics layout" is now possible for a smaller LedBoard (128x48 pixels). Of course then only 6 lines are available, and only in red color, so a title + subtitle + 4 lines of data (Participants or Results) will be displayed, and independent from your settings automatically in red color.
- An automatic SLIDE SHOW is now possible on the Ledboard 128x80 pixels of multiple pages of 8 data lines (Participants or Results). This means that not only the first 8, but all participants or results can be displayed, even when there are 38 (or more) athletes in the race. And for the smaller ledboard 128x48 pixels each page will contain the next 4 participants or results.



1500m Men

1	MERCIER WAR	3:57.01
2	DE VEYLDER	3:57.05
3	BASTIEN FRA	3:57.10
4	MARRION GEO	3:57.16
5	KENIS RUBEN	4:00.94
6	DE VRIENDT	4:01.00
7	MISPLON BER	4:01.06
8	DUPONT FRAN	4:01.10



1500m Men

9	BORGHOMS L	4:01.17
10	PAPPAERT W	4:02.42
11	LAPRUDEnce	4:02.45
12	JONGENELEN	4:02.49
13	SIMONS STE	4:02.51
14	Natali Pao	4:02.53

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