

RaceMaster FE

fast electric race management and timing

RaceMaster FE

fast electric race management and timing

Version 1.05

Information in this document is subject to change without notice. Companies, names and data used in examples within this document are fictitious unless otherwise stated. No part of this document may be reproduced or transmitted for any means or purpose, without the written permission of mlm Solutions

mlm Solutions assumes no responsibility for errors or omissions in this document. Nor does it make any commitment to update the information contained herein.

Symbols used in the document



Information



Warning



Tip

© 2016, mlm Solutions. All rights reserved

mlm Solutions

Web: www.mlmsolutions.biz/racemaster.php

Email: martin312@btinternet.com

Contents

Introduction	5
About RaceMaster	5
Getting Help	5
Special notations used in this manual	5
Specification / Features	7
Timing inputs.....	8
Transponder system	8
Manual button system	8
Using RaceMaster	9
Features by Tab.....	9
Race	9
Results.....	11
League.....	11
Configure	11
All	12
The order to do things.....	13
Start of the season	13
Start of a round.....	13
Start of a race	13
During the race.....	14
End of a race	14
End of a round.....	14
Appendix A - Product Support, Updates & Licensing	15
Product Support	15
Telephone Support	15
Extended Support.....	15
License Agreement and Limited Warranty	15
Appendix B - MyLaps compatibility.....	17
Appendix C - Change History.....	19
Appendix D - Getting Started	20
Installation	20
Starting RaceMaster.....	20
Appendix E - Sound Files.....	21

Introduction

About RaceMaster

RaceMaster FE was developed specifically for the management and timing of the racing of fast electric model boats. These races are conducted in accordance with the rules of the Model Power Boat Association (MPBA).

It records details of the Entrants, Classes to be run, who is entered into which class, transponder details etc.

Any number of races can be set up on any specific date and can be run in any order.

As well as the administration for the meeting, *RaceMaster FE* provides all the timing and lap counting to a resolution of one millisecond. Two methods are available. Automatically by connecting to a compatible MyLaps decoder or by using manual push buttons (either on the computer keyboard or on a separately available 'Button Box'). In fact, both methods can be use simultaneously to cover those occasions when not all entrants have a compatible transponder or the race is being run at a venue which doesn't have a MyLaps system.

During the race, a real time display of race position is available.

After the race the results are available immediately along with the league positions for the season. These can be printed or output in various formats.

Getting Help

Phone Martin Marriott on 07802 247705 or email martinmarriott@hotmail.com

Special notations used in this manual

The following conventions are adopted in this manual:

- The following notation means a keyboard key i.e. DEL means the delete key.
- Click means to click the left mouse button once.
- Double Click means to click the left mouse button twice in quick succession.
- Ctrl+Key, Shift+Key, and Alt+Key are examples of notation for two key combinations. They mean, hold down the Ctrl, Shift or Alt key and press the second key.
- File|Exit means select the Exit command from the File menu.
- Drag, means to position the cursor over an item on the screen, depress the left mouse button and keep it depressed whilst moving the item to a new position on the screen.

Specification / Features

The goal of the application is to provide the timing and management for model boat races conducted to MPBA / NAVIGA rules.

It records the names (and optionally contact details) of members registered to race. These will be called 'Competitors'

It records the classes of races that are conducted. These will be called 'Classes'

It records the competitors who have entered for a particular class in that race year. These will be called 'Entrants'. It also associates a number ('Race Number') which is to be used in the race year which is unique for a particular Competitor in a particular Class. This number will be attached to the boat.

It records the dates and location of each race throughout the year. These will be called 'Rounds'. There can be up to 7 Rounds in the year.

The format of the races on each day is as follows:-

- Depending upon how many 'Entrants' are available (2 minimum), a decision will be made by the Race Controller as to which classes are to be run that day and in what order.
- Each Class will have 3 heats during the day.
- A maximum number of boats (decided by the Race Controller) are allowed to partake in a race. If there are more Entrants than this then the heat will be 'Split' into 2 or more. The application treats these 'Splits' as one 'Heat'.
- When the Race Controller decides to start a race, the race mode of the application is started. The application will indicate the start with a sound or voice announcement.
- During the race, the time remaining is announced. Announcements are made at each minute, every ten seconds in the last thirty and the last five seconds. It should be noted that the race duration can differ depending upon the class and is user configurable. Also, some classes have a 'Mill Time' at the start of the race to allow a rolling start. This is user configurable.
- At the end of the race, the application allows the entry of any penalties given to an Entrant by the Race Controller. These are Yellow card, Red card and Missed Buoys. When these have been entered the application calculates the results of the race.
- On demand, the application generates the results for each class and for the year to date. These are printable.

The rules for calculating the results are as follows:-

- Missed buoys are penalised by deducting 5 seconds for the first buoy missed. Any subsequent missed buoys are penalised by deducting 1 lap.
- A Yellow Card can be given at the discretion of the Race Controller. This is penalised by the deduction of 1 lap.
- A Red Card can be given at the discretion of the Race Controller. This is penalised by disqualification from that heat. It will result in 0 laps being given.
- A Jump Start is allocated if in a Class which has a Mill Time, the Class Entrant crosses the start line before the start of the race. If the MyLaps transponder system is used, this will be done automatically.
- At the end of a race a Class Entrant is allowed to complete the lap they are on. The time from the end of the race to the final line crossing is called 'Seconds Over' and will contribute to the final result.
- The race order is in descending order of the number of laps completed in the race time. If there are Entrants with the same number of laps, the Seconds Over will be used to prioritise them (smaller the better). Any laps or time penalties are taken into account before calculating the race order. If there happens to be a draw (same laps and Seconds Over) then it is a user selectable option as to whether they will be given the same placing or not. If draws are not to be allowed, the Entrant who had the better result in heat 1 is to be preferred.
- Points are allocated to the Entrants according to their placing. The application allows the end user to decide upon what points are allocated. By default, the points are allocated as follows (*placing>points*) – 1>9, 2>6, 3>4, 4>2 others 1. Only the best two of the three heats are used in the calculation.
- The League position is calculated by the application. Only points are considered. As a user selectable option, the number of rounds to be used in the final result can be entered. This can be 4 or 5 rounds.
- If an Entrant is disqualified in a heat. They will receive 0 laps for that heat. If they are disqualified in all 3 heats, they will receive 0 POINTS irrespective of their race position.
- If an Entrant completes 0 laps in total over the 3 heats, there is a user selectable option to decide how many points to give. The choices are:-

- Points allocated according to their placing.
- 1 point
- 0 points

Timing inputs

The application will allow for two alternative methods of lap counting / timing. Please note that in order to allow for the situation where not all Competitors have a transponder, both systems can be used simultaneously.

Transponder system

The primary method is by taking the output of a proprietary race timing decoder made by a company called MyLaps (was AMB).

The MyLaps decoder detects the passing of a boat by the detection of a transponder in the Competitors boat. Each transponder outputs a unique code. The application maintains a list of these codes and their association with a Competitor. Multiple codes can be associated with the same Competitor.

The decoder sends and receives messages via TCP/IP. The format of the messages is proprietary to MyLaps and is called P3.

At each detection of a transponder, a P3 message is sent which (amongst other things) is the transponder number and the time of the detection. This time is to the nearest millisecond.

Because the transponder detection is automatic, the first detection will be when the Entrants boat passes the start/finish line. For classes that have a mill time, this is used to detect a jump start but is ignored in the calculation of laps completed.

Manual button system

Because the MyLaps transponder system requires a wire loop to be deployed over the start / finish line, it may not always be possible to use it. In this case the application can use the more traditional approach of manual button pushing.

In this mode, a numeric key on the keypad is assigned to each boat. The allocation is based on the ascending order of the boat numbers in that specific race. Key 1 is the smallest boat number, key 2 the next etc. Key 0 is used to Start/Pause the race. Note that a custom designed external 'Button Box' is available separately.

The appropriate key is pressed at the completion (NB. Not at the start) of each lap INCLUDING the last crossing which may be after the race has finished but before the end of the Overrun Time.

Using RaceMaster

Features by Tab

Race

This tab shows all the relevant details for a selected Round and Race.

During a race day, this is the main screen and contains all relevant information in one place.

Round Date

This is a drop down selection box which contains the list of race dates that have previously been entered in CONFIGURE / ROUNDS. This selects the date that the tables on this tab relate to.

Races on Selected Date

This table lists the races that are to be (or have been) raced on the selected 'Round Date' and will automatically change to reflect the round selected.

This table contains:-

Start Time – This is the approximate expected time of the start of this race. Please note that races will be displayed in 'Start Time' order and therefore this time controls the race order. When entering the races at the start of a race day, it should only be necessary to set the time of the first race entered. All other races entered will have their start times automatically set to be 15 minutes after the previous one. This is a convenience feature only and the times can be overwritten.

Class – This is a drop down selection box which contains the list of race classes that have previously been entered in CONFIGURE / CLASS.

Heat – The heat number. 1, 2 or 3. It should only be necessary to enter the details for heat 1. See why on the description of the 'H1>H2/3' button

Split – If there are more entrants in a class than can safely be run in one race, then the entrants will need to be split into 2 or more races. All entrants for the class no matter which split they are in will be grouped together in order to calculate the results.

A new race is added by clicking the **+** button or deleted with the **-** button.

Note that when a race has been run it is 'greyed' and cannot be deleted or rerun unless all timings have been firstly deleted for every Competitor.

Entrants in Selected Race

This table lists the Competitors that will be racing in the selected class.

Before the race starts, the order of the entrants is boat number order.

This table is updated during the race when any competitor completes a lap. It therefore provides a 'Leader Board' function and shows the number of laps completed and the fastest lap time for each competitor. However, note that missed buoys and penalties are not taken into account and so may not represent the final result.

Entrant - This is a drop down selection box which contains the list of class entrants that have previously been entered in CONFIGURE / CLASS ENTRANTS for this class.

Laps – This is a read only value which is automatically incremented during the race at each lap completion and shows how many laps this competitor has completed in this race.

Min Lap – This is a read only value which is automatically updated during the race at each lap completion and shows the fastest lap for this competitor in this race.

Num – This is a read only value which is the boat number allocated to this Competitor in this class that has previously been entered in CONFIGURE / CLASS ENTRANTS table.

Buoys – This is the number of missed buoys recorded for this entrant. It will be entered at the end of the race and will be used in the calculation of the results.

Jump – This is a check box to indicate that the Entrant made a jump start. This will be set automatically if the Entrant is using a transponder. Otherwise it will need to be set manually.

Yell – This is a check box to indicate that the Entrant has been given a yellow card. A lap will be deducted.

Red – This is a check box to indicate that the Entrant has been given a red card. The entrant will be disqualified from this heat.

A new Entrant is added by clicking the **+** button or deleted with the **-** button.

Before the race starts, this table is ordered by boat number. If manual lap counting is being used, the numeric keys on the keyboard should be labelled with the boat numbers in this race in ascending order. (I.e. if boat numbers 12, 3, 7, 5, 2 are racing, then the numeric keys are labelled thus – 1>2, 2>3, 3>5, 4>7, 5>12).

During the race, as the laps are incremented, the order of the table will be in descending order of the Laps. It therefore shows the current race order.

Timings for Selected Race Entrant

Tim(E) – This shows the time at each lap completion to the nearest millisecond from the start of the race. For the manual button pushing, whilst the resolution is still to 1 millisecond, the accuracy depends upon the human pushing the button.

Tim(L) – This shows the lap time of this lap.

TPDR – This is the transponder ID.

SIG – This is the signal strength of the signal received from the transponder at this 'passing'. If it was a manual entry it will be 0.

HITS – This is the number of successful receptions from the transponder. If it was a manual entry it will be 0.

VOLT – This is the voltage supplied to the transponder. Not all transponders support this feature. If it was a manual entry it will be 0.

TEMP – This is the temperature of the transponder. Not all transponders support this feature. If it was a manual entry it will be 0.

A new time is added by clicking the **+** button or deleted with the **-** button. Please note that the new time will show the transponder number as zero as if it had been entered by a manual button push.

Others

H1>H2/3 – This is a convenience feature to save typing and thus time. Only click this button when all the races and entrants for heat 1 have been defined. When clicked the software will generate entries for heat 2 and 3 which reproduce those in heat 1. It will enter 'Start Times' for each race based upon the gaps used in heat 1. It will give 15 mins gap between the end of one heat and the start of another.

Enable K/B – This must be checked prior to the race if it is required that manual keyboard lap counting is required. It will be automatically cleared at the end of the race.

Start / Pause Button – This is a dual purpose button. If the race selected on 'Races on Selected Date' has been run already (greyed out) then this button will also be greyed and none functional.

If clicked at the start of the race, it will start the race.

If the class being run requires it, it will start the mill time countdown, otherwise it will start the race countdown.

In either case the appropriate audio announcement will be made, the remaining time will be displayed and the button caption will change to 'PAUSE'.

If clicked when the caption is 'PAUSE' then the countdown will be stopped, the pause announcement will be made and the caption will change to 'START'.

Stop Button – Clicking this button during the race will abort the race countdown. Any 'passings' that have already been recorded will remain and if it is required to re-run this race then they will need to be deleted.

Results

This tab shows the results of a selected round and class. By default, the round and class that will be displayed is that selected on the 'RACE' tab. Any other round or class can be selected. Note that the results shown for a class is the combination of all 'splits' for the class.

It shows the laps, seconds over and comments for each of the 3 heats. Also shown is the total of the best 2 heats for each entrant.

The comments that are displayed are as follows:-

DNS – Did Not Start

DNF – Did Not Finish

DSQ – Disqualified

Points are allocated as defined in the 'Configure' tab

This tab also contains:-

Date – Select an alternative round.

Class – Select an alternative class

This Round – Displays a report for the round selected which shows the results after any penalties have been included. This can be printed if required or output in a variety of formats.

Whole Year – Displays a report for the whole year which shows the results after any penalties have been included. This can be printed if required or output in a variety of formats.

League

This tab shows the league results of a selected year and class. By default, the year and class that will be displayed is that selected on the 'RACE' tab. Any other year or class can be selected.

The 'League Summary' section displays up to 7 rounds. The total will be the summation of the best X rounds (where X is 2-7), dependent upon the selection in 'Top ? Rounds' of the 'Configure / Options' tab

This tab also contains:-

Year – Select the year to display.

Class – Select the class to display.

League Button – Displays a report for all classes in the selected year. This can be printed if required or output in a variety of formats.

Configure

This tab is where basic data and options can be changed. These are accessible in separate tabs.

Competitors

All competitors' names must be entered here. Optionally, address, phone and email can be added. The name must appear in this list before they can be allocated to a specific class entrant.

Classes

All classes must be entered here before they can be used in the rest of the application. This is where the 'Mill Time' (if any), 'Race Time' and 'Overrun Time' must be set before a race is run.

If 'MILL TIME' is set to zero, the first 'passing', as detected by the transponder system, is logged as the completion of the first lap. If not set to zero, the first passing is not logged as the first lap, but is used to detect if there was a jump start.

'PASS HOLDOFF' is the number of seconds after a valid 'passing' during which any further passing's will be ignored as it would be impossible to have completed a lap in this time. This feature reduces the liability of false counting.

A class must appear in this list before it can be allocated to a specific class entrant.

Class Entrants

This is where a Competitor is entered into a specific class. The Competitor and the Class must have been entered before they will appear in the drop down selection list. The race number is also set here.

The class entrant must appear here before they can be entered into a race.

Rounds

This is where the dates and locations of the round is set.

Transponder

This is where the Competitor who is using a particular transponder number is recorded.

Multiple transponders can be allocated to the same competitor but each transponder number must be unique.

Note that if a competitor has multiple transponders registered, they can use any of them in any class.

Options

Allow Draws – If there happens to be a draw (same laps and Seconds Over) then it is a user selectable option as to whether they will be given the same placing or not. If draws are not to be allowed, the Class Entrant who had the better result in heat 1 is to be preferred.

Points for Zero Laps – If a Competitor obtains zero laps in all three heats, this option defines how to allocate points.

Top ? rounds – This is used in the calculation of league positions and selects the top X rounds to be used for each Entrant where X is between 2 and 7 inclusive.

Place to Points – This defines how many points are allocated for a particular place in the calculation of league position.

MyLaps IP – Set this value to be the same as that which is selected on the MyLaps decoder.

Reset database – All information within *RaceMaster FE* is stored in an associated database. This is located in a sub folder of the folder in which *RaceMaster FE* was installed. This folder is unimaginatively called 'db'.

It is highly recommended that this folder is backed up regularly.

At the end of each season, it is recommended that the current database is archived for future reference.

Once this has been done, the database can be safely reset. If the 'RESET ALL' checkbox is selected, then all data will be reset and a completely fresh (and empty) database will result. If however, the checkbox is not selected then the information for COMPETITORS, CLASSES, TRANSPONDERS and OPTIONS will be retained as these will typically be very similar for the following season.

All

MyLaps Last Passing

Date/Time – This is the date / time value reported by the decoder box of the last transponder detection.

Transponder ID – This is the transponder ID reported by the decoder box of the last transponder detection.

Transponder Sub ID – When using a MyLaps RC4 decoder, it is possible to purchase an 'RC4 Car ID Transponder'. This is a special version which only works with the RC4 decoder and has the same ID as the master transponder but with a unique 'Car ID' between 1 and 7.

All other transponders will return 0.

Signal – This is the signal strength of the received transponder. This should preferably be above 100 and should be at least 60 points higher than the indicated background noise.

Hits – The number of hits is an indication of the number of repeated transponder signal receipts during a 'passing'. Hit-rates vary with the speed of a passing. This would typically be greater than 10.

Temperature – This is the temperature of the transponder. It is only available with RC4 transponders.

Voltage – This is the voltage to the transponder. It is only available with RC4 transponders.

MyLaps Connection Status

This indicates if the MyLaps decoder is currently connected or not. If it is physically connected and powered up but *RaceMaster FE* indicates it is not connected, please check that the IP address set in *RaceMaster FE* matches that which is set on the decoder.

Noise – This is the value reported by the decoder. The decoder determines the average background noise. The noise has a range 0 – 255. Noise level should not exceed 40 points. If the noise level is higher, the received transponder signal strength should be 60 points above noise level to ensure proper functioning of the system.

Temperature – This is the value reported by the decoder. It is the temperature in degrees Celsius of the decoder box.

Voltage – This is the value reported by the decoder. It is the internal supply voltage of the decoder box.

The order to do things

Start of the season

Enter the number date and venue for each round on the *Configure / Rounds* tab.

Enter any new Competitors in the *Configure / Competitors* tab.

Enter any new Classes in the *Configure / Classes* tab

Enter Competitors and the associated Class they wish to enter along with the allocated boat number round on the *Configure / Class Entrants* tab.

Start of a round

Go to the '*Race*' tab and select the correct round.

Enter all the races to take place in heat 1 not forgetting to put in an approximate start time as the races will be ordered by this time.

Enter the '*Class Entrants*' in each race from the drop down list. Only drivers who have been entered in the '*Class Entrants*' section of the *Configure* tab will be shown.

Click the '*H1>H2/3*'. Button. This will replicate the entries for heat 1 and automatically create the entries for heat 2 and 3.

Start of a race

On the '*Race*' tab, select the next race to be run. This will typically be the first none greyed out race. The list of entrants will be displayed in boat number order on the '*Entrants in Selected Race*' table.

If using manual lap counting, the numeric keys on the keyboard (or external button box) should be labelled with the boat numbers in this race in ascending order. (I.e. if boat numbers 12, 3, 7, 5, 2 are racing, then the numeric keys are labelled thus – 1>2, 2>3, 3>5, 4>7, 5>12).

When the Race Controller gives authorisation, click the START button (or the Start/Pause key on the *RaceMaster FE* keypad (or 0(zero))).

During the race

MyLaps lap counting

Nothing is required to be done normally. *RaceMaster FE* will automatically log jump starts and make all relevant announcements.

Manual lap counting

Ensure that the 'Enable K/B' checkbox is selected.

The buttons associated with each boat are only active during 'Race Time' and 'Overrun Time'. Click the button corresponding to a boat each time it crosses the start / finish line (except of course for the first crossing after any Mill time). In order to avoid double clicks, the same button will be ignored if it is pressed again in less than 'PASS HOLDOFF' seconds.

After the race time is over, the button should be clicked during the overrun time for the associated boat if it crosses the line again. As a precaution, only the first press will be logged in this phase.

For either automatic or manual lap counting, if the Race Controller requests it, click the PAUSE button. The countdown will be suspended and the relevant announcement made.

End of a race

Enter any required data in the Missed Buoys, Jump Start, Yellow card or Red card controls for each competitor.

Go to the *Results* tab. The results will be automatically calculated and displayed.

If required, the results can be printed.

End of a round

Select the *League* tab. The results will be automatically calculated and displayed.

If required, the results can be printed.

Appendix A - Product Support, Updates & Licensing

Product Support

Every effort has been made to ensure that this product is of high quality and intuitive to use. If you are having trouble with a specific feature you should contact Martin Marriott at martinmarriott@hotmail.com

Telephone Support

Registered users are entitled to free telephone support for 30 days from the time of purchase. Support is available from 9:00 AM to 5:00 PM GMT.

Please have available the following information:

- Version number
- List of steps necessary to recreate the problem

Telephone number +44 (0)7802 247705

Extended Support

If you wish to extend your support then please contact the Sales Department on **+44 (0) 7802 247705**.

License Agreement and Limited Warranty

This is a legal agreement between you the purchaser and mlm Solutions herein referred to as mlm. By opening the sealed software package or by using the software, you agree to be bound by the terms of this agreement. If you do not agree, promptly return the software and documentation together with any accompanying items in a re-saleable condition to the place from which you obtained them for a full refund.

1. Limited License

- a) You have purchased only a single copy of the software, and have no rights to the software itself except the limited license granted herein.
- b) Except as stated in 1(c), mlm grants you a limited license to use one copy of the software on a single computer. You may access the software from a hard disk, over a network or by any other means.
- c) For additional users to use the software on the network you must acquire additional licenses. You may have as many copies of the software in simultaneous use on the network as you have user licenses.

2. Copyright. mlm own all title to the software and its copyright, which are protected by copyright law and international treaty provisions. Therefore, you must make no copies except for one archive copy of the software as a backup.

3. Other restrictions. You may not rent or lease the software. Unless this is a "Not for Resale" product, you may transfer the software and accompanying materials providing you retain no copies and the recipient agrees to the terms of this agreement. If the software is an update you may use or transfer it only in conjunction with the prior version of the software.

4. Limited Warranty.

- a) mlm warrant the media and documentation to be free of defects in materials and workmanship for a period of 30 days from the purchase date. If mlm receives notification within this warranty period of any such defect and such notification is determined to be correct, mlm will replace the items.
- b) mlm's entire liability for any breach of its limited warranty is limited to replacement of defective media or documentation and does not include or extend to claims for any other damages. This includes but is not limited to loss of profits, data or use of the software, or special, incidental, or consequential damages or other similar claims, even if mlm has been specifically advised of the possibility of such damages. In no event will mlm's liability for any damages to you or any other person ever exceed the lower of suggested list price or the actual price paid for the software, regardless of the form of the claim.

c) mlm specifically disclaim all other warranties, express or implied, including but not limited to, any implied warranty of merchantability or fitness for a particular purpose.

Appendix B - MyLaps compatibility

The RC4 Pure (Percy) transponder works only with the RC4 decoder. It can be purchased with a custom number and it is also possible to buy up to 7 transponders with the same ID.

The RC4 Hybrid (Harry) transponder works with the RC4 decoder and also the AMBrc and RC3 decoder.

Older transponders have the compatibility as shown below.



	AMB 20	AMBrc	AMBrc DP PT	RC4 Hybrid	RC4
AMB20 decoder	Lap timing	Does not work	Does not work	Does not work	Does not work
AMBrc (RC2) decoder	Does not work	Lap timing	Lap timing	Lap timing	Does not work
RC3 decoder	Does not work	Lap timing	Lap timing	Lap timing	Does not work
RC4 decoder	Does not work	Lap timing	Lap timing	Lap timing	Lap timing
	-	-	-	Temperature	Temperature
	-	-	-	Voltage	Voltage
	-	-	-	*Car ID's possible	Car ID's possible
	-	-	-	-	Custom numbers available

*Will be RC4 Car ID, not a Hybrid!

Appendix C - Change History

7/2/2016 – V1.0 Original version

13/4/2016 – V1.02

Made the transponder passing sound after the race over to be different to indicate clearly to the entrant that their race was over.

28/4/2016 – V1.03

In addition to elapsed time, added lap time to Race Timings table

Changed the automatic generation of Race Start Times to put the lunch break after the last race prior to 12:00 and not after the last race in heat 1 as before.

13/6/2016 – V1.04

Added Best Lap Time to race entrants' timings on Race screen

Configuration details now no longer deleted in basic database delete.

5/7/2016 – V1.05

Added ability to announce time remaining up to 18 mins to allow for team events.

Added the "Minimum Laptime" to the Race Entrants / leader board table so that now all entrants best laps are shown and updated at each passing.

Appendix D - Getting Started

Installation

Create a folder for the application ie C:\RaceMaster

Unzip the distribution file (RaceMaster.zip) into the folder. Ensure that all the files are kept in the same folder.

The application file is RaceMaster.jar. It is a Java program and requires that the Java runtime (not supplied) is installed on your computer. If you do not have it installed, it can be downloaded from the Oracle website (at the time of writing it was located at <https://www.java.com/en/download/>).

Starting RaceMaster

The easy way to access the application is to place a shortcut to RaceMaster.jar on the desktop. Simply double click this and the application will be launched automatically.

Appendix E - Sound Files

The sound files used that are supplied with *RaceMaster FE* must be located in a sub folder (called sounds) of the folder in which *RaceMaster FE* is installed.

The filenames cannot be changed although the contents can. Thus whilst the user has no control over when a sound announcement is made, the actual sound can be whatever you desire.

The default collection is called 'Peter' and is as follows:-

FILE NAME	ANNOUNCEMENT
1.wav	One
2.wav	Two
3.wav	Three
4.wav	Four
5.wav	Five
6.wav	Six
7.wav	Seven
8.wav	Eight
9.wav	Nine
10.wav	Ten
20.wav	Twenty
30.wav	Thirty
40.wav	Forty
50.wav	Fifty
1min.wav	One minute
2mins.wav	Two minutes
3mins.wav	Three minutes
4mins.wav	Four minutes
5mins.wav	Five minutes
6mins.wav	Six minutes
7mins.wav	Seven minutes
8mins.wav	Eight minutes
9mins.wav	Nine minutes
10mins.wav	Ten minutes
11mins.wav	Eleven minutes
12mins.wav	Twelve minutes
13mins.wav	Thirteen minutes
14mins.wav	Fourteen minutes
15mins.wav	Fifteen minutes
16mins.wav	Sixteen minutes
17mins.wav	Seventeen minutes
18mins.wav	Eighteen minutes

go.wav	Go
jump.wav	Jump start
millStart.wav	Klaxon sound
overrunEnd.wav	Klaxon 2 sound
passing.wav	Beep sound. All passings except the one after 'Race Over'
passingLast.wav	Boing sound. The passing after 'Race Over'.
pause.wav	Stop racing. Stay in the place you are. Race paused.
raceEnd.wav	Klaxon sound
raceStart.wav	Klaxon sound

