RACEAMERICA
Timing Systems
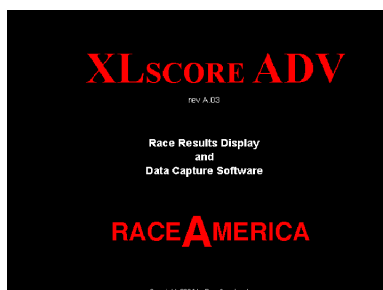
The Leader in Event Critical Timing Electronics

XL*SCORE* ADV

Data Capture and Race Results Display Software for PC's

XL*SCORE* ADV
rev A.03

Race Results Display
and
Data Capture Software

RACEAMERICA

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Owner's Manual

Part # 3126A Rev A.00

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Table of Contents

Figures

Illustrations

RACE**A**MERICA
T i m i n g   S y s t e m s

LIMITED WARRANTY

To the original purchaser of this RaceAmerica product, RaceAmerica warrants it to be in good working order for a period of ninety (90) days from the date of purchase from RaceAmerica or an authorized RaceAmerica distributor. Should this product malfunction during the warranty period, RaceAmerica will, at its option, repair or replace it at no charge, provided the product has not been subjected to misuse, abuse, or alterations, modifications, and/or repairs not authorized by RaceAmerica.

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THEORY OF OPERATION and OPERATIONAL CONSIDERATIONS

The XLSCORE ADV Software runs on any PC connected via a serial port to the RaceAmerica XL Advanced timing system. The PC acts as a display of race results for the race director. The power of the software allows the main PC to be connected to additional PC's for remote driver registration, race results viewing by an announcer, and an active display of results in the pits.

During normal operation, the PC receives information from the timing system. XLSCORE ADV software can capture race results from 2600 series XL Advanced Drag Timing Systems.

When using the XLSCORE ADV software functions, it is important to understand how the driver, class, and race results interact to manage the event. Drivers are registered into a class and form a unique driver-name/class-name pair within the software. When using the Capture Results function to record and display races, the software can also operate without classes for smaller events or for practice sessions.
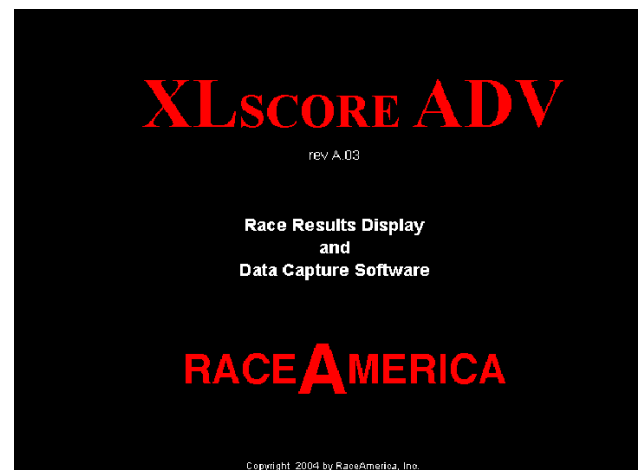
Once drivers are registered into their race classes, and selected as participating in today's event, the racing action builds a PC data file storing race results available for import into standard spreadsheet applications for further reporting and as an audit trail when questions arise on previous race results.

When running a race event that spans several days, file deletion and saving is a key. The XLSCORE ADV software is designed to manage the race results of the event as if there will be only one set of Eliminations Rounds in the entire event. When the event starts, deleting old race results from a previous event is necessary for the software to progress keep race results separated. The program prompts the user at startup if the race results files currently exist on the PC hard drive.

When running multiple one-day events where each day will hold an elimination round to end that day's event, a decision should be made to save that day's results files for future use. Once the files have been copied to another directory and saved, the XLSCORE ADV software can be directed to delete the old race results at the start of the next day's race event.

In either senario above, Driver Registration and Class Names are usually kept from event to event when there is a high return rate in drivers who registered for previous events. The XLSCORE ADV program provides for the setting of a 'race status' flag for each driver/class pairing to tell the software whether to include the driver in the current race event or omit the names from the drivers popup lists used by the program for the current event until the race status flag is reset.

5

LOAD THE XLSCORE ADV PC SOFTWARE

Insert the **XLSCORE ADV** Race Results Display and Data Capture software into the PC and copy the following three files to a desired directory of the hard drive of the PC. The files to copy are named:

> xlscorea.exe
> commport.dll
> fileio.dll

Insure all three files reside in the same directory or the software will not function properly. No PC restart is required to use this software after loading.

NOTE: The Windows operating system running in the PC may be configured to display a subset of the files in a directory. These OS settings may not display the .dll files in a directory and appear as if only one file exists. If the OS is configured in this manner, it must be reconfigured to properly display all three files, however, this reconfiguration is not required to run the XLSCORE ADV software.

Double click the xlscorea.exe file to begin the XLSCORE ADV software. The XLSCORE ADV software checks for files on the hard drive from previous race events. If these files exist, the software prompts the user with an alert screen shown in Figure 1. Clicking on DELETE will remove the files from the hard drive and lose all race information from the previous event. If the user would like to save these files, click on CONTINUE and then QUIT on the Main Menu when it is displayed.

The XLSCORE ADV software will also check for existing race classes and drivers registered and prompt the user to delete or retain the existing information if the files exist.

The XLSCORE ADV software loads the necessary files, then the configuration data is loaded, then stored, in a file named 'radata.cfg'. The XLSCORE Adv software displays the Configuration Screen shown in Figure 2 to select the PC ports connected to the timing system and the printer.

SAVING PREVIOUS RACE DATA

To save the previous race results, the user should move, rename, or copy the 'results.dat' file which contains all race results.

CONFIGURATION SETTINGS

All timeslips printed by the XLSCORE ADV software contain a 2-line header centered at the top of each timeslip. The header is entered on the screen (figure 2) with a maximum of 35 characters per line allowed.
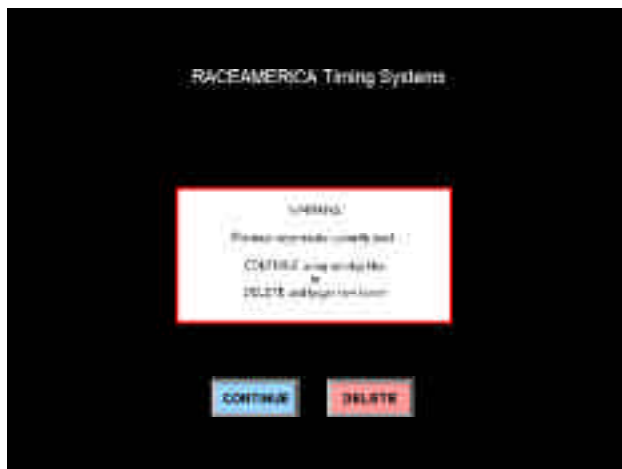
Generally, after printing the last line of the

Figure 1 - Existing Files Alert

Figure 2 - Configuration Screen

6

timeslip, printers require a 'form feed' command to eject the timeslip, however, some printers require line feeds to eject the timeslip out of the printer instead. The number of line feeds can be entered in NO. OF LINE FEEDS TO EJECT TIMESLIP. Zero line feeds defaults to sending the 'form feed' command to the printers. Some experimentation may be required to match the number of line feeds required to the specific printer connected to the timing system or to the PC.

When a race has completed, XLSCORE ADV can automatically print up to nine timeslips by entering the desired quantity in NO. OF TIMESLIP TO AUTO PRINT. Entering a zero disables this feature.

The PC serial COMM port connected to the timing system must be selected in order to receive race results form the timing system. Using the pulldown menu located at the top of the screen titled TIMING SYSTEM PC PORT, select the desired PC COMM port.

Printers can be connected to the timing system as well as a local printer connected directly to the PC. When the printer is connected to the PC, the PC printer port is selected using a pulldown menu at the top of the screen titled LOCAL PRINTER PORT (often LPT1). Both serial and parallel options are available.

The local printer connected directly to the PC is used by the software to print reports and timeslips.

Race results displayed on the screen can be saved in a file named results.dat by selecting the desired method in SAVE RACE RESULTS TO FILE. SAVE ALL RACES saves all race data each time a new race is completed. WHEN PRINTED saves race data only when the a timeslip is printed. This is a convenient feature enabling the user to select what races to save and which races to omit from the file. Selecting DO NOT SAVE disables the feature entirtely and no race results are saved to the PC hard drive.

After all selections have been made, click on the SAVE SETTINGS button to save the configuration information and continue or click on the QUIT button to end the software program without saving the configuration data displayed on the screen.

The Main Screen shown in Figure 3 is then displayed on the PC and is used to create race classes, register drivers, display standings, and run races.

For a detailed explanation of the information displayed by the XLSCORE ADV software screen used to perform these functions, review the SCREEN DEFINITION pages in this manual.

RUNNING A RACE USING CAPTURE RESULTS

The XLSCORE ADV software program offers a race screen requiring optional manual entry of driver's names and class selection. The following discussion runs races using the Capture Results mode of the XLSCORE ADV software and the PC screen in Figure 4.

**STEP 1 -
GETTING READY FOR THE NEXT RUN**

The XLSCORE ADV Software is very flexible. Driver's names or vehicle numbers can be entered, saved, and printed on timeslips. If the timing system includes handicapping functionality, bracket/index/dial-ins are also printed when running bracket/index or handicapped races. The system also allows a single lane to be used for BYE runs without the need to manually break the beams in the unused lane.
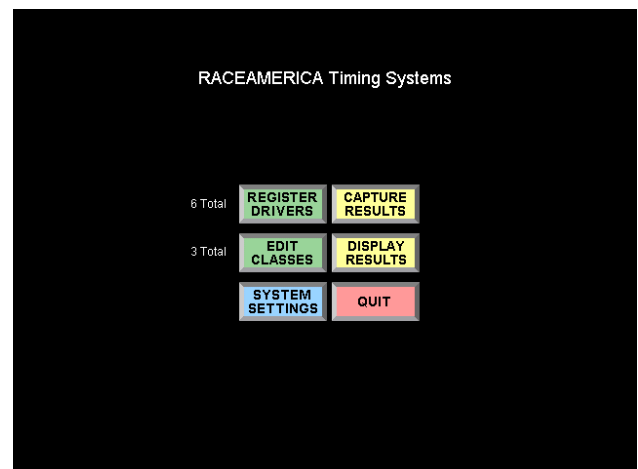

Figure 3 - Main Menu

Driver's Names can be manually typed in for each lane or selected from registartion information by class. If desired, enter the Driver's Names or Vehicle Numbers into the field at the bottom of the PC screen using the TAB key to move from one field to another. Up to 15 characters can be entered for each Driver's Names.

If the next race will use brackets or indexes or dial-ins, this information is entered into the timing system directly and not into the XLSCORE ADV software (if the timing system has this feature)..

STEP 2 -
STARTING AND SCORING A RACE

Insure the desired Driver's Names have been entered into the PC screen prior to completion of the race. When the race completes and race results are sent to the PC from the timing system, the Driver;s Names will be copied to the top of each lane and the race results updated to the screen.

As the race progresses, the vehicle's speed is measured for each lane if this option is present. When all lanes which broke the start beams cross the finish lines, the PC screen updates with all measured statistics. The Winning lane is indicated in GREEN next to the winning lane's ET.

NOTE: If a vehicle in either lane 'breaks' the starting beam but is unable to cross the finish line and 'break' the finish beam, the race is ended

manually using the timing system's keypad '#' pound sign key.. It is not necessary to manually block the start or finish beams in the lane not starting or not finishing. All measured statistics will be updated on the PC based on how far the vehicles were able to progress down the track. (i.e. Vehicle Speed is reported if the vehicle 'breaks' the Speed Trap beam). Speeds cannot be reported unless both the Speed and Finish beams are broken by the vehicle.

At the top of the race results displayed on the screen is displayed in green the time difference between the lane's runs as 'by X.XXX'. This is the actual time difference between finish line crossings. If a redlight or bracket/index/dial-in breakout occurs, the differential time will be replaced with REDLIGHT or BREAKOUT whichever is the factor used to determine the winning lane.

Clicking on the PRINT TIMESLIP button prints a timeslip on all printers connected to the PC. Click on the PRINT TIMESLIP button for each additional timeslip to be printed. If a number was entered in the Configuration Screen to automatically print timeslips at the end of each race, timeslips are printed at this point and the number of copies are displayed during the printing process.

STEP 3 -
TREE OPERATION POST RACE

When the race is over, the tree is updated with a green light illuminated in the winning lane, red lights in each lane for any foul starts, and the middle yellow light is illuminated for any bracket/index/dial-in breakouts.

Note that while the tree is displaying race results, the stage lights and beams remain active to allow staging of the next set of vehicles, however, since the redlights are being used to display race results, the redlights and START beams are not active. Pressing the PRINT key on the timing system's keypad will recall the last race results to the tree and the PC. The XLSCORE ADV software will refresh the screen but will not save duplicate race results to PC hard drive.

Figure 4 - Capture Results Screen

RACE RESULTS FILE DEFINITION

Selecting SAVE ALL RACES or WHEN PRINTED on the Configuration Screen for SAVE RACE RESULTS enables the software to save race results to a file. If the results.dat file currently exists, the software opens the file and adds new race results to the file without destroying previous race data. Restarting the XLSCORE ADV software will also not lose any race results from previous runs. If the results.dat file does not exist when the XLSCORE ADV software is started, the software will create the file for new race results.

When race results are saved to a file, the data is stored in the results.dat file in a tab delimited format. This format provides easy import into most spreadsheet software applications.

Once the race results data is imported into a spreadsheet, the data forms a multi-column representation of the race results displayed on the PC screen after each race. Each race adds two lines of information to the results.dat file, first the left lane results are added, then the right lane results are added.

Results for both lanes are added irregardless if only one lane is used or only one lane finishes. If a lane is unable to finish, race results saved will consist of the stats measured by the timing system for each lane as far as the vehicle could progress. An example of this would be a vehicle in the right lane starts, crosses the start line then stalls and is unable to finish. The reaction time, redlight info, the dial-in value for the right lane will be saved. The elapsed time and vehicle speed will be zero and breakout defaults to NO. The saved race results for the right lane will be the same as displayed on the PC screen after the race.

In the event of a BYE run, race results for both lanes are saved with the unused lane containing NO for redlight and breakout, zero for ET, RT and speed.

The following column definitions apply to the spreadsheet when importing the results.dat file created from running races using the Capture Results feature of the XLSCORE ADV software. Columns after the import of this file into a spreadsheet application are defined from left to right as:

Date and time stamp
Class name (blank if not selected)
Lane identification text
Driver's name as entered on PC screen
Elapsed time
Vehicle speed
Reaction time
Redlight as YES or NO
Dial-in as entered on PC screen
Breakout as YES or NO
Total time
WIN or LOSE or blank text
Win determination as blank or:
　　　　by xx.xxx
　　　　REDLIGHT
　　　　BREAKOUT

Initially the data is sorted by the Date/Time Stamp column, then by the Lane Identification column. To view a single race, the left lane results will appear above the right lane results for the same race.

To view a driver's list of runs in a cronological order, sort by the Driver's Name column, then by Date/Time Stamp column.

NOTE: Many spreadsheet applications have preference settings which set the default for the Date/Time format giving the appearance of a shortened Date/Time stamp. The format of the
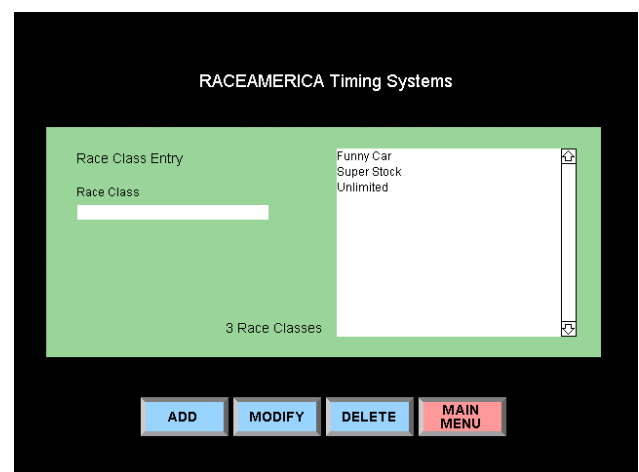

Figure 5 - Class Registration Screen

9

Date/Time column is MM/DD/YY or DD/MM/YY for the date and HH:MM:SS AM/PM for the time. The time is acquired from the PC's date and time settings. If the date or time is logged incorrectly to the file, the problem is corrected by resetting the date or time in the PC operating system.

REGISTRATION SOFTWARE OVERVIEW

The XLSCORE **ADV** software provides the ability to create class names and register drivers in classes to aid data management and consistency during a race event. For new users of the XLSCORE **ADV** software, it is suggested to use the Capture Results using manual entry of Driver's Names in order to become familiar with the operation of the Timing System hardware in conjunction with the XLSCORE **ADV** PC Software package. Once a good operational understanding of the hardware and software has been achieved, proceed to this Driver/Class Registration portion of the XLSCORE **ADV** PC Software package. Many references in the following documentation are built on previous knowledge of the hardware and software using the Capture Results and manual entry to run races.

REGISTRATION SOFTWARE DRIVER & CLASS REGISTRATION

If no classes have been entered, the DRIVER REGISTRATION button will be disabled until at least one race class exists. To enter a race class, click on the EDIT CLASSES button and the Class Registration screen is displayed, Figure 5.

Enter a race class name under RACE CLASS on the left side of the screen. Click ADD to add to the list of existing classes shown on the right side of the screen. If the class already exists, an error message will be displayed.

To edit or delete an existing class name, click on the class name as it appears in the list. The entry is highlighted and copied to the RACE CLASS field. Click oin the DELETE button to delete this class form the list or make modifications to the class name and click on MODIFY. An error message will be displayed if the newly modified class name already exists in the class listing. After all class names have been entered, click on the MAIN MENU button to return to the main menu.

To register drivers, click on the DRIVER REGISTER button on the Main Menu. The user is prompted to select a Race Class for the drivers to be registered as shown in Figure 6. Click on a Race Class from the list displayed to proceed.

Figure 7 is displayed listing all drivers currently registered in the selected race class. Enter the Driver's Last name, First Name, any Index/Bracket/Dialin, and any Notes or Comments
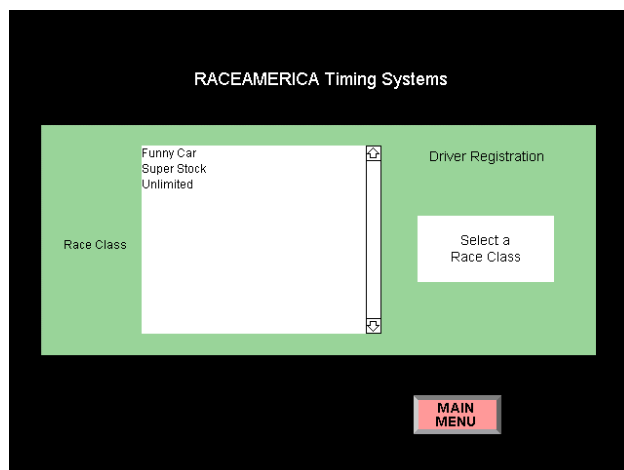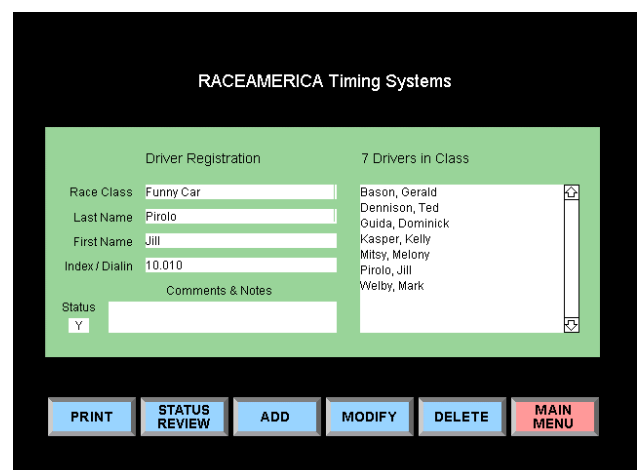

Figure 6 - Selecting a Class

Figure 7 - Driver Registration

for this driver. The Note & Comments field is limited to 74 characters without the presence of a carriage return. This field is truncated if it contains a carriage return. Click on the ADD button to register the driver information into that class. If the driver is racing in multiple classes, the driver information should be entered for each class. An error message will be displayed if the driver is already registered in the class. To delete or modify driver information, click on the driver's name in the list. To delete the driver from that class, click on the DELETE button. To modify the existing entry, make all changes and click MODIFY. An error message will be displayed if the new modifications result in a name that already exists in the list for that class.

When holding multiple race events with many of the same drivers, the ability to select which drivers will be racing during any one particular event is helpful to make the driver popup lists reflect who is racing rather than all the drivers registered in the XLSCORE Adv program. Clicking on the STATUS REVIEW button will display the current race day status of each driver registered in the selected class as shown in Figure 8. Click on a driver's name to toggle the Race Day Status from Yes to No. When set to Yes, the driver's name will appear in the driver popup lists during practice and qualifying rounds. This ststus for a driver can be changed at any time.

To print a list of drivers registered in this class, click on the PRINT button as shown in Figure 7. The print function will be available if a local printer was configured on the Configuration Screen of the XLSCORE ADV software.

To exit the Driver Registration screen, click on the Main Menu button.

If at least one class has been entered and at least one driver registered, many of the disabled features of the XLSCORE ADV software will become enabled. This is observed on the Main Menu where full color buttons replace the grayed out disabled buttons.

REGISTRATION SOFTWARE
CLASS SELECTION

Once classes have been created and drivers registered, Driver's Names can be selected from a list of registered for each class. To select a class name on the Capture Results Screen, click on the SELECT CLASS button. A pop up window appears with a list of class names previously entered as shown in Figure 9. Click on a class name to select a class. The Class Name and number of registered drivers in that class appear in the upper righthand corner of the screen. Note the SELECT DRIVER buttons will be enabled when a class has been selected as shown in Figure 10. Clicking outside the class list pop up window will abort the class selection function with no class selected and the SELECT DRIVER buttons disabled.
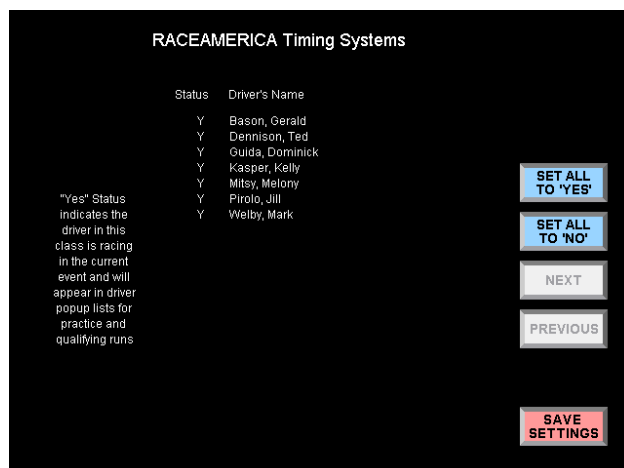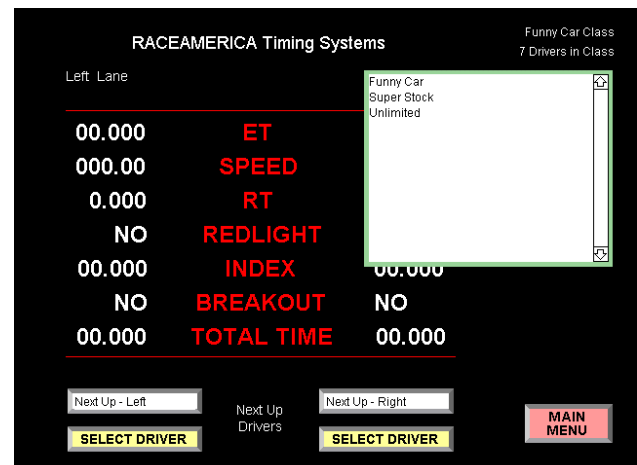

Figure 8 - Status Review Screen

Figure 9 - Class Selection

11

REGISTRATION SOFTWARE
DRIVER SELECTION

Once a class has been selected on the Capture Results screen, the SELECT DRIVER buttons are enabled. Clicking on the SELECT DRIVER buttons will display a pop up list of registered drivers in the selected class as shown in Figure 11. Click on a name for the lane selected. This is a convenient method to insure the spelling of each driver is consistent when using the race results stored in the results.dat PC disc file. Clicking outside of the pop up window will abort the driver selection function and leave the Driver;s Name field unchanged.

RACE RESULTS STANDINGS

Race results can be recalled from the results.dat file and displayed on the PC screen by class. Click on the DISPLAY RESULTS button on the Main Menu screen to display the standings and select a class name. Once a class has been selected, the   standings for that class are sorted and displayed showing the lowest to the highest Elapsed Time by driver and the highest to lowest Speed by driver. Standings display only the best ET and Speed for each driver name in that class.

To display a different class, click on the SELECT CLASS button and click on a class name form the pop up. Clicking outside the class pop up window will select no class and display the race results of drivers who were manually entered into the Capture Results screen with no class selected. The blank class name is a good use of practice runs for all drivers and keeps this race information separate from race results completed when classes are selected..

Figure 10 - Capture Results Screen

Figure 11 - Driver Name Selection

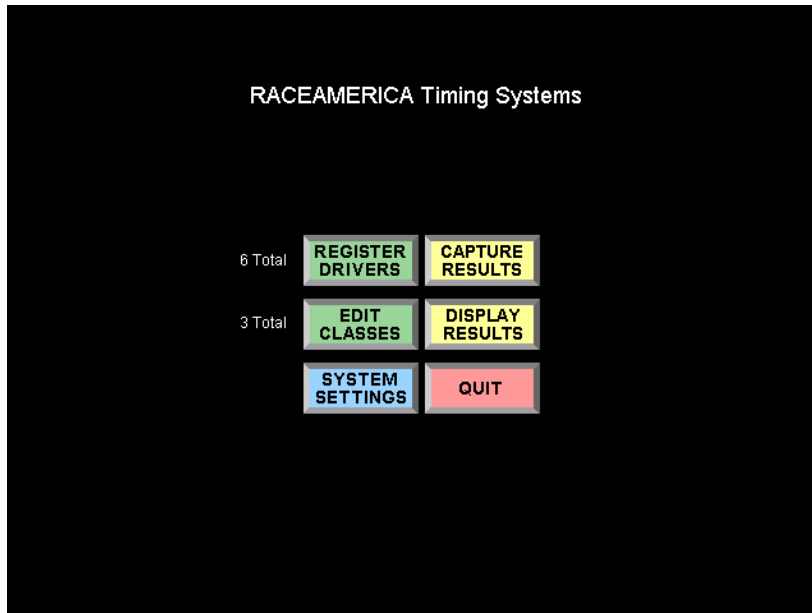Figure 12 - Standings Screen

PC SCREEN DEFINITIONS

Illustration 1 - Main Menu Screen Definitions

REGISTER DRIVERS	driver registration by class
EDIT CLASSES	create and edit race class names
QUALIFY STANDINGS	generate qualifying standings from qualifying runs
CAPTURE RESULTS	run races selecting from registered drivers
DISPLAY RESULTS	run races building standings for ET and Speed
SYSTEM SETTINGS	configuration settings for the XLSCORE Adv software and PC
QUIT	exit the XLSCORE Adv software program

PC SCREEN DEFINITIONS

Class selection and Registered Driver count

Difference between the two lanes finishing

Winning lane indication

Driver names for the next race are entered here

Illustration 2 - When displaying race results

Configuration pull-downs

2-line timeslip header

Timeslip auto-print configuration

Illustration 3 - Configuration Screen