

# User's Manual

SuperTimer II (Rev 4.01)  
including  
RaceManager option (Rev 2.00)

The most complete and most accurate  
Race Timing System available

## **SuperTimer**

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This manual is available on the web at  
<http://www.supertimer.com/pinewoodll/usersman.pdf>  
or  
on your RaceManager CD.

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# Introduction

## 1. System Overview.

- **SuperTimer II** operates without a computer and provides timing to 0.0001 seconds for each lane. The results are spoken using voice technology circuits. During each announcement, a light blinks in the lane being announced. Several switch-selected options are available although most are also available in and overridden by settings in the RaceManager software. It also includes a racer-activated starting solenoid.
- **RaceManager** is a Windows program that controls SuperTimer II, manages the entire race and determines the winners. It requires a computer with a Windows 95 or later operating system and one available RS-232 serial port or a USB port with a USB/Serial Adapter.
- **RaceManager** has been designed for the VGA standard 640x480 screen size and defaults to that size when started. While it will work with other sizes, we recommend that you click on **Start/Settings/Control Panel/Display/Settings** and set the screen size to 640x480 using the slider. You can of course reset it after the race. The Race screen has been designed to expand automatically using the maximum font for best projection.

## 2. Terminology used in this manual.

- **heat:** One or more cars running from start to finish.
- **period:** All cars running exactly one heat.
- **set:** As many periods as there are lanes, or when all cars have run once in each lane.

## 3. If you pass this on...

If you pass this timing system on to another person, please have them check out website for the latest upgrades.

## Organizing the Pinewood event.

This section has been placed early in this manual in the hope that you have ordered your SuperTimer II early enough in the year that you will have time to read this and consider some of the recommendations included.

There is no doubt that the use of SuperTimer II can completely change the typical race day atmosphere. Gone is the need for a judge with the eyes of Superman and the patience of Job. SuperTimer II can be used to make the day much more of a Racer's day and closer to the ideal experience of a positive racer-parent-organization event.

We thank the many users who have been helpful in requesting changes in this manual and in the operation of SuperTimer II and the RaceManager program. Their suggestions have been incorporated to help make your SuperTimer II system including SuperTrack the most complete, most flexible and easiest to use system available.

Because the judging is un-contested, the complete race takes much less time than previously. You can expect about 2 minutes per heat (even faster if you're really organized.) If all cars run in all lanes once, the maximum number of heats is equal to the number of cars plus the number of lanes minus one. If you have more lanes, then each car runs more times, but the number of **heats** stays the same. **Please read this paragraph again.** It may not sound right, but the math is correct.

You can also expect much less overall confusion and almost no re-runs. This extra time can be used a number of ways:

## **1. Involve the kids.**

Let the racers place their car at the start. Other than car differences, the starting line placement (and having the car face forward!) is probably the most critical remaining difference in performance. While Racers have often been excluded from handling the cars, the controlled atmosphere provided by the SuperTimer/RaceManager allows a different approach.

The pre-race schedule allows the racers to be called up ahead of time, take their car from the adult supervised "pit area," place it at the start and then themselves at the finish line to watch their car run the track. *Let the racer assigned to Lane 1 start the race!* Each racer then returns their car to the "pit area."

The Racers stay alert for their name, are part of the action and get recognition when their cars run. They are part of the race, not merely watching the leaders. Order is easily maintained.

## **2. Have a parent's race.**

We all know that some racer's cars are actually made by their parent. Now there is enough time to have a Parent Race. Let the parent place and recover their car too. *Let a parent start the race!* It's great fun.

## **3. Have style competitions.**

Originality, most colors, fastest looking, etc. Another way to have even more winners. Note, that pre-manufactured, very stylish cars are available from a number of sources. These cars often win style competitions when the judges are unaware of the opportunities available in this realm. Check your local hobby stores well before race day to see what's available.

## **4. Raise money the painless way.**

Schedule your race for Saturday at 11:00. Take a little more time between periods to print out the results so that the fund-raising food concession can do more business. While this is an easy way to raise money, it's also a way to make the event more of a family affair.

## **5. Use the Team function.**

RaceManager, using the same results that produce the overall winner, will also tell you, for example, the winner in each Den as well as the fastest Den. This Team function fosters cooperation instead of pure competition. It also makes for lots more winners and lots more happy racers.

## **6. Have a 'trial' night.**

Nothing is more embarrassing to a youngster than having a car fail to reach the finish line in front of all their peers. Set up SuperTimer II without the RaceManager and set it to announce the times for all lanes. Then let all the racers run, tweak and run again as often as they like. It's lots of fun and Race Day will be that much better.

## **7. Special Note:**

SuperTimer II and RaceManager allow you to run your race your way. In fact, the possibilities exceed the space allowed in this User Manual. If you want to do something a little different, we suggest you use one or more of the three suggestions below:

1. Try it yourself ahead of time.
2. Check out [www.supertimer.com](http://www.supertimer.com), which has much more space to explain things including a free download book on How to Run the Pinewood Derby.
3. Call us, we're always happy to hear from you. If you want to do it, chances are so does someone else. If it can't be done today, perhaps it can be done tomorrow.

# Setting the Rules.

In the past the difficulties of judging, arguing over the calls, re-racing and paperwork have slowly changed the atmosphere of the race so that the rules were made with the goal of making the leader's job possible. SuperTimer II with the RaceManager option allows rule making to enhance the experience for the racers.

Be sure that you have spelled out the rules (keep them simple) ahead of time and repeat them before the race.

## 1. Lane jumping.

1. What happens if a car jumps its lane and goes off the track?
2. What happens if a car jumps its lane and hits another car?

If you decide that in either of the above conditions you will re-run the cars, RaceManager will allow you to do so either before you accept the results or after. See the **Race** and **Re-race Tab** options.

## 2. Weight.

The standard rule is 5 ounces. How accurate and precise is the scale you will use? What happens a weigh-in time if the car is over/under weight? Can it be fixed, how many tries, how close is close enough? Be sure you have a precision scale, not a cooking scale.

## 3. Lubrication.

Graphite is usually used. Will the cars be lubed at check in, by whom, after each heat or not? In general, graphite works better after the excess is gone. Some places forbid it because of the mess it can make on carpets and floors.

## 4. Wheels.

Can they be sanded, or lathe centered or given a knife edge? Who will inspect them? Will you specify a standard manufacturer for wheels as well as cars? Will you allow the 'special' ones available from mail order catalogs?

## 5. Axles.

Can they be polished or plated? It's almost impossible to check for this, but it makes a difference.

## 6. Shape.

The wooden block limits length and width and height is generally lowered to reduce air drag. However, ground clearance (usually guide rail clearance) is often a problem because the weight can be put on the bottom to lower the center of gravity. A wooden box can check length and width. Check bottom clearance at the sharpest curved part of the track to be sure that the bumpers don't rub.

## 7. Wheelbase.

Slots in the standard block normally fix the distance between the back and front axles. Increasing this distance can help the car go faster. Will your rules allow it?

## 8. Philosophy.

Just because some trick is perceived to make a car go faster doesn't mean the car will actually go faster. This author believes in two ideas. Keep the rules few and simple. Require that the winning racer (and parent) conduct a seminar for all other racers (and parents) detailing just what they did to make a winning car. Let the racers learn that creativity can be rewarding instead of learning that bureaucracy can be tedious and inhibiting and that cheating is the way to beat it. "Innovate, don't legislate."

## **Installing the RaceManager software in your computer.**

If you did not purchase the RaceManager option, operate SuperTimer II without the computer and skip this page.

If you did purchase the RaceManager option, you must have a Windows 98 or later computer and an available serial port or USB port with adapter. It is assumed that you are familiar with the basic operation of Windows programs. If you are not, please ask your child.

Place the RaceManager CD-ROM in your CD-ROM drive. It should start and run automatically. The menu will allow you to install RaceManager and a USB driver as well as view this manual, the SuperTrack video and review the Parts lists.

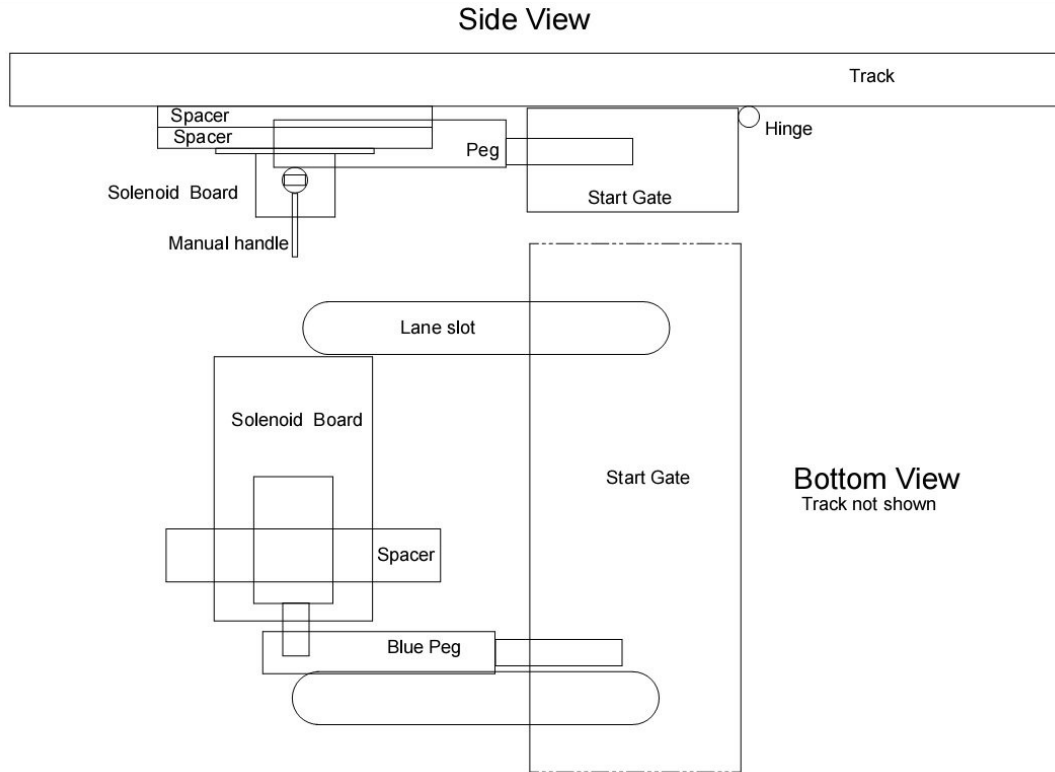
If RaceManager has trouble connecting to SuperTimer II, be sure that SuperTimer II is on and connected with the wire and parts we provided. It will not work using the telephone plug into a modem port. The handle of the telephone RJ-11 connector has been cut to discourage its removal from the gray DB-9 adapter.

If you've added a USB to Serial Adapter, try plugging the USB adapter into a different USB port and/or restarting the computer. Unfortunately, this is sometimes necessary. RaceManager will remember the COM port it finds for faster start up next time. Information on what RaceManager finds when seeking a COM port will appear on the top line of both the initial "splash" screen and the main screen.

The serial port routine in RaceManager Rev 2.00 or later was modified to find the serial port in virtually every case. You can even swap ports during a race, cause SuperTimer II to halt because of the line noise created and RaceManager will automatically find the new port.

# Installing SuperTimer II.

1. Installing the Start Gate assembly in a conventional wooden track.
2. **NOTE: If using SuperTrack, watch the 5 minute video.**



See <http://www.supertimer.com/pinewood/TechSupport.html> or <http://www.supertimer.com/track/supertrack.html> for example pictures on many different tracks. (Some examples are for previous versions of SuperTimer II or of SuperTrack.)

These instructions assume a 'conventional' track. Keep the ready switch near the track edge for operator convenience.

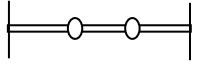
1. Be sure that a small space exists between the top of the start bar and the bottom of the track. Interference here will put great side pressure on the solenoid plunger and may prevent it from retracting. Paper thickness is enough space.
2. Support the Start section of the track so that the start gate can be closed and the track can be worked on with the racing surface facing the floor.
3. Using the drawings as a reference, mark and drill a  $\frac{1}{4}$ " hole in the starting bar, 1" deep. Be sure the hole clears the lane dowel and that the adjacent lane dowel will clear the back of the solenoid board. Insert the blue rod in the hole, sharp edge toward the underside of the track. If it's loose, don't glue it, use a shim (e.g. a piece of paper).
4. Place the solenoid board so that the fully retracted plunger JUST clears the flat edge of the blue rod. Mark the holes for the solenoid board and screw it in place using two #4 x  $\frac{1}{2}$ " wood screws. The slots in the solenoid board allow some adjustment. Close the gate so that the blue rod is above the plunger. When it is the plunger should spring out. If the plunger will not clear the blue rod, move the plunger higher by adding the provided blue spacer or additional spacers as needed under the solenoid board.

5. Pulling the plunger out too far will make it weaker and potentially cause intermittent operation. When testing, the LED marked SOL will light when the Solenoid is energized for boards marked Rev 3.xx and earlier. For Rev 4.xx boards the LED will be on all the time and go out when the solenoid is energized.
6. Mount the "ready" switch (black with metal lever) using two #4 x 3/4" screws. Keep the handle close to the edge but not protruding as this may cause storage and handling problems. Consider wire clearance and operator convenience when mounting. It is NOT a limit switch and should not be operated by the gate position.
7. Mount the magnetic sensor about 1/4" from the moving edge of the starting bar using the tie wrap and a #4 x 1/2" screw. Mark the bar to indicate the center of the sensor. Then drill a 1/4" diameter hole, 1 1/4" deep in the starting bar and push the magnet into the hole so that it is flush with the starting bar.
8. Connect the Start Sensor to the small Circuit Board at the terminals marked 'Start'. Connect the Ready switch to the small Circuit Board at the terminals marked 'Ready'. The 'Ready' terminals are closest to the corner of the board. Later you'll connect the Power and SuperTimer II connections.
9. The extra tie wrap may be used as desired. The additional hardware in the Start Assembly bag will be used at the finish line to mount SuperTimer II.
10. If in the normal operating position the gate does not fall on its own quickly enough, add a rubber band to help it move faster. You can hook the rubber band over the blue rod and attached it with a small nail or screw on the other side of the gate hinge. Long, loose rubber bands are better than short, tight rubber bands. Be sure the rubber band does not cause the gate to over-travel and 'bump' the track as it stops.

### 3. Lane sensors and Lane Wiring.

See <http://www.supertimer.com/pinewood/TechSupport.html> for example pictures on many tracks including SuperTrack.

These instructions assume a 'Standard' track. If your track is different you may need to adapt these instructions. [known differences are in brackets] Support the Finish section of the track so that the track can be worked on with the racing surface facing up. We will also have to do some wire connecting under the track so it's important that the area between the finish line and the end of the track be well off the floor and clear of obstructions. The following instructions are FOR EACH LANE AND DO NOT APPLY TO SUPERTRACK WHICH IS PROVIDED PRE-CUT AND PRE-WIRED.

1. Using a hacksaw (we need a very thin blade) cut a slot exactly at the finish line through the center guide strip all the way down to the surface of the track. Masking tape in the racing surface will tell you when the hacksaw has reached bottom before it cuts the track. [For edge guides, purchase 1/4 x 3/4 screen molding at a local lumber yard and nail/glue a 1" section either side of the finish sensor after it is mounted.] It is essential that the bottom 1/4" AT LEAST of the Sensor be very firmly supported. The Sensor must bend above the first 1/4", NOT at the crimp pins. Repeat for each lane.
2. Using a 1/8" drill, drill two holes through the slot and through the track. The holes should be centered in the lane and 0.20" (3/16") apart. The result should look like this  center  
guide.
3. 3-6" beyond the finish line, drill a 9/32" hole through the track centered in the lane. This is for the LED Lane Light Lens and will make a very tight fit. A 5/16" drill may be used but some glue will probably be necessary to hold the Lane Light Lens firmly. Repeat for each lane.
4. Place each Sensor in its slot. The Sensors are polarized. The side with labeling on it MUST be the side hit by the car. Repeat for each lane. [If you have an aluminum track, see the tech support pictures.] Do NOT glue the sensors. They may be held in place by gently holding wires underneath with the tie wraps.

5. Place the small flat white washer on the Led Lens, and then place the Led Lens on the Led, snapping it gently into place. Feed the Led wires through the mid-lane hole and push the lens down tight. It should be a firm fit. Repeat for each lane.
6. Mount the SuperTimer FINISH Circuit Board upside-down under the center of the track near the finish line using two #4 x 3/8" screws. Consider wire routing from the lanes when placing the Finish Circuit Board.
7. NOTE: When requested below, insert the wires into the proper GREEN connector on the Finish Circuit Board and push down HARD on the ORANGE tab until the wire is seated at the bottom of the slot. You cannot insert a wire unless the tab is up. The individual holes are identified on the Finish Circuit Board. It's okay to shorten any wire once you're sure where you're connecting it. BE SURE THE WIRE IS FULLY INSERTED INTO THE GREEN CONNECTOR; IT TENDS TO STOP SLIGHTLY ABOUT HALF WAY IN.
8. NOTE: A Lane number identifies each Orange/Green connector on the Finish Circuit Board. A color label also appears for each hole in each Orange/Green connector. Bk is for Black, Bl for Blue and Rd for Red. For any Lane either Rd hole may be used for either Red wire, they are identical.
9. Connect each Sensor wire (Red/Black) and each LED wire (Red/Blue) from each lane to the appropriate connector. (re-read # 7) You may cut the wires to length, twist them together and use the tie-wraps as needed.
10. For three lane tracks only mount SuperTimer II by drilling two holes in the end of the track. These holes should be 3/16" diameter, centered across the track, about 2" from the end of the track and 10" apart. These holes will be used to mount SuperTimer II using the long screws and wing nuts left over from the starting gate baggy. Add a wooden strip just behind the front edge of SuperTimer II to backstop the foam. For four lane and larger tracks, mount SuperTimer II off to the side. The Start, Computer and Speaker (or Line Out) cables will be added later.
11. Connect the 7' RJ-45 (8 wire) phone cable from the Finish Circuit Board to the 'Lanes' connector on SuperTimer II. Do not shorten or lengthen this cable but you may use its existing length to move SuperTimer II away from the track if desired. It is NOT an Ethernet cable.

## 4. Final Installation of SuperTimer II.

Before the final mounting of SuperTimer II to the end of the track, you will need to attach a few more cables.

1. The speakers plug into the connector marked "SPKR". Arrange the speakers for best listening, usually facing opposite directions. The Option switches are discussed below in detail. However, if you turn ON Option switch 3 before power is applied, SuperTimer II will 'speak' all possible words/phrases so that you can adjust the Volume on the front panel. The speakers are quite loud. If you have an unusually large or noisy environment, you can connect the jack marked "Line Out" to the line input of your public address system. The volume control affects both outputs. You may have both outputs connected at the same time. **DO NOT CONNECT ANY EXTERNAL AMPLIFIER TO THE "SPKR" JACK.**
2. Connect the silver 50' telephone cable from the SuperTimer II jack marked "STARTGATE" to the RJ-11 jack on the Solenoid Board. The Power supply is connected on the next page.
3. If you are using RaceManager, connect the black 50' telephone cable from the SuperTimer II jack marked "COMPUTER" to a USB port on your computer. Be sure RaceManager and the USB driver have been installed first.
4. **AFTER TESTING**, fasten SuperTimer II near the end of the track using the screws and wing nuts provided. Put the screws through the two small holes on the edges of the SuperTimer II label, then through the mounting and add the wing nuts underneath. You may wish to leave it un-mounted until you've run several heats.

## Using SuperTimer II.

### 1. Connect the Power.

At the Start Gate connect the included power supply from the power line to the power jack on the Solenoid Board.

### 2. At the Start Gate.

Beyond being sure that the correct cars are in the correct lanes, the Starter need only do two things:

1. Place the start gate in the closed position. If the gate does not latch automatically (it should), then use a finger to pull the long thin pin on the plunger under the blue rod. Let go of the gate, and then let go of the pin. This latches the gate in the closed position.
2. When the cars are ready, **PUSH AND HOLD THE READY SWITCH**. This tells SuperTimer II that the starting gate is ready (The speakers say, 'Ready'.).

### 3. At the Finish Line.

SuperTimer II has two lights, a big red button and a volume control. The volume control was discussed previously in the Final Installation section. The other front panel items are:

1. The Red Power/Status LED. This LED flashes once/sec when power is on and the computer is operating normally. It flashes twice/sec during the race and very slowly if the start gate is not closed. Always on or always off when not talking indicates that SuperTimer II has malfunctioned and must be reset.
2. The Green Ready LED. This LED is illuminated whenever SuperTimer II is ready to race and remains on until the end of the race or the removal of the ready condition. Ready occurs whenever the starting gate is closed AND the Ready switch is **HELD ON**. If the starter releases the Ready switch, the Green LED will go out. If RaceManager is used, the Green Ready LED also requires that RaceManager have a heat on screen. Like the starter releasing the ready switch, RaceManager can also cancel the ready condition. At the moment SuperTimer II becomes ready, the speakers will announce, "Ready!" If the ready condition is canceled, the speakers will announce, "One moment please."

3. The BIG RED BUTTON. This button is enabled whenever SuperTimer II is 'ready'. Pressing this button fires the solenoid and starts the heat. Usually the racer in Lane 1 starts the heat. Since RaceManager assigns every racer to every lane, every racer will be assigned Lane 1 and start a heat. Alternatively, you can release the gate manually using the thin rod attached to the solenoid plunger.

#### **4. Scoring.**

If you are using SuperTimer II without RaceManager, then someone will have to listen for the results that are announced at the conclusion of each heat and score accordingly. There are four announce style options as detailed below. With any option, the full result will be repeated IF THE START GATE IS LEFT OPEN. After the result is announced, an announcement to close the start gate will also be heard if it's open. The start gate may be closed at any time after the cars leave the start ramp. There will always be at least one full Heat announcement and any Lane announcement started will be completed.

If you are using RaceManager, the result will be announced only once AND will also be sent to the RaceManager program and displayed on the Race Screen as detailed later.

Failure to close the Start Gate will cause a repeating "Please close the Start Gate" announcement.

## 5. Option Switch.

Option Switches (“mini-dip” switches located along the top edge of the SuperTimer II board to the right of the Finish Line connector) are read at Power ON only. If you change a switch, you must also re-cycle the power.

RaceManager – Setup Screen settings override the option switch settings if RaceManager is used.

Switch # - Function:

1. Announce pattern (see chart and examples)
2. Announce pattern (see chart and examples)
3. ON to Play All messages and Firmware Revision number at power on. This function is also available at any time from the RaceManager-Setup-Audio Test button.
4. TieTime - ON 1mS, OFF 0ms (times must be equal for tie), RaceManager allows 0-2mS in 0.1mS steps.
5. TimeOut - ON 10 Seconds, OFF 5 Seconds, RaceManager allows 1-60 Seconds in 1 Second steps. (In addition, RaceManager allows a 0 setting that disables the timeout function for very long races.)

Announce Pattern (overridden by RaceManager if present)

Sw 1	Sw 2	1 <sup>st</sup> time	Other Time	Other Diff	Note:
On	On	No	No	No	A
Off	On	Yes	No	No	B
On	Off	Yes	Yes	No	C
Off	Off	Yes	No	Yes	D

- A) “Winner Lane 2 (P) Second Lane 1 (P) Third Lane 3”  
B) “Winner Lane 2, Time 2.3456 Seconds, Second Lane 1 (P), Third Lane 3 (P)”  
C) “Winner Lane 2, Time 2.3456 Seconds, Second Lane 1, Time 2.4567 Seconds, Third Lane 3, Time 2.6789 Seconds”  
D) “Winner Lane 2, Time 2.3456 Seconds, Second Lane 1, Difference .1111 Seconds, Third Lane 3, Difference .1111 Seconds” (The difference between this car the next fastest.)

(P) is a one second pause to allow lane light flashing to be noticed. Lanes not finishing are not announced.

Earlier models with six switches should have switch 6 ON at all times.

Earlier models with nine switches should have switches 1,2,3 OFF ALWAYS. Switches 4-9 can then be thought of as switches 1-6. Switch 9 may be off or on depending on the particular version but should be left where it is.

## 6. LED/Lane Tests.

At power on a LED Test occurs. During this time, each lane’s LED is illuminated for one second and the Lane number announced beginning with Lane 1. If switch 3 is On then all stored announcements are spoken followed by the firmware revision number.

If the Red button is HELD during power up, the speakers will say ‘Lane’. Immediately release the Red button. If successful, no further announcements will occur. ‘Flick’ each lane sensor; the speakers will say the lane number and the lane led will light briefly. Push the Red Button to exit this test mode.

# Using RaceManager.

## 1. Starting.

To install RaceManager, see Page 7. The Setup program will place a SuperTimer icon on your desktop. Simply double-click the icon to start the program.

A 'splash screen' that shows the program revision number will appear as the main program loads. This screen can be seen again by clicking on 'About'.

RaceManager opens a blank dataset named "Pinewood" or the dataset you were last using. You can create separate datasets with File/Open and switch between them at almost any time.

## 2. Connecting to SuperTimer II.

During startup, the program will also test the serial port to see if it can find SuperTimer II. If it does not find SuperTimer II, it will warn you. You are allowed to bypass the warning in order to enter racers. If SuperTimer II is found, then all functions will appear and work normally as described below.

## 3. File-Misc Open existing or Create new race.

You may pick your data from the files listed or simply enter your desired new file name into the box labeled "File Name". The length of the name you choose is limited to 8 characters because it is used in displays and reports. Folders and extensions are ignored. Clicking on an existing name is the usual way to switch between TOTALLY SEPARATE GROUPS RACING TOTALLY SEPARATE RACES. It is more commonly used to allow you to enter the racers ahead of time and then select that dataset when the program starts.

You can use the data-naming feature to separate groups for racing on the same or separate days. Avoid creating lots of small groups as this defeats the advantages provided by the speed matching software. Most organizations race everyone together and use the group results to provide separate winners in each group.

## 4. File-Misc Import Racer Data (.txt) to this race.

Use this to import Racer names and teams from Pack Administration software. The imported file must be comma delimited text in a .txt or .csv file in first name, last name, group1, group2, group3,misc, car# order. Fields may be blank. Car Numbers may be specified or will auto-increment from the previous number. One racer per line. Unused fields may be omitted but must have their comma. Single, double or no quotes are acceptable. Example: John,Doe,'135',,"BEAR"

## 5. File-Misc Save Current Data.

This selection does absolutely nothing. All current data is automatically saved whenever it is created.

## 6. File-Misc Save as (make a second copy).

Allows you to save the current data set under a new name. RaceManager will continue with the new name leaving the original data set stored and unchanged.

## 7. File-Misc Start Over - clear ALL heats - leave racers..

Removes all heat and team results while leaving intact the basic racer information. This choice only appears if heat data exists. It is usually used to clear test heats before an actual race or to clear last year's heat data from a copy used this year with many of the same racers.

## 8. File-Misc Clear this Period only.

Identical to Start Over but only for the current period or current Heat Schedule.

## 9. File-Misc Repair/Recalculate current data.

While unlikely to be needed, this function re-indexes all data tables and regenerates the team and racer averages and positions. It is called automatically the first time a racers' team assignment is changed after heat data exists. You must select it manually if further team assignments are changed.

## **10. File-Misc Join two sets of race data.**

Joins the results from two or more separate races. Results with unique car numbers will produce one large race. Non-unique car numbers (Father/son raced separately but had the same car number), will be merged by number to reveal the pair results. Team data must also match or not be used.

## **11. File-Misc Delete old races.**

Allows you to easily remove all the files used by the dataset name you entered. You cannot delete "Pinewood" or the currently active dataset. Pinewood will become the active dataset when you complete the Delete Files operation

## **12. File-Misc Create text logs (racers/heats).**

Turns on or off text logs of the racer and heat information which can be used by knowledgeable persons on a network computer for special purposes. The program is faster if Create Text Log is left off. The logs may be viewed with any text editor.

## **13. File-Misc Exit RaceManager..**

You may exit the program at virtually any time. If exit occurs during a heat, that heat will be the only data lost and the heat will be re-scheduled as the first heat when you re-enter the program. This includes the possibility of a crash caused by computer malfunction or power failure.

## **14. Data from 2nd Computer.**

If you wish to create a dataset on one computer and race on a different computer you will need to install the RaceManager software on the second computer. And, when you are done copy ALL files (9) that begin with your selected name to the race computer. Be sure all nine files go in the C:\SuperTimer II folder. WARNING - Reading the individual data files using ODBC over a network by knowledgeable programmers is permitted. Writing is likely to cause major problems. Neither is well documented nor supported. Use the .txt files.

## **15. Setup Tab.**

The Setup Tab is always active at the beginning of the RaceManager program and when changing datasets. Choices here override Option switch settings in SuperTimer II. You can customize your software in four areas:

1. Announcement Style. Besides the four choices allowed by the Option switches, RaceManager adds a fifth choice of no announcement. Audio Test is the same as that described in Option Switch 3 and can be used to adjust speaker volume.
2. Time Select allows more precise control of Heat End Time and Tie Time. Click on the arrows to adjust the times.
3. Category Names allows you to customize the names of groups for your particular organization. Each racer can be individually assigned to each group. While the racers all run together, the results are available based on these groups. In the simplest implementation this would allow for one group (e.g. Dens) to produce the winners in each Den and the Dens in speed order as well. This Team competition can be very useful in producing more winners. A slow car on a winning team still gets bragging rights. To change a name, simply click on the old name and type the new one. The new name will appear on all reports and screens where needed. Because of report size limitations the length of the name you choose is limited to 8 characters. However, because of proportional letter spacing some 8-character names, for example "AMERICAN", will appear with the ends truncated in some locations. Using at least some lower case letters, for example "American" easily solves this.
4. Lanes Used both shows the Lanes purchased and the Lanes that will actually be scheduled. It allows you to shut down a lane if it is particularly rough. In the absence of a connection to SuperTimer II or when racing has started, a message appears and the lanes used choice is unavailable.

## 16. Entries Tab.

The Entries screen is used to enter the racers. A Car number and First name are **required**. Car number may be entered (e.g. 12) or RaceManager will find the lowest available number greater than the last viewed record and assign it. If you enter the number and it exists, you will view that record. If you change a number to 0, it will be re-assigned to the lowest available number greater than 0, Same for 100, 200, etc to lowest greater than 100, 200, etc..

You can also import racer names from most Pack Administration programs that output "comma delimited text". See File-Misc Import Racer Data on page 14.

Moving between fields may be done with <Tab> (the Windows standard) or with <Enter> (the typist standard).

Entering a period in front of the first name (e.g. .John) will allow the racer to race but not appear in or affect the scoring overall or of their team. This is used when the car doesn't meet the rules for reasons not associated with the racer. The racer will appear in non-time order reports but without time or position and will not appear in time order report. They cannot set a record but are included in lane balance calculations.

There are three ways to start a new record:

1. Hit <Tab> or <Enter> from the Miscellaneous field. This method requires confirmation. If not confirmed, then the next record will be shown instead.
2. Click on Add from any field.
3. Hit the Down Arrow from any Group field. This is especially helpful in creating many entries quickly.

A name entered in any group automatically creates a team within that group. Previous Group information is repeated in the new record. Team names may be selected from a drop down list.

You can enter data ahead of time and simply un-click 'Running' if the racer does not appear on race day. You can re-click 'Running' if they appear later and their heats will be made up automatically. 'Running' is repeated for the next racer added. Double click on either 'Running' will allow you to set all racers as running or not running.

First, Previous, Next and Last allow you to browse the racer data. Delete is used to PERMANENTLY erase a racer's record, consider using 'running' instead.

The Car#/Name/Time choice selects the order in which entries appear on this screen. Car# is more useful when entering data. Name can be helpful when trying to find a particular racer. Time shows cars in speed order and can be a useful way to eliminate cars that "don't make the cut." (Generally not a good thing.) Note that cars that have not run have a time zero and appear first on this listing. However, the slowest running cars can be found by clicking LAST and then PREV.

## 17. Race Tab.

The most likely next choice is Race. There are two large buttons that appear immediately although they may not be accessible. Near the buttons are displayed the set, period, heat, the number of cars scheduled to race, the number of cars that have already raced in this period and the total number of cars running. At different points during the race some of these numbers may be blank because they are unknown.

Usually, you will select Create Heat Order (AFTER you've entered all the Cars) and a report will appear which you can print. You will probably want to print several copies, one for the pit area, one for the computer operator and, most important, one for the announcer who will call the racers to the pit area a heat or two ahead of time. If you leave before printing and want more copies, check the Reports Tab. In the absence of a connection to SuperTimer II you will be unable to create a Race Order since the routine must know the number of lanes.

**Racing order** changes depending on the period. In the first period, the cars are assigned in increasing car number order. After the first period, the cars are assigned in reverse speed order, changing lanes to a lane that is available and has not been used by that car. Thus all cars will run in all lanes and will be racing similar speed cars after the first period. And, the fastest cars will run last. **The winner is the car with the fastest average time, but may not be the car that wins the last heat.** A less than full track will result when the number of cars is not evenly divisible by the number of lanes. Empty lanes occur only with the slowest cars. The RaceManager virtually always prevents a car from running alone.

Once you have the Heat Order, simply click on Run Heat, which is now available. The lanes, car numbers and racers names will be listed, the Run Heat button will change to "Click to Pause Heat". If or when the Starter is ready, the Green Led on SuperTimer II will light and the speakers will say, "Ready!" Run and 'Pause' Heat are the equivalent of pushing/releasing the Ready switch at the Start. Run Heat must be clicked and the Ready switch held for "Ready" to be announced.

An 'On Deck' list and the current record speed will appear on the bottom of the screen.

A racer pushes the Red button, the solenoid fires, the start is detected by the white start switch and the race starts. When the cars have crossed, or when the time has expired (whichever happens first) SuperTimer II starts announcing and flashing Lane Leds and the results appear on the screen with Position, Lane number, Car number, Racer name, Time and Time difference.

If the winner time is a new record, then "RECORD" will appear in the difference column and "A NEW RECORD" will be announced. If the difference between cars is within the tie time then TIE will appear instead of the next position. You can then choose from a new set of two buttons.

1. Re-Race Some – used if there was a problem such as a car jumped the track or was in the wrong lane.
2. Accept All –The results are permanently stored. Prior to pushing this button the results are "unofficial".

Once you have accepted the results, the screen reverts to the pre-race condition. Clicking on Run Heat will start the Heat process again. If you select Re-Race Some a screen will appear allowing you to accept or re-race each car on an individual basis. If you inadvertently accept a faulty heat, you can use the Re-Race tab immediately or later.

Heats are usually run until the period is over. However, you may exit before the period is over if you wish and when you return, you will return to the point where you left off.

WARNING, if you had unaccepted results in view when you left, those results are lost and that heat must be re-run.

When the Period (and when the Set) is over, a message will appear on the screen informing you and suggesting you print the results to this point. We highly recommend this and the program will automatically jump to the Reports Screen to help you do it.

Since the program runs slow cars against slow cars it is quite possible for a car to win many of its heats and still be way down the list of finishers. If you don't announce the results along the way, a racer who has won his heats but has a slow car may think he's the overall winner. (It HAS happened!)

Most users stop when the SET is over, that is the time when all cars have raced in all lanes. The most common exception is users with only two lanes. The next most common exception is users with very few racers. Note: The screen will turn blue and the computer speaker beep when the End of Set warning message appears.

## 18. Reports Tab.

There are eight separate report possibilities and two summary lines printed on the bottom of the screen. The reports are:

1. All the racers in Car Number order, useful for the pit area.
2. All the racers in Name order, useful for check in.
3. Print Schedule, in case you didn't print enough copies.
4. Results by Group using your name. Each team is listed separately in team speed order, that is the fastest average team comes out first, the second – second, etc. with team members in speed order within each team. In addition, a 'TEAMWORK AWARD' appears in the heading of the team with the smallest difference between their first and last place team members indicating the team that most probably did the best job of sharing expertise.
5. Detail shows all cars in time order and every heat they ran with the lane used and the time in that lane. It also shows their place and average time. These individual lane results are in the order that the racer ran the lanes.
6. Speed is a condensed report of all the cars in time order

The summary lines are:

1. Lane Average – a listing of each lane used and what the average of all the runs in that lane. This information can help ease concerns about a slow or fast lane and help track maintenance even though all cars run in all lanes.
2. Record - The current record time with the car number and racer name (also shown on the Race screen).

The speed ranking counts cars with more heats as automatically faster than cars with fewer heats. Thus, for instance, a car with the record speed that ran only one heat and then broke would finish very near the end, but ahead of those cars with only one heat or cars that never finished.

Within any report a 'Place' with an '\*' or the word 'Tie' indicates a tie exists for that place. Tie indicates that the results are within the Tie Time specified on the Setup screen. All results are maintained to full precision.

Re-sizing, Saving (in several different formats) and Printing of Reports are done from the report using standard Windows icons." Once you've seen it you will understand.

Any of the Reports may be saved to disk in one of five formats by clicking on the 'disk' icon:

1. .QRP – The normal style, used only within the RaceManager.
2. .HTM – Web page style but appearance depends on screen size and it's difficult to edit or change.
3. .TXT – Plain ASCII text, the most universal.
4. .RTF – Rich Text Format, ASCII with fonts, colors, etc. The most useful.
5. .XLS - Excel spreadsheet but it will need work to remove the extra text.

In addition there are two Printer buttons.

1. Fast Printer – prints gray or colored bands to improve report readability.  
Slow Printer – eliminates the bands to improve speed for older, slower printers.
2. Team per Page  
Yes – separates each team when teams have lots of members.  
No – saves paper when teams have few members.

## **19. Re-Race Tab.**

The 'oops' button. If you inadvertently accepted the results of a heat with a problem or didn't find out about the problem until later, this screen allows you to fix it. Simply enter the car number(s) and lane(s) that need to be fixed and click on ReRace Car. A Heat will automatically be added at the end of the current period or a new heat schedule will be created if the period is over. For clarity the racer information is provided once you enter a car number and numerous traps prevent possible errors. Once you have entered the racer information, clicking on Show All Heats will display and, if you wish, allow printing of created heats as well as any remaining heats in the current period.

This is one of the places where it is possible for a car to run alone. However, if two or more cars are re-run and their problems occurred in different lanes, then they will run against each other in the same heat.

In the rare event that a lane or a sensor went bad during a race, this screen can be used to eliminate all results for that lane by selecting each car's result in that lane and clicking on Clear Result Only.