

Pine

Wood

Racer

Users Manual

For your records fill in the following information:

Interface Version Number: _____

Interface Serial Number: _____

PineWood Racer Users Manual
Manual Revision 1.01
For software v3.8

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By Robert F Gage II

5465 Strouse Rd.
Freedom, IN 47431
<http://www.pinewoodracer.com>

Thank You

You have just purchased the pinewood racer interface. You have selected a product that has been developed, tested, and used for over 10 years.

The PineWood Racer allows you to easily connect a derby track to your computer to track car speed, racing performance, and simply fun.

The manual has been arranged so you will learn as you test and connect the equipment. It is very important that you step thru each chapter and read all the sections. For example if you just to chapter 3 you will most likely have several questions about what the manual is talking about. That's why you need to read chapter 1 and 2.

If you have any recommendation for this manual feel free to let me know.

help@pinewoodracer.com

Thanks,
Bobby Gage

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Getting Started

Because the PineWood Racer interface is written directly for the software and does not run in windows like normal programs. The installation is different then most other devices that connect to your computer. I have tired to make this manual as strait forward as possible to allow you the customer to be able to setup your derby track and interface on any computer system to any derby track. Below I will outline the basic installation steps we will follow.

1. Install Software

We will install the software first to allow us to test and connect the interface as we connect it to the derby track.

2. Interface Setup and Hardware Install Preparation

This will allow us to test the interface and make any advanced configuration changes that may need to be made to customize the interface for your track configuration.

3. Hardware Install

We will connect the interface and sensors to the derby track. Also we will test and veryify as we install that everything is working OK.

4. Software Setup & Use

How to use the derby software to run and perform races.

Software Installation

What is this program?

This program is designed to control the PineWood Racer Interface. The interface was designed so a derby track could be connected easily to a computer system at very little cost. This system was designed to keep prices low but allow for a lot of features.

As a result of this effort, I have designed this PineWood Racer package. This package will control the interface that is connected to a derby track with 2 to 6 racing lanes.

Installing

This program is distributed on CD-Rom media most of the time. It can also come in the form of 3.5" diskettes but this is very seldom because the diskette version does not come with the full package.

If for some reason your computer system only has a 3.5" disk drive and you have received the CD-Rom disk. You can make diskettes from this. Just find a computer system that has access to a CD-Rom drive and insert the disk. If the system has Windows 95 or higher operating system then you will be presented with a screen that will ask if you would like to install the software or not. You will also see an option "Make diskettes". Select this option and it will ask you what operating system you would like to make the diskettes for.

If you have a DOS only system that has a CD-Rom drive then you can run the "makedisk.bat" file off of the CD-Rom. This will then present you with a screen asking what operating system you would like to make the diskettes for.

Dos Installing

<p>DOS Note: It is assumed if you have a DOS only computer system then you know how to get around in and use DOS. This will be the only information in this manual about the DOS installation.</p>

If you are installing this onto a DOS only computer system I will assume that you have some experience with using the Dos Prompt. If you are running Windows 95,98,ME then you **MUST** install from within Windows. The **ONLY** time you should install the DOS version of this program is if you have a DOS only system.

Insert the disk into the disk drive that you will be installing the PineWood Racer from. Run install.exe off of the disk and the install process will start.

First you will get a screen telling you that I have not registered my install software. That's because I don't have the money to do so. You can just ignore this screen and continue on.

The next screen you will get will ask you for a drive and path to install the program to. The default option will be C:\PWR. PWR standing for PineWood Racer. Install into this or other folder of your choosing.

The installer will copy all needed files and display the license and readme documents.

Congratulations the PineWood Racer software is now installed.

Windows 3.1x Installing

<p>Windows 3.1 Note: Because Windows 3.1 is so old I am no longer supporting it in my documentation.</p>

I do not recommend running the PineWood Racer program from Windows 3.1x because the performance of the program is really degraded. If you do use Windows 3.1x and you are going to use this software on it. Then I would recommend that you install it from within windows then when you actually do races I would suggest that you exit windows and run the PineWood Racer program from DOS.

Another problem with Windows 3.1x is it does not have an auto-run options like Windows 95 does. So you will have to run the setup manually.

To start setup, place the CD into the CD-Rom drive and select Run from the File menu of Program Manager.

Type in the following:
D:\win16\setup

Replacing "D:" with the drive letter of your CD-Rom drive.

Follow the instructions on the screen and it will step you through the installation. When finished you should have a new section in the Program Manager labeled PineWood Racer.

Windows 95,98,ME Installing

The best type of system to install the PineWood Racer on to is a Windows 95,98, or ME system. The features are optimized to work in Windows 9x and ME.

To start the installer simply place the CD into the CD-Rom drive and your system should start the program running on the CD automatically. On some older systems, a few system files will be needed to be copied over before the install screen will appear and may even ask you to restart the computer. If this happens, simply restart the system and then eject the CD and place it back into the drive to start the installer again.

If you do not have a CD-Rom drive but have the program on Diskette then you will need to place the disk into the disk drive then click on the "Start" button and click on "Run". Type in "A:\setup" and click "OK" button. This will start the install off of the Diskette.

If you are installing off of a CD-Rom. You will be given a screen that will allow you to select some options. The first option will allow you to install the PineWood Racer program on this computer. The second options will allow you to read this readme.txt file. The third option will allow you to make diskettes of this program in case you need to install this program onto another computer which doesn't have a CD-Rom drive. The forth option allows you to visit my web page and check for the latest updates or patches to my program. The fifth option will allow you to use this computer as a network login computer without installing any programs on it. (More about this later) And the sixth and final option will allow you to browse the CD-Rom for it's files.

Click on the install PineWood Racer option to start the installation. For the most part just read the on-screen instructions to complete the installation. You will be asked a few questions. Such as, what components you would like to have installed, and the interface type you have. This will be explained below.

You will have a selection of several options which are listed below:

Note: If you are installing from a diskette you will not have all these options.

PineWood Racer

This is the actual PineWood Racer program. You will probably install this no matter what. Unless all you are installing the program for, is for the Documents or Schematics.

Terminal Programs

This will include the programs needed to allow remote operation. Such as network name login terminal and status terminals.

Registration Forms

Will the pre-created registration forms you can print them off and have your clubs fill them out, turn them in, and type the information into your computer. They even have a spot to place a bar-code sticker onto.

Networking Programs

This is a group of programs that are required to allow network access between the derby software. It will allow remote operation and name login server support.

Bar-Code Font

This will install a Bar-Code font that will allow you to make bar-code stickers from any publishing program such as Microsoft Word or Works. You will be able to make stickers for the derby cars. It is also required to be installed if you are going to install the WordPerfect Documents.

WordPerfect Documents

The only use you will have for this is if you have WordPerfect on your computer system. It will allow you to easily make labels and Login sheets for the derby cars. You must install the Bar-Code fonts.

PineWood Racer Schematics

This will include a set of schematics that are useful if you are building an interface from scratch. Also it has schematics that would be used for installing the interface package onto your derby track. All files are in Adobe Acrobat format.

Demo Race Data and Programs

This demo data will give you the ability to check out what the PineWood Racer program has to offer before even connecting it to a derby track.

Once you have selected the components you would like (I recommend installing all of them) then click on the "next" button.

What interface do you have?

After a couple more screens you will be asked what interface do you have. Look on the interface box. If you do not see a version number then it's the Old Interface (v3.0 and v3.1). If you built your own interface from my schematics then you have a v3.4 or newer interface.

Associate .pwr files with PineWood Racer.

You will also have an option to associate the PWR files to PineWood Racer program. I would highly recommend this because it allows easy double click access in windows to start the program automatically when you have some data files on disk.

Turn off interface when windows starts.

I recommend leaving this on. But you can remove it if you would like. If you leave your interface connected to your computer all the time and turn on your computer you will notice that it's power light is on. To turn it off the computer will need to run a little program upon startup. This program does not stay in memory and will not slow down your computer while it's running.

Track information Length, Lanes, and Track number

Enter the information as asked about the derby track. You can change this information later if needed.

Use Race Finish Button

The race finish button will allow the user to press a button at the end of the derby track if all cars don't finish the race. It's the same as pressing the ESC key on the keyboard.

Use advanced Configuration Setup at the end

The normal installation of the interface is using optical sensors for both top and bottom of the track. Also for using normally open switch that will close when the gate is up. If any of this is not default configuration on your track then you need to run the Advanced Configuration program.

Install Acrobat Reader

If you have selected to install the PDF files then you will be asked to install Acrobat reader. If you already have acrobat reader on your system or wish not to install it then remove the check box from this option.

Once you have finished selecting these options then click "next". You will then be guided through the rest of the install, and be ready to run the PineWood Racer.

Windows NT/2000/XP Installing

You can not "install" my PineWood Racer software to take advantage of racing cars on a NT/2000/XP or newer system. But you can now boot off of a boot disk.

The CD-Rom that your program came on is a bootable disk and will boot into a DOS version of my program to give support on a Windows XP system. I recommend you create a Bootable floppy disk to boot off of because this will allow you to create race data and save it on disk. You will be unable to save any data using the bootable CD option.

The only reason that you would install the software under NT, 2000 or XP is because you need to access or change information in some data files or make bar-code labels or access the schematics. For this the install process is the same as it is for Windows 95, 98, and ME. Just review the install options for them and you should be set.

Creating a bootable Floppy disk

To create a bootable Floppy disk start your computer as normal. Insert the CD into your computer and you will be prompted with an Install menu. Select "Make Diskettes" from the menu. A black window will appear asking what disk you would like to create. Press B for boot disk and follow the instructions on the screen. Once this disk is created you can exit the main menu without the need of installing the program and turn your computer off.

Booting off of a boot disk

Insert the bootable Floppy disk or CD and restart (or turn on) your computer. Depending on your system you may need to reconfigure your settings to boot off of a floppy or CD-Rom disk. Contact your computer manufacture for details on how to do this.

Once your computer starts booting you will see a lot of text scroll by. It will be much slower on a floppy disk than CD-Rom disk. But once all the programs have loaded into memory the programs will run the same speed no matter what method you boot off of.

You will be asked to agree to the license agreement after you have read it. You will then be asked if you would like to read this readme file or not. And then you will be shown a program menu.

Once at the program menu select option 4 for the setup menu, then select option 1 for advanced configuration. This program will ask you how many lanes you use and the length of the track. It will also ask you to configure the type of sensors that you are using. The default options include the parts that come with the full kit. You can read more about this program in the Advance Configuration chapter.

Also in this setup menu you can use option 2 to configure the pinewood simple program and option 3 to create another boot disk.

Once all setup options are complete select option B to go back to the program menu.

Program Introduction and Interface Setup

Program Introduction

So here's a list of the main programs. Both with their DOS and Windows names. This will give you an over view on what they are used for.

pwr.exe - PineWood Racer

The main program that is used to race the cars. This program is the one that will communicate to the interface.

pwt.exe - PineWood Terminal

This is the program that will run on a separate system and will connect to a system running the PineWood Racer program to allow a terminal system to display race data.

log.exe - PineWood Racer Log-in

This program will be used to log the names into the computer system. Once all names are logged in you will quit this program and start pwr.exe to start the race.

lookup.exe - PineWood Racer Lookup

This program allows you to review the race data after it has finished. This program may also be copied to a diskette so it can be distributed to the racers so they can see their race data on their own computer.

race.bat - Race Wizard Batch File

This batch file was written so it would be easy to step you through the process of logging in names and preparing a new race. This is the main batch file that is used when booting off of the boot disk.

pwset.exe - PineWood Racer Setup

This is an advance setup program for the pine wood racer. It allows configuration of the type of sensors connected to the derby track. See Advanced Setup for more information

pwsimple.exe - PineWood Simple

This program is a very simple display race results and timing. It does not keep track of cars or saves any data. It's designed as a simple method to run a derby race. Also you are not required to use sensors at the top of the derby tack. Information on this program is covered in another manual titled PineWood Racer Simple.

Interface Connection and Testing

To setup the interface you simply need to connect it to the Parallel Port (Printer Port) of your computer. If you only have one port I would recommend adding another one so you can print out race information as you perform the race.

Interface v3.5

If you ordered the interface kit, you should have two ribbon cables. One will have only three connectors on it. And between the two of the conceptions there is a twist in the cable. The other ribbon cable will not have a twist in it and will be much wider. It should have a connector that will connect directly to the Parallel Port of your computer. And the other end of the cable should have a connector on it that will connect to the interface box. Both connectors are Keyed (meaning that they will only connect one direction) so you don't have to worry about getting them connected backwards.

Bottom Sensor Only: It is possible to use the interface without sensors at the top of the track. Just understand, it does restrict the ability of the program. Look for more **Bottom Sensor Only** notes to see exactly what it restricts.

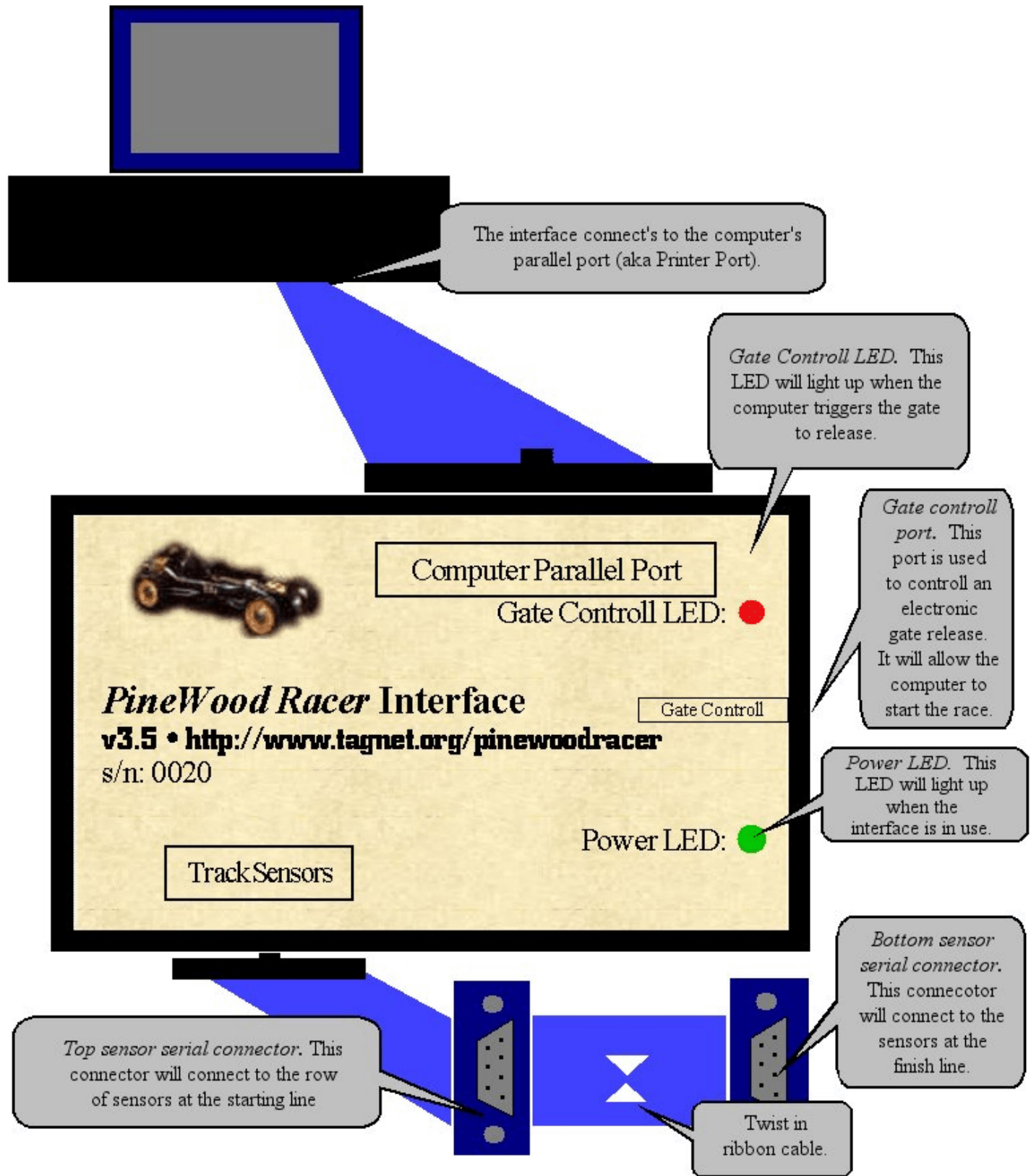
The Smaller cable (the one that has the twist in it) is the cable that connects to the longer cables that in turn connects to the track's sensors. On this ribbon cable you should see a black plastic connector. This connector will connect to the interface. The other two connectors will connect to the track. The one after the twist in the cable is the one that connects to the bottom sensors and the connector in the middle will connect to the top row of sensors. The cables that connect from this ribbon cable to the track are standard DB9 serial cable extensions. They should have all wires straight through and should be Male on one end and Female on the other.

The top and bottom (start and finish line) row of sensors will connect to the interface using a DB9 plugs and sockets. The top sensors will connect before the twist and the bottom sensors will connect after the twist. See **Figure 1** to help you see how the interface connects to the computer and other components.

Mini Interface

The mini interface will only connect to the bottom row of sensors. It will connect using a DB9 serial cable same as above. But the mini interface does not have any ribbon cables. It connects directly to the computer and all electronics are held with in the plug.

At time of writing this manual it is not known exactly how the top gate switch will connect to the Mini interface. But it is known that the mini interface will not have top sensors or an End of Race button.



The interface is designed to connect to the Parallel Port (a.k.a. Printer port) of your computer. To make the software work to it's fullest potential, you should have two ports installed on your system. You can get a new port at your local computer store like Staples, and Best Buy, they can even install the port for you. Just understand it must work with your Windows 95, 98 or ME windows that you are running, or be DOS compatible if using any other operating system.

Starting PineWood Racer for the first time

Windows 95, 98, and ME

Clicking on Start -> Program -> PineWood Racer -> PineWood Racer once the program is running follow the directions below.

Windows XP Boot Disk Operation

Once you are fully booted on the boot disk you will be given a program menu. From this menu you will need to select option 1 to run the race.bat wizard program.

From the Main Menu you will have several options. Options 1 and 2 are the main options you will be working with. To get started let's "Prepare the system for a new race" select options 1. Because we are currently not logging in any cars we are simply needed to run PineWood Racer let's select option 4.

Once you quit PineWood Racer you will be taken back to the main menu.

Performing interface testing

The software test is designed to verify that all parts work before you attempt installation of the interface. First make sure that you have connected the interface to the computer. Connect the start line sensors to the top sensor connector, and the bottom line sensors to the bottom sensor connector of the ribbon cable.

Once you start the PineWood Racer program you should see the green "Power LED" light up once this program starts. If you do not see this, make sure that the cables are connected correctly and the Parallel port on your computer works correctly. Contact me by email if you do not get a Green LED.

You will get several screens. These screens will get the program running and search for the interface. If the interface is not found you will get a message in the upper right hand corner that

will say "*NO INTERFACE*". If you get this message then you need to recheck the cables and read the help section in the hardware install manual.

Now that the program works, we need to tell the program the number of lanes your track has. Select Track Settings from the Edit menu. Here you will have the ability to select the number of lanes your track has, if you have not already set up this information. By default the number of lanes is three, but to change this number use the up and down buttons beside "Number of lanes: " and change the number to the correct amount. Do not worry about the other settings, we will come back and set them latter. Press "save" to save the settings and return to the main screen.

Bottom Sensor Only: You will notice that you will see cars for the top. This is because no sensors are at the top of the track. Thus the computer assumes that there are cars on all lanes.

Mini Interface Note: Currently because of hardware restrictions you will notice when using the mini interface that if a car is on the bottom of lane 2 for example there will be no car on lane 2 at the top. There is no problem with this because you will not be able to start a race if there are cars on the bottom of the track. And if there are no cars on the bottom of the track then it will think there are all cars at the top of the track.

Now look in the upper right hand corner of the screen. You will see the track indicators. You will see either "Triangles and/or Dots". If you aim the top sensors into a light source then you will see dots (indicating no car present), but if you hide the sensors from light you will see a triangle appear (indicating a car is over the sensor). If you are using the mini interface it is possible you will see the exact opposite happen. This is because the sensors you are using are not top but bottom sensors.

Now lets check the gate switch. When the gate switch is pressed you will see an UP arrow (indicating the starting gate is up) and when the gate switch is not pressed you will see a down arrow (indicating the starting gate is down). You will need to make sure when the gate switch is mounted onto your derby track that this arrow indicates correctly for your track.

Next to the gate arrow indicator you will see a letter "T" this is telling you that you are viewing the status of the top sensors. Click on this button (or press F10) and it will change to a "B". You are now viewing the status of the bottom sensors. Again repeat the steps just taken by placing the bottom sensors in light and verify that all sensors are working.

You will also notice that the sensors are labeled one number for each lane. Verify that the one labeled one is lane one and two is lane two and so on.

If the sensors do not seem to be responding correctly make sure you are shining enough light into them. And also make sure you are covering them up enough to block all light while performing the tests noted above.

Once you have testing all sensors and the start gate switch start installing the it to the track by reading the next chapter.

Hardware Installation

The best placement of the computer system would be at the top of the track. So all cars that will race are entered into the computer before they are raced. Though the system is designed to also allow entering of the cars that raced at the end of the track. For the sake of the instructions I will be assuming you will be using the computer at the top of the track. For either configuration you will still use two serial cables, one from the interface to the top sensors and one from the interface to the bottom of the track. The top serial cable is usually about 6-12 feet long and the cable going to the bottom would be the length of the track plus a little. This is why when you place your order and would like me to make serial cables for you I will need to know the length of your track.

Custom Assembly Note: The software and interface is designed to work with your track how you use your track. I have some customers that do not use optical sensors to detect the cars crossing the finish line but switches. I also have people that use a Normally closed switch instead of normally open switch at the gate. This is all customizable with the PineWood Racer Setup program. Read more about this in the Advanced Settings chapter.

Track Setup

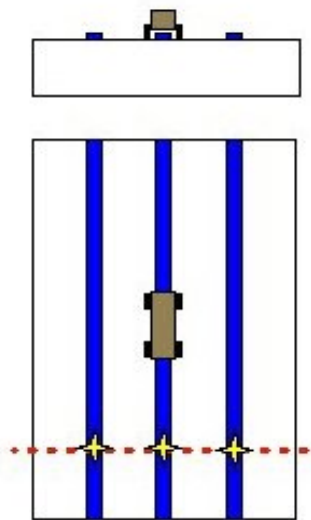


Figure 3
Car Rides on Track

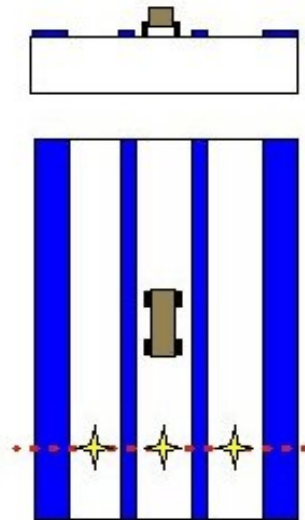


Figure 2
Car Rides Between Rails

Once installed you will have two rows of sensors. One at the bottom (finish line) and a row at top (behind the starting line). There are two different types of derby tracks. One type is where the cars ride on a track and the other type is where the car ride between rails. (See Figure 2 and 3 above.) Throughout this documentation I will be referring to the "On Track" method. But both track installation methods work are the same. The finish-line is the dotted red line and the sensors are the yellow stars. The sensors should be placed as shown above. The sensors should be placed so the cars will pass over them and block out the light coming from the light bar. The sensors at the top of the track are also place as noted in the Figures above making sure the sensors are covered by the car while thy are standing still at the start gate.

I recommend placating a 1x1 piece of wood under the track, this will be used to mount the sensors on. This wood should be placed directly under the finish line and a hole drilled through the wood and track to allow the light to contact the sensor. (See Figure 4)

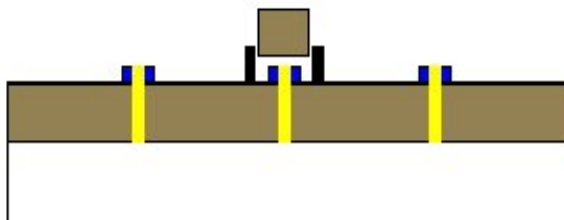


Figure 4 Sensor placement for On Track type of track.

This will give you a little better view of the sensor placement. The sensors are mounted in the hole and are not flush at the top. This is to prevent light from other sources getting into the sensor. With the sensor being further down in the hole, it makes it more accurate as it is only being activated by light straight above the sensor. (See Figure 5) Once installed I recommend placing a piece of clear tape over the hole to prevent dirt from getting into the hole.

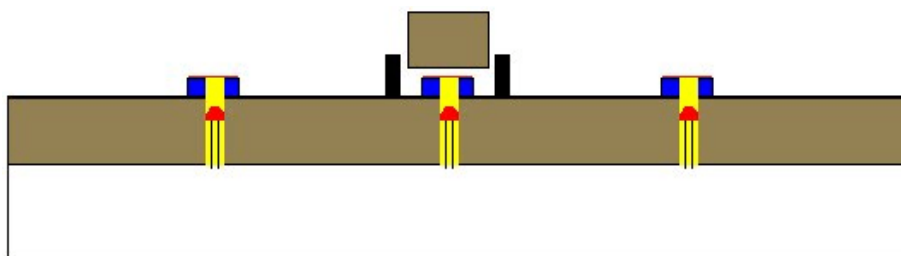


Figure 5 - Sensors inserted into holes.

The sensors at the top of the track should be placed the same as the bottom. But must be placed so it will be hidden from light when the cars are sitting on the start line. **DO NOT PLACE SENSORS ON**

THE START LINE! I recommend you place a derby car on the track as if it was going to race and then make note as to the placement of it's front or rear axle. And place a 1x1 block of wood under this location and install the sensors. Place another light bar on top of the sensors just like you did on the bottom. Also remember the top sensors are not to tell the computer when the cars start racing (this is what the gate switch is for) but are used to tell the computer what car is on what track.

Light Bar

The light bar is very easy to make. It's simply an upside down box that is supported on it's sides. In the box are two J type 60w light bulbs, the light coming out of the box will shine directly onto the sensors. The only light coming out of the box should be coming out of the bottom pointing down. There is wood on all three sides (even though this diagram shows only the back side with wood in it. To help prevent the lights from over heating you may need to drill some holes at the top of the light bar to let the heat out.

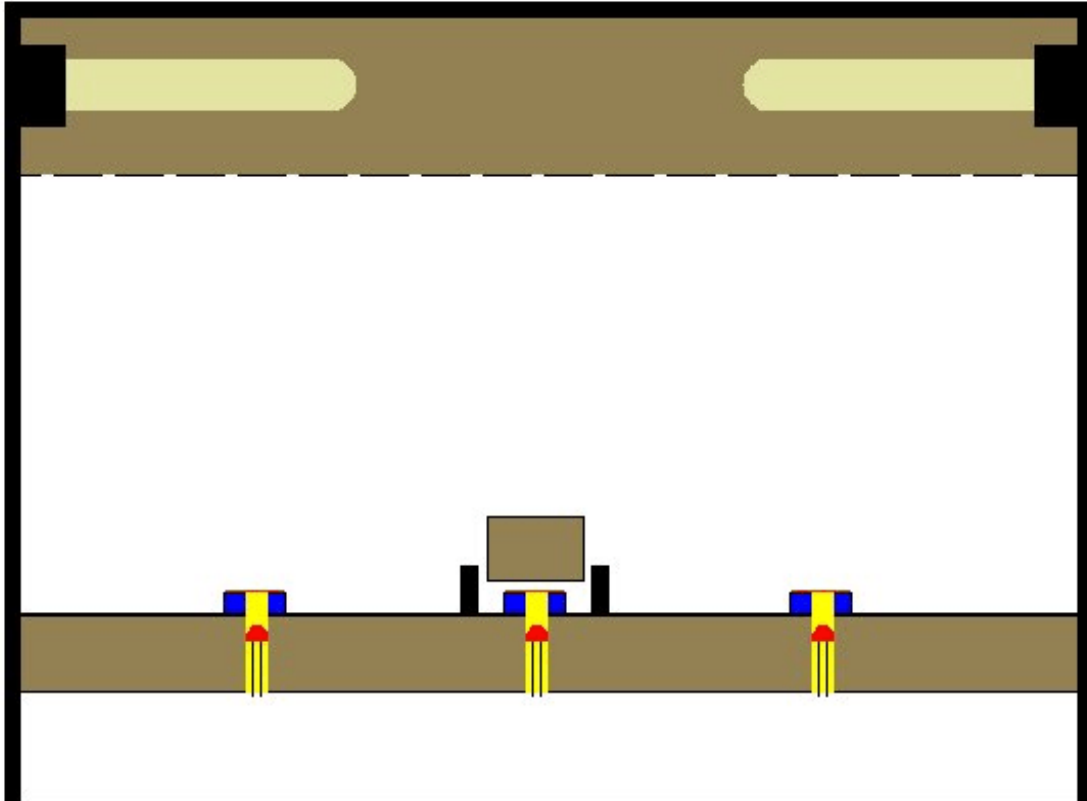


Figure 6

Here are some images of the final installation.



Figure 7



Figure 8

Gate Switch

It does not really matter how the switch is placed onto the track. The only thing that matters is the switch is closed when the gate is in it's down position. But because the switch is wired in a N.C. (normally closed) configuration the switch will "close" when the switch is NOT pressed and it will be "open" when it is pressed.

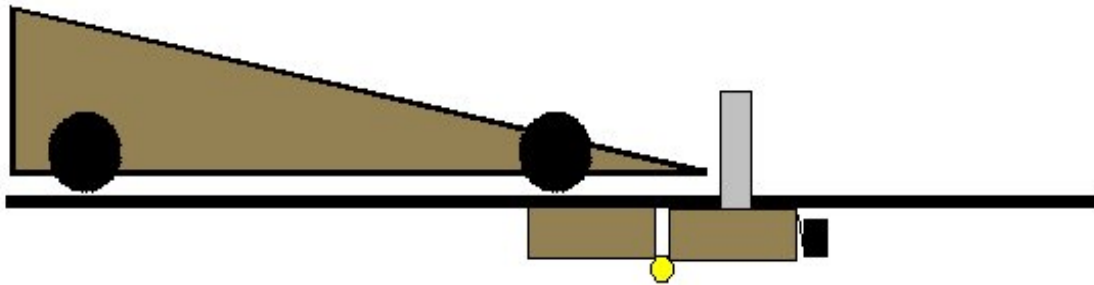


Figure 9
Side switch (notice little black box on the right)

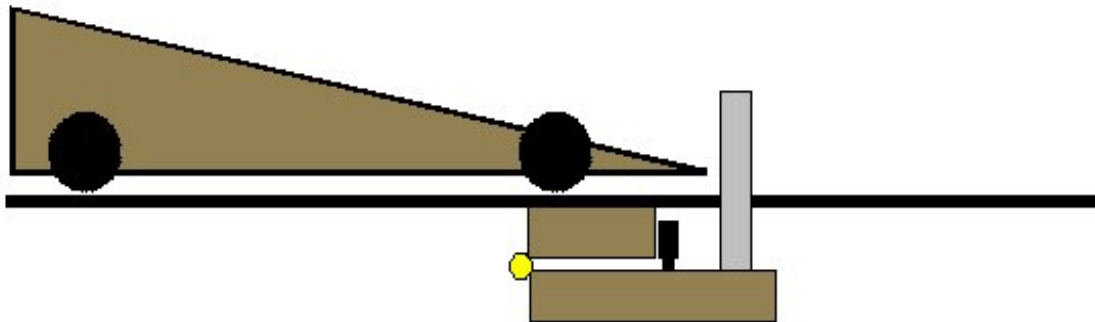


Figure 10
Top switch (switch arm is facing down)

Below is the same switch examples but with the gate in the down position.

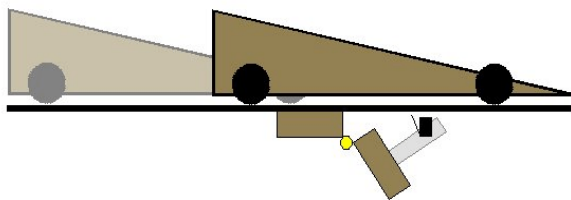


Figure 11

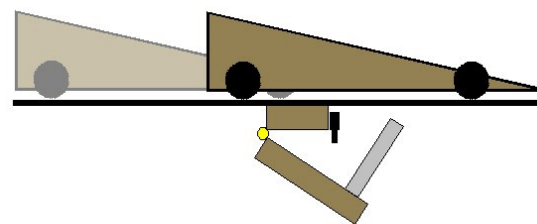


Figure 12

PineWood Racer & Login Setup & Use

This page is to help and guide you thru the setup, and use of the PineWood Racer software program. These instructions are to be used on the "Track Computer". This computer is the computer that will be connected to the derby track. The other computers (network and terminal computers) are not discussed in this documentation. They will be covered in a later documentation.

Quick Race (your first simple race)

A Quick Race is different from a normal race because a Quick Race is not logged or saved. Because of this, one does not need to enter car data.

Bottom Only Sensors: Remember that because you don't have top sensors the computer will always assume that all lanes have cars on them. Because of this the computer will wait for all cars to cross the finish line every time. You must press the ESC key or press the Race Finish Button if you have one.

Windows XP Boot Disk: To run the PineWood Racer program again follow the same procedures as you did before. But this time you will get a message saying data already exists on the disk. Go ahead and delete it because this data has nothing in it. There will be more about backing up and erasing your data at the end of this chapter.

After you have the hardware fully installed we will need to do some testing to verify that the sensors and gate switch are working correctly. Run the PineWood Racer program again and take a look at the track indicators and verify that you see only dots for all lanes on both top and bottom sensors. (click the T and/or B to switch back and forth) Using your hand over the sensor to block out the light from the light bar verify that lane one is lane one and on both to and bottom sensors. Also close and open the gate to make sure that when the gate is up (cars can not race) that the arrow is UP and when the gate is Down (cars start racing) that the arrow is down. If you find that the sensors are always indicating that are car is on a line then this can be because of dirt on the sensors. Blow on them to make sure that the sensors are clear of dust and have director light from the light bar getting to them.

Once all the bugs are worked out start a quick race by selecting Quick-Race from the Race menu. Race the gate and place some cars on the track. As you place the cars on the track verify that the computer indicates the car placement correctly by showing the correct placement of the cars. Once all the cars are on the track then start the race by dropping the gate. The computer will sit

and wait for the cars to cross the finish line. Once all the cars cross the finish line you will see the results on the screen.

If all the cars do not cross the finish line then you will need to reset the gate, this will set the computer up for another quick race. It will also show the results of the last race.

Setup the software

General Settings

The general settings screen allows the setup and settings that pertain to your computer's configuration. To get to the general settings select "General Settings" from the "Edit" menu.

You will have the following options available to you.

Display Looks This setting will change between a display look of an old "DOS" look or a symi-graphics mode. By default the setting is in graphics mode. But some video cards and laptops have problems with this mode. So change this to "Text" mode may help display problems that you could have. (note: in text mode your mouse will not be a pointer it will be a box)

Enter car Names This setting allows you to decide if you would like to log in the car codes before or after the race. If you have sensors at the top of the derby track and you are going to use the feature that tells you what lanes to place what cars onto. Then you must select the Before race selection. If you only have sensors at the bottom of the track then there is no need to select the Before selection just use the After race selection.

Setup Terminal In this box you will determine how your terminal (if any) is going to be connected. I will go into detail on how to use this in the PineWood Terminal chapter.

Load Window Drivers You should always have this option set. This option will enable better system performance by disabling the multitasking part of windows during the critical timing parts of windows. This would include any timing events such as during a race. If you find the computer locking up during a race then you may need to disable this option. But if this option is disabled it make the timing of cars less accurate.

Load HiRes Timer This option I recommend using during the race. You can enable it all the time if you would like but the problem is that when enabled the program will take allot longer to start because it setting up it's HiRes timer system. The HiRes timer allows much better accuracy of car times. You will notice when this option is disabled and you have a race that most of the cars come across the finish line at the same time that the times will be the same for all the cars. To correct this problem, enable HiRes timer.

Beep on errors If errors are to be displayed and you would like the computer to beep to let you know then enable this option.

Mouse Popup Help If you need help telling you what the icons do at the top of the screen and the messages at the bottom then enable this option for a little popup message box with help.

Save Windows on Exit You can move or resize the windows to your liking. By default I have them setup so they will show the best view of everything. But if you would like to change the view of the windows then feel free to do so. When this option is enabled it will tell the computer to restore the last window view every time you start to the view it was when you turned the computer off.

Use Buffer Entry The only time this option should be considered is if you are using a barcode reader and enter car codes before each race. It will allow you to scan all the cars to be raced and then place them all on the track in order that you scanned them. Normally you must scan a car and place it on the track, then scan the next car and so on.

Ask for Title You can assign a race title to each race if you would like. This allows a label to be assigned to a race. Such as "final runoffs" "final race" and so on. When this option is enabled it will ask you for the title after each race is finished.

Automatically Get ready for next race After every race the computer by default goes back to the main screen. And you must select New Race from the Race menu. Or click the "+" icon on the top row of icons to start a new race. With this option enabled the computer will get ready for the next race once the previous race is finished.

Top 10 List The top 10 list allows you to see the best 10 racing cars very quickly. You can have this data sorted in the following orders.

Best Overall Winning Position. When sorting by this method the cars with the best winning record will be listed first. Example if a car comes in first place four times and second place once it will receive a better ranking than a car that comes in first place three times and second place two times. Even though the second car may have a better average speed.

Best Average Time. When this option is selected the all cars are averaged and the car that has the best average time will be displayed first.


Best Time. With this option the car with the best time will be displayed first. (the times of all races are not averaged out)

Save Settings Once you are finished with all the settings, click Save Settings. This will save all the settings to the hard drive. Some settings will require the program to restart. And other

settings will take effect immediately. If the program restart there will be no data lost. All data is saved after every race.

Printer Setup

Select Printer Setup from the General Settings window. This will give you options to select the type of printer you have and how it is connected to your system. See the chart below for Compatible printers.

	Windows XP Boot Disk	Windows 95, 98, and ME	Windows 3.1
USB Printer	No	Not supported	
Parallel Printer	Yes	Yes	Yes
Network Printer	Not supported.	Yes	Not supported.
ISA Printer Port Card	Yes	Yes	Yes
PCI Printer Port Card	No	Yes	Yes

Network Printer: No matter what operating system you are using if you are going to share a printer on a network you must map the printer port to a LPT port.

Printer Name This is the printer driver that will be used. By default there are four drivers.

Generic Text Only Printer This driver will work for all printers but may not look as meat as the other drivers would on there appropriate printer.

HP LaserJet For all HP Laser Jet printers.

HP DeskJet For most HP DeskJet printers

Dot-Matrix (Epson Compatible) Will work with almost all Dot-Matrix printers.
Take a look at the manual and make sure the printer is in Epson compatible mode.

Printer Location This will be how the printer is connected to the computer.

No Printer If you do not use a printer then select this option

LPT 1-3 Select the port that your printer is connected to. If you have a mapped printer port over a network then select the correct Port that windows has assigned for this printer, you must have Dos-Mode enabled in windows.

To File This will printer to a file on the Hard drive or any drive you have setup. This option is setup mainly for advance use only.

Automatically Print Select this option if you would like a printout of each race after the race completes. This is a nice feature if you keep a paper log of all races!

Enable Letter Quality This option only effects Dot-Matrix and DeskJet printers in general. This option will tell the printer to print slower but at a better quality. (If you are running in windows. This setting may be ignored.)

Finish After all settings are correct make sure that you click Finish and then Save in the General settings window.

Track Settings

The settings for the track is setup under "Track Settings" in the "Edit" menu. Make sure all the settings are setup for the track that is attached to the computer. Each track will have different settings.

Length of Track Enter the length of that the cars travel from start to finish. This will NOT be a strait line path. Because the track curves downward. A tape measure will need to start at the start line. And be measured allot the travel path of the cars to the finish line. The amount should be entered in feet. 30.5 (for thirty and a half feet)

Track Number This number is always one unless you will be using more then one track at a gathering. Each track must have it's own track number. **(This is a requirement if you have multiple tracks on a single network.)**

Number of Lanes Some tracks have 3 lanes and some have 6 lanes. You can enter any number between 2 and 6 as the number of lanes that your track has.

Bad Lanes A bad lane is a lane that has fault with it and will no longer be used for the term of the race. For example if you have a six lane track and one line is misaligned and or causing problems to the cars. Then a check mark should be placed beside the lane that has the fault. **DO NOT** reassign the computer from 6 lanes down to 5 lanes this will only cause problems...

Enable Race Finish Button This button is at the end of the track and is used by the person that will get the cars and remove them from the track. This button should be pressed if a all cars that race do not cross the finish line. One this button is pressed all the cars that did not finished will

be labeled as "DNF" Did not finish. (Because of this there data will not be kept in the top 10 list)

Save Click Save to save the new settings.

Contest Settings

Selecting “Contest Settings” under the “Edit” menu will allow you to change the information about the contest that you are currently running such as the name of the contest. Example “Indiana State Derby Race”

Contest Date Date in MM-DD-YYYY format

Contest Title The title of the Contest.

Save Information Click this to save the settings.

Network Settings

See the Networking Chapter.

Interface Setup

The last item under the “Edit” menu you will see the “Interface Setup” options. This will allow you to change some general settings with your track.

Advanced Interface Settings: There are more advanced settings using the PineWood racer setup program. For more about this see Advanced Configuration Chapter.

Disable Interface Will allow you to simply disable the interface all together. The only reason this would be used is if you would like to use the program to access race data and don’t have the interface connected.

Automatically find Interface This option simply finds the interface every time you start the program up. It scans default printer port configurations.

Manually Setup Interface at port Will allow you to install an add on Parallel card that does not use the standard port address. Some PCI cards that run in Windows 95 do not use standard port address and you can set the correct port address to allow it to work.

Notify if Interface is disconnected With this option set you will receive a message that will pop up on the screen if the interface is disconnected from the computer.

(to quite the PineWood Racer program just select Exit from the File menu)

Your first Race

You will need to get a hold of some derby cars and stickers for your first race. Place a sticker on each car but do not label the car yet.

Determine how you will code the cars.

To understand clubs/groups and age/levels you must first determine how you will subdivide your clubs up. I will use an example how we do our derby race. Our Pathfinders are built of groups of Kids and staff members into a club. There are several clubs for each Conference. Every year we have a Conference race. So we divide our conference into the following clubs/groups and age/levels...

There are 3 levels for each club. The levels are based upon Age. Youth, Teen and Staff. Every club is broken down into these three "age/levels"

The Conference is broken down into several different Clubs, Example of club names are "Frederick Firefoxes" (my local club) and "Susquehanna Indians".

When you start to log in the car names you will be asked what type of car coding you would like to use. You will have a list to select from. (Note: ALL codes must be 5 characters long)

XXXXX No code assignment will be used

ABXXX, AABXX, ABBXX, AABBX, ABBBX, AAABX

What are the letters?:	A = Club/Group
	B = Age/Level
	X = Individual Car Number

The previous code options allow various possibilities. Seeing how each character can be any letter or number this means one character can give you 36 possible options. (26 letters and 10 numbers) For example the code ABXXX will allow 36 clubs/groups and 36 age/levels and over 46 thousand names for each. This means that each age/level in each club/group can have 46 thousand cars. With this in mind because each club/group can have 36 age levels then each club/group could possible have over 1.5 million cars. Personally I don't think this would ever happen. I'm just trying to explain how the car coding works.

For our Pathfinder clubs. We use the third option in the list. AABXX

AA was a two digit code for the Clubs. FF was for Frederick Firefoxes and SI was for Susquehanna Indians. B was a one digit code for the Age of the people. T was Teen, J was Junior, and S was the Staff members.

With this code method it was easy to tell what club belonged to what club and what age the kid was in. We would run all Junior cars against Junior and Teen against Teen and so on. Only the final race we would run the best car against the best car.

Using this coding method we would have the ability to have a car number (with two digits) ranging from 00 to 99. This would give us 100 cars for all the Juniors in each Club. If a race was performed with A FFJ__ cars then the computer would print out a sheet stating the clubs name of Frederick Firefoxes and all the Juniors had a race. You could easily perform a search in the lookup program to see how all the cars performed for a specific club, or even a club with a specific age group.

If this is all too confusing to you feel free to use the first option in the list XXXXX it will allow you to code the cars without any confusion.

Log in the cars

Once we know how the car codes work we must start logging in the cars that will be racing. All cars should be logged in before the race starts. But there is no problem to quit the PineWood Racer program and then log in more cars, then return to the PineWood Racer program.

To start logging in names we must setup the computer for the type of race we will be having. Make sure you have quit PineWood Racer program if you are still running it.

Windows 95, 98, and ME

Clicking on Start -> Program -> PineWood Racer -> PineWood Login once the program is running follow the directions below.

Windows XP Boot Disk Operation

At the Main menu select option 1 again to Prepare system for a new race. Make sure you delete any data in the system and select option 1 to use this computer as a login computer. If you wish to have another computer as a login computer then you will need to select option 2 this will create a boot disk to you can take it to another system and run the program on that disk and then bring it back. Option 3 is the same but without the creation of the boot disk.

One you start the login program for the first time you will be asked the following information.

Contest Date This will be the date that the derby race(s) will be held. I call this the "Contest" date so you will not get confused between it and a "race". A Contest will have several races in it.

Contest Title This will be the name of the contest. Example if this is the State derby race for the Cub Scouts then you may use. "Maryland state derby race of the Cub Scouts"

Enable Graphic Tree After you enter the names into the computer, the computer will make a tree.txt file. This file will have all the names of the cars listed out end divided out by club/group and age/level. It will make the tree in a graphical format with lines for easy printing. This option is only recommended if you use Dos only as your operating system. Go to the Appendix to see what the Graphic tree is.

Select the Car Coding Select the car coding method as discussed above.

Note: The "Contest Date" and "Contest Title" can be changed later if need be. But the Car Coding method can not. Once a coding method is selected you will be unable to change it. The only way get change it will be to use the following options below to delete all the race data and start over with a new race. If some data has screwed up and you must keep all the data you entered. Then contact me by email for further support.

Add Car Entries

Now you are ready to enter in all the cars that will be racing. You will be entering four fields of information per car. But if you are using car coding then you will only need to enter some information once. For example if you are entering a group of cars from club A then you will only need to give the title of club A once. The computer will figure out the rest.

You will be asked the following information. After typing in the information needed just press enter for the next field until all the info is entered for that car then press enter until your cursor returns to the top "Car Code" field. Then your ready to enter the next car.

Car Code This will be the five digit car code. As this code is entered you will see the Club/group and Age/Level name automatically fill in with the correct data if you are using a Car Coding method.

Driver This is the name of the person that owns the car. aka Car Owner, Car Name

Level Name This is the name of the age/level that this car belongs to.

Club Name This is the name of the club/group that this car belongs to.

Save Click on Save every once in a while as you log in the names to make sure that incase of power outage or something goes wrong that you will not have to reenter all your race data again.

Search See below to learn how to search for a car entry.

Exit Select EXIT to quit the login program. This will tell the login program to build the txt document files. See below section "View Detail login data" to see what this will give you.

Search

Click on the Search button will bring up the search window. This will allow you to find a car that was entered but the car code was forgotten or entered wrong.

Search For Enter any info into this field and it will search for it. It could be a club/group or age/level name. Or even the name of the car it's self. Once entered click the "search" button and the search will take place. It will list out off of the matching cars below. Double click on the car you would like to modify. Or click on Cancel to terminate search.

How to Modify Car a Entry

Once a car is entered one can modify it's information by entering it's car code again. You can also use the search method above to get the car number. One the car is displayed you can use the Tab key to go to each field and changed the data as needed. Just remember if you are using assigning club codes then once you change a age/level or club/group name for one car you will be changing it for all the cars that use the same code that matches.

How to Delete Car a Entry

To delete a car, all you need to do is enter a car code that you wish to delete (or use search to get the car) and then tab to the Driver field. Once you are in the Driver field simply delete the name out and leave the field blank. This will remove the name out of the database. (You will not see the number of cars entered change unless you save your data. This will flush any deleted names out of the database.)

How to View Detail Car Information

Once all cars are entered then you can view all the login data. To do this quit the login program by clicking the Exit button. The logging program will then save and generate data files.

Windows 95, 98, and ME

Clicking on Start -> Program -> PineWood Racer -> Other Utilities -> Race Data Folder Once the data folder is open you will see several data files. See the Appendix for more information about the data files.

Windows XP Boot Disk Operation

Quitting the Login Program will bring you to the Racing Menu (this menu is option 2 off of the main menu) In this menu you can select option 4 to go to the Print View Menu.

In this menu you can View on the screen the Tree view of the cars divided into there respective group/clubs and age/level codes. Options 1-3 Not useful unless you used a coding system. Or you can view or print the list of names. Options 4-6.

Selecting L will run the PineWood Racer Lookup program to understand this program you will need to read the PineWood Racer Lookup chapter.

Select option B to return to the Race menu.

Perform first race

Windows 95, 98, and ME

Clicking on Start -> Program -> PineWood Racer -> PineWood Racer once the program is running follow the directions below.

Windows XP Boot Disk Operation

In the Race Menu (select option 2 from the main menu) select option 5 to start a race.

Once you are running the program you will be ready to start a new race. If you look in the lower left corner you should see the Contest title and date. Check this to verify that the data files are loaded correctly.

To start a new race make sure the track is ready. Place the gate in the UP position. Then Select "New Race..." from the "Race" menu.

Bottom Sensors Only: As noted earlier it is recommended that you select to enter cars after the race.

Enter Car Names Before Race.

You will get a window titled "New Race Entry for Race Number: 1" "Car to Place" type in the first car number that will be placing on the track. Once all five digits are typed in the car's name will appear beside the box. You will also see little arrows beside the lane numbers telling you where you can place the cars. Because this is the first race it will tell you that you can place the car on any lane.

Note: You will notice the computer will highlight a car that is placed onto a track that has already been used. It will also flag you if it notices a car on the tack and no code is assigned to it.

Place the car on the lane you would like to race it on. Once you place the car on the line you will see the name and car number will pop down to the corresponding lane number.

If you need to move a car from one lane to another simply one car off of the lane and onto another. The computer will automatically move the car corresponding to your moving. Just make sure before the race start that each care on the track is listed on the computer correctly.

Once you are ready to start the race you can click the "Start Race" button. But this button will only work if you have an electric gate release, and use the Gate Control option on the interface. Otherwise you will just need to drop the gate manually and once the gate switch is tripped the computer will see that the race has started.

Can't Start Race? Or it keeps telling you there is a car on the track:

The computer will not allow a new race to start if it senses cars on the finish line. It will display a message on the screen telling you that there are cars on the finish line and they need to be removed. If there are no cars on the finish line and you are using optical sensors then you may need to make sure there is enough light shining on the sensors to make them work.

The computer will wait for all the cars to cross the finish line. If all the cars do not cross the finish line you can either press the Esc key on the computer's keyboard or press the race finish button at the end of the track (if your setup is equipped with this). The computer will then make note of any car that has not crossed the finish lane as "DNF" Did Not Finish.

Bottom Sensors Only: As noted earlier because there are no sensors at the top of the track the computer does not know if you performed a race with fewer cars then your track has lanes. For example if you have a 5 lane track and only 4 cars finish, the computer will wait for the 5th car to come. You will need to abort the race as noted above.

Enter Car Names After Race.

After the race is over it will ask you for the car codes. You will need to type in the 5 digit code corresponding to the car number for each lane that has a car in it.

Type in the 5 digit code for the lane that it is asking for at the top of the window. Once the code is typed in press enter or click on the right arrow.

Bottom Sensors Only: If you raced 4 cars on a 5 lane track the computer will ask you for the 5 car number. Simply leave this blank and continue. The computer will remove any car that did not finish and had no car number entered for it.

Once the race is over the computer will ask for the race title and print the results, if you have these options set.

You will then return back to the main screen unless you have the automatically start new race option enabled. At the main screen you will see a window with the results of the race.

To start your next race just keep repeating the steps listed above. When you enter the same car numbers again you will notice how the computer will tell you what lanes the car should race on. Keep in mind this is only a recommendation. You can race any car on any lane any time you would like.

View Results of Race

You will notice that the three screens will now display information in them after the first race. The windows are explained below:

Note: If you do not see any of the windows noted below you can click on the Windows menu and select the one you wish to view.

Race Status This window gives you the information of the actual race. The top menu bar you will see a number 1 of 1, 2 of 2 and so on. This tells you what race is currently displayed. For example if race #2 is displayed and there are a total of 5 races that have taken place then it will display 2 of 5.

The Race information is very simple. You have seven column of data. The first one "Pos" is the Winning position of the car 1 is first place 2 is second and so on. The "Lan" is the lane number that the car was in. "Time" is the time (in seconds) that it took from start to finish. Car is the car's number. And Driver's name is the name of the car.

Then you have Club/Group code and Age/Level code. Age/Level code is most likely off the screen. You can place your mouse on the vertical line between Driver's Name and Club/Group code to move the dividing bar left if you need to view the Age/Level code. All the vertical dividing lines are movable.

Top 10 Cars As the window's title implies this window will display the top 10 cars as selected in the General Settings page. (noted above)

Track Status This allows you to see if you are racing your cars evenly across all the lanes on the track and to check to see how the time compares for each lane.

What can we do with the Race Data?

Print results of the race

If you wish to print out a hard copy of the race results then you can select print from the file menu. This will print the current window that is in the foreground (color blue). For example if you wish to print the top 10 list. You would click the Top 10 window to bring it to the foreground. The select print from the File menu.

Get Detail Car Information

You can get detailed information on a car and a list of all the races the car has raced in by selecting "Car Information" from the "Window" menu. Simply enter the car code in the "Car Number" area and the car information will be displayed. You can also double click on a car in the "Race Status" window to get information on that car that is displayed. After you have reviewed the info you can print it for records. You can also perform a search on this car. This will allow you to go directly to all the races the car was in.

More options with the Race Menu

New Race Already explained above

Quick Race Already Explained above

Next Race and Previous Race This option will allow you to scroll back over previous race data and view it in the Race Status window.

Go to Race Jump right two a race by entering it's race number.

Search for Cars or Races

This will allow you to enter a car number, race title, or even a driver's name and it will give you all the information it can find on that car. For example. If you are looking for the races that John was in you would type in John and click on Search. under "Search results for car information" you will have the listing of john's car. But let's say you have two johns. You simply select the John your looking for and on the right in the Race List window you will see all the races that car has raced in. Double click this item will bring that race up. Double clicking the car number will bring up the car's information.

Delete and Undelete Race If a race was performed and you would like to remove it out of the system then select Delete and it will be moved out off all the states. If you remove a race by accident and wash you had not. Then use the Undelete options.

How to edit a race after the race

Items noted below effect the race information that is currently displayed in the Race Status screen.

Edit Names from the Edit Manu

This options will allow you to edit what car was on what line. For example if you entered that car FFE32 was on lane 1, FFT29 on lane 2, and RRE23 was on lane 3. And it was supposed to be FFT29 on lane 1 and FFE32 on lane 2. Then this option will allow you to click next and back until you have corrected the correct lane and car number for each lane. Understand one thing. The race information was recorded by race lane so this info can't change. The information that the car on lane one and came in with 2.89 seconds can't be changed to lane two because the speed of 2.89 seconds was for whatever car that raced on lane one. Once the car numbers are set for the correct lane then the information is correct for that car.

Edit Title from the Edit Menu

This will allow you to change or and a title to the race.

Backup race data for future access

At this time the program stores the race data in multiple files. Unlike most programs that keep all the information in one file. The Pinewood racer keeps the data in three files. data.pwr names.pwr and data.ini For more information about the data files see the Appendix.

Windows 95, 98, and ME

To backup the data simply select Start -> Programs -> PineWood Racer -> Other Utilities -> Race Data Folder. This will open up a window that has six files in it.

Copy and past the files to a different location on your computer to back them up.

After the data is copied you can double click on them to open them in PineWood Racer program and perform more races to add to the data. Or you can Right click on the data files and select Log In to log in more cars.

Windows XP Boot Disk Operation

From the Racing Menu select option B to go back to the Main Menu. Once at the main menu select option 8 to copy the data to a backup floppy disk.

If you wish to restore the data then use option 9 from the Main Menu.

Delete race data for new race

Make sure you have BACKED UP the data files as noted above.

Windows 95, 98, and ME

Select Start -> Programs -> PineWood Racer -> Other Utilities -> Race Data Folder.

Delete all the files in this folder. This will start you over with a clean system with no names or race data.

Windows XP Boot Disk Operation

Simply select option 1 from the Main Menu to Prepare system for a new race. It will ask if it can delete all race data.

The screenshot shows a racing software interface with several callouts:

- Control icons:** A purple callout box points to navigation icons (right and left arrows, plus and minus signs) at the top of the screen, explaining they allow for easy access to race data and navigation between races.
- Race information:** A green callout box points to the race details window, which displays race number 8 of 118, a maximum of 8 cars on file, and a 568-race load limit.
- Track interface information:** A red callout box points to the top of the screen, indicating it shows cars on sensors at lanes 4, 5, and 6, with lanes 1, 2, and 3 being empty.
- Race Status windows:** A black callout box points to the 'Race Status' window, which lists cars by lane, driver name, club, group, and age/level.
- Top 10 list:** A yellow callout box points to the 'Top 10 Cars' window, which lists the best cars based on race times, average times, and winning positions.
- Track Status:** A black callout box points to the 'Track Status' window, which provides information about the lanes, track, and average speed.
- Lower right corner:** A cyan callout box points to the bottom right of the screen, where the current time and date are displayed.
- Lower right hand corner:** A yellow callout box points to the bottom right of the screen, where the race date and title are displayed.

Figure 13

Display Status Terminal

The Display terminal was designed to project the results of the race on a large screen to all can see. If you are entering names before the race then you will have the ability to see the names on the projection also.

Also understand that the Network option will ONLY work with Windows 95,98, and ME. It is possible to work on any system but this is currently not supported.

Serial Connection

The serial connection using a DB9 cable between two computers. This cable must be configured in what's called a Null Modem (or data transfer cable). You can get a cable like this at most computer repair locations. It is also possible to use a USB to serial adapter as long as you have the adapter setup to mimic a COM1-4 port address. See the documentation that comes with the adapter to learn how to configure this.

The PineWood Racer computer must be setup in the General settings for the correct COM port that you are using. This is the COM port that the Null Modem cable is connected two.

You can use the following options for any operating system.

Windows 95, 98, and ME

Click on Start -> Programs -> PineWood Racer -> Status Terminal

Windows XP Boot Disk Operation

Select option 3 from the Program Select Menu.

The program will automatically start scanning all com port 1-4 looking for the PineWood Racer computer. You will possibly receive error messages from windows when the program does it's scan. This is OK. Once it has found the correct port and is able to communicant then it will display correctly.

Once the program is running and connect it will give you a couple options noted at the bottom of the screen you can press. P to print out the race that is displayed (printed to the PineWood Racer computer system) you can also press + and - to go back and forth looking at different races.

Once a race has finished the race data will be displayed onto the screen automatically. If the race data did not display for some reason then select resend race data in the file menu of the PineWood Racer program.

Network Connection

First you will need to make sure you have each track on the network has a unique track number. This can be set in the Track Settings option in the Edit menu. Also you will need to enable Status Terminal network option in General Settings. Also understand that you do not need to use a mini server or even use the PineWood Racer in a full network mode to use the Status Terminal in network mode. Both network options are independent.

With the network option of the Terminal you only have the ability to display the last race that was performed. But you can set it up so one terminal can display the results for mutable tracks. To start the program:

Click on Start -> Programs -> PineWood Racer -> Network -> PineWood Racer Status Terminal

You will be given a screen with several tracks. You will see a Green indicator beside the tracks that are currently online. Use the space bar to select the tracks that you wish to display.

If you select more than one track, you will not have the ability to display the car names as they are being placed on the track. You will only see the results of the last race.

Terminal display Example

```
welcome to the Pinewood Racer Raceway.
Lineup for Next Race [-]
1
2 FFS01 Tommy Sporster
3 FFS02 Jimmy Randoll
4
5
6

This is a test race
Car # Lane # Time
1 Billy Barron
FSB01 5 2.966
2 Bobby Gage
FFS00 1 3.000
Alex walker
CCT20 6 Never Finished
Race 20 of 50 P: Print
```

Figure 14

PineWood Lookup

To learn how to use the Lookup program you must of same race data in your computer. Otherwise the program will not start, but if you think about it there is no need for it to start after all it searches race data.

Windows 95, 98, and ME

Click on Start -> Programs -> PineWood Racer -> Lookup

If you installed the demo race data you can also select the demo data option.

Windows XP boot disk option.

At the main menu select 4 then select option 1 to run the lookup program.

You can also select option 2 in the lookup menu to create a lookup disk for someone else to take home and be able to access data on there computer.

Basic Search Options

Basically you can type what you are looking for. Let's say you are looking for all have John's cars. Simply type in John's car number or simply "John". If you are looking for data on an entire club then type in the clubs code or clubs name.

Advance Search Options

Advance options allow you to modify the basic search options. Let's take John for example. Let's say his friend in another club is Timmy and John would like a printout of all information on both of there cars. So you could search for "John +Timmy" this would search for John and then search again for Timmy. It will add both together for the results.

You can also use - to remove a results. Let's say Frederick Firefoxes have a large club and they would like a printout without the staff members in it so it only has the kids race data. You would perform a search on "Frederick Firefoxes -Staff"

Additional options allow you to search for a specific race number using R:## format. And L:## for a specific lane number. And let's don't forget F:# for finishing position. Let's say after the race is over and you would like to see a result of all the winners of every race you can simply search for "F:1"

You can use the advanced options together "Frederick Firefoxes -Staff -l:2 -l:3" if using a 3 lane track this will give you the results of all the winners for the Frederick Firefoxes without the staff included in the report.

Results of a search

Search results of 'ddj' compiled by The PineWood Racer LookUp
9 cars listed out of a total of 520 cars.

Contest Title: Chesapeake Conference Pathfinder Derby Race
Date of Races: December 2, 2001
Time of first race: 11:12 am
Time of last race: 2:22 pm

Finishing + Lane + Car # ? ?	Feet Per Second	Finish Time (Seconds)	Race Number ?	Time of Race HH:MM:SS	Name
DDJ10 2 1	9.229633	3.2504	43	11:01 am	Gabriel
DDJ08 3 3	8.648524	3.4688	43	11:01 am	Rachel
DDJ09 4 2	8.887835	3.3754	43	11:01 am	Dainelle
DDJ11 5 4	7.704754	3.8937	43	11:01 am	Precious
DDJ09 2 2	9.606456	3.1229	74	1:18 pm	Dainelle
DDJ10 3 3	9.57182	3.1342	74	1:18 pm	Gabriel
DDJ08 4 4	9.416491	3.1859	74	1:18 pm	Rachel
DDJ09 3 5	9.868096	3.0401	75	1:20 pm	Dainelle
DDJ10 4 6	9.606456	3.1229	75	1:20 pm	Gabriel
Average: 3	9.171118	3.288255			

Advanced Configuration

The advanced setup program is needed to setup your derby track in non standard configurations. The most common options that will need to be changed from the Default is the configuration of the Gate Switch. Other options are configurations options that allow you to change the type of sensors on the top and bottom of the track. Also there is an option if you don't have top sensors.

Configuration of Switches

There are different type of switches. And they connect different ways. I recommend you go to your local Radio Shack and find switches that work for you. Concerning the setup program is only concerned about how the switch is connected. Is the switch a Normally Open or Normally Closed one.

A switch will allow electricity to flow thru it when it is closed. A Normally closed switch is one that will be closed (allow electricity to flow) without being pressed or activated. Once this switch is press or activated it will be open and no longer allow electricity to pass thru it. A normally open switch is exact opposite. It will be open without being pressed or activated. And will be closed when pressed.

I have also seen switches used as a sensor at the bottom of the track. It would use a small hinge that would flip down and lay flat across two bolts. Before the race the hinge would be pulled up so it is only connected to one bolt. Once the car crosses the finish line it will run into the hinge and drop down (out flat) and close the switch (conduct electricity).

If switches are used for sensors you will need to add a small 1 μ f capacitor across the switch along with a diode in series with the switch and make sure the Cathode (labeled as a K on the packaging) of the diode is connected to the common wire. You will need to refer to the Track Sensors schematic (included on install cd rom). Because this is a non supported configuration I give advice but not grantee support at this time. Though I have tested and used this configuration with the interface. Additional electronic parts such as capacitors and diodes are available at radio shack.

How to run the PineWood Racer Setup Program

Windows 95, 98, and ME

Clicking on Start -> Program -> PineWood Racer -> Other Utilities -> Advanced Settings

Windows XP Boot Disk Operation

Select option 3 from the Program Selection Menu of the boot disk. Then select option 1 from the setup menu.

Below is a chart with the advanced configuration options and there default settings. I have provided a space for you to fill in your configuration settings.

Question	Default	Your Settings
What interface do you have?	2	
Do you have sensors at the top of the Derby Track?	Y	
Are the sensors at the TOP of the track use light to know if a car exists?	Y	
Are the sensors at the BOTTOM of the track use light to know if a car exists?	Y	
Do you use and End of Race Switch?	N	
Is the Gate Switch Normally Open?	N	
Is the gate switch activated when it is in the up position?	Y	
Is the TOP Sensor switches Normally Open?	Y	
Is the BOTTOM sensor switches normally Open?	Y	
Is the “End of Race” switch Normally Open?	Y	
How many lanes does your track have?	3	

Network Support

The network option allows you to have meltable computer log in cars to a server and the track computer access the names from the server as need. It will also allow you to have one log in computer and meltable track on the same network. Or you can have meltable tracks and meltable log in computers. It can be setup in option you would like. The setup and configuration is the exact same for all options above.

To start any program in network mode, I recommend starting it from the start menu as shown.

Start -> Programs -> PineWood Racer -> Network

This will give you a list of programs that you can run in the Network Mode. Just remember to use the Network Login and use PineWood Racer in network mode. To do this, you **MUST** run a mini server on one of the PC's on that network.

Compatibility: Windows 95, 98, and ME are the only Operating systems that I will give support for. Network option will work in all operating systems providing that you install the correct drivers and protocols for DOS, Windows 3.1, and on the Boot Disk for Windows XP.

Error Message IPX/SPX not installed? Or network programs start and then quit?: See the Question and Answer section for this problem. It is cause because most systems do not have IPX/SPX installed by default.

Mini Server Login

This will be the actual location that the names are stored for the entire network. All tracks will ask this computer for race names and all login terminals will update information on the mini server.

To Start:

Start -> Programs -> PineWood Racer -> Network -> Mini Server Login

Once started it will ask you for basic race information as with the normal login operation. Race title, Date, and Coding type.

Network Login

After the Mini Server is running and configured. On another computer on the network start the Login terminal.

Start -> Programs -> PineWood Racer -> Network -> Login Terminal

Once started you will simply be presented with four lines asking for information. The operation will be the same as the normal Login program except there are no buttons. Once you are finished with an entry just keep pressing enter and you will be presented with a blank screen to add more information.

PineWood Racer Network Operation

Start PineWood Racer in Network Mode.

Start -> Programs -> PineWood Racer -> Network -> PineWood Racer

Once started the program by default will get names off of the server as car codes are encountered. For example if you start a new race and enter car ccd01 it will request the name from the server. If for some reason this name is not on the server it will respond with name unknown if the server is not available it will respond with server unavailable.

It is recommended you use some of the advance options to fit your needs. By selecting Network Setup from the Edit menu you will have the following options.

Use name data. The default option Network Only will only look for names from the mini server. You can also change this option to Local then Network. This is good two speed up name retrieval time especially if you have allot of computers on the network. But it is only good if you use it with the Update local names option below. With both options enabled you will be able to restart the PineWood Racer program and it will copy all names from the server to the local system. Once this happens and PineWood Racer restarts in network mode the system will look at it's local database first for the name if not found will look on the server. One problem with this option is if the name is updated on the sever then you will not have that updated name on the local system until a restart again. The last option Network then Local is the same as noted above except opposite.

When to enable network. It is recommended that you leave this option set to Command Line. The other option makes the PineWood Racer program always start in network mode even if you don't select the network option from within windows. And the Automatic option will only use the network option if the server is found on startup.

Update local names. With this option set to copy all names the program will copy all names from the server when you quit the PineWood Racer program. This option is nice because it will create correct data files on the local computer. Keep in mind the only time the files are copied from the server to the local system is when you quit the program. (Or restart it) Also understand it will only update if the server's name data base has changed sense the last update.

Update names only if names are newer. This option is only used if you have Copy all names set for Update local names. This will force the program to request all names from the server even if the server has not changed since last name copy operation.

Update data.ini information. It is recommended that you always keep this option checked. It will update the data.ini file with information based on the server's data.ini file.

Set local clock by server. Checking this option will set the server to the same date and time as the server is. This is important that the time is correct on both server and track computer to allow proper synchronisation of information.

Flush Network Cache. This option is under the Edit menu and is used to clear out the cache that is created in the PineWood Racer program. Because the program refers so frequently to the names database the program is designed to keep about the last 12 names in local memory so it won't have to request this information from the server all the time. Because of this if the name gets updated on the server and it was recently entered on the PineWood Racer computer then it will keep the same information until you select the Flush Network Cache or several other cars are entered.

Bar Code Scanning and Printing

<will be adding more information>

Appendix

Explanation of Data Files

DATA.PWR, DATA.INI, NAME.PWR

DATA.PWR This file contains the core race data of the race it's self. This file is a CSV file format and can even be opened in excel but it's data is hard to work.

DATA.INI This file contains settings defined for the specific contact. Like the contest date and title. Also has undelete and race coding data in it.

NAME.PWR This file contains the name database for all the cars.

NAMEDB.CSV

This file is created to allow you to incorporated with your program or a special excel spreadsheet that you create. You can create a lookup item in excel with this data to pull up name data from the car number. Information is sorted by Car Number.

Car Number	Driver's Name	Club/Group Name	Age/Level Name
ACJ00	Melissa	Atholton Crusaders	Junior
ACJ01	Jeremy	Atholton Crusaders	Junior
ACJ02	Carla	Atholton Crusaders	Junior
ACJ04	Cecil	Atholton Crusaders	Junior
ACJ06	Jonathan	Atholton Crusaders	Junior
ACJ08	Ben	Atholton Crusaders	Junior
ACJ10	Joseph	Atholton Crusaders	Junior
ACJ12	Dana	Atholton Crusaders	Junior
ACJ14	Stephen	Atholton Crusaders	Junior
ACJ16	Rebecca	Atholton Crusaders	Junior
ACJ64	Ben	Atholton Crusaders	Junior
ACJ68	Jonathan	Atholton Crusaders	Junior
ACJ70	Alyssa	Atholton Crusaders	Junior
ACJ72	Natalie	Atholton Crusaders	Junior
BFJ40	Alvin	Baltimore Rangers	Junior
BFJ41	Faris	Baltimore Rangers	Junior
BFJ43	Thomas	Baltimore Rangers	Junior
BFJ44	Priya	Baltimore Rangers	Junior
BFJ45	Clifford	Baltimore Rangers	Junior
BFJ46	Jones	Baltimore Rangers	Junior
BFJ47	Brandon	Baltimore Rangers	Junior
BFJ48	Brandon	Baltimore Rangers	Junior

<not all data displayed>

NAMES.TXT

The name.txt file will give you code definitions for Groups / Club names and Level / Age names. Also give you the names of all the cars. All in alphabetical order by name.

```
-- Group / Club Names --- Total: 19
AC = Atholton Crusaders
BF = Baltimore Rangers
BW = Baltimore White Marsh
CC = Calvert County Cougars
CS = Cornerstone Mustangs
DD = Delaware Diamonds
FF = Frederick Firefoxes
GR = Glen Burnie Rangers
HE = Hagerstown Explorers
LF = Linthicum Friendship Flyers
MM = Martinsburg Mountaineers
RG = Reisterstown Stargazers
SF = Spencerville Polar Bears
SI = Susquehanna Indians
WC = Waldorf Wildcats
WM = West Wilmington Wolveries
WH = Westminster Horizon
WP = Williamsport Warriors
WB = Willow Brook Pioneers

-- Level / Age Names -----Total: 3
J = Junior
S = Staff
T = Teen

-- Car Names -----Total: 258
SIT42 = Aaron
WWT15 = Adam
BWJ51 = Aki
BWJ54 = Alex
ACT60 = Alexander
MMT18 = Alina
ACT54 = Alison
BFJ40 = Alvin
ACJ70 = Alyssa
WHJ10 = Amanda
HET20 = Amanda
HET14 = Amanda
ACT50 = Amber
WBJ46 = Andrew
CCS48 = Andy
ACT10 = Anthony
WBJ44 = Ashley
MMJ18 = Ashley
WBJ40 = Barbara
BFS43 = Ben
ACJ64 = Ben
ACJ08 = Ben
GRS08 = Bob
CSS41 = Bobby
CSJ40 = Bobby
```

<not all data displayed>

PWRTREE.TXT

This file allows you to see how all the cars are sorted out in Club/Age Groups and Name/Levels.
Showing all cars in those groups.

```
+-- AC = Atholton Crusaders
+-- J = Junior
+-- ACJ00 = Melissa
+-- ACJ01 = Jeremy
+-- ACJ02 = Carla
+-- S = Staff
+-- ACS04 = Douglas
+-- ACS40 = Mark
+-- ACS42 = Douglas
+-- T = Teen
+-- ACT06 = Matt
+-- ACT08 = Chris
+-- ACT10 = Anthony
+-- ACT60 = Alexander
+-- BF = Baltimore Rangers
+-- J = Junior
+-- BFJ40 = Alvin
+-- BFJ41 = Paris
+-- BFJ43 = Thomas
+-- BFJ44 = Priya
+-- BFJ45 = Clifford
+-- S = Staff
+-- BFS40 = Kennedy
+-- BFS42 = Lionel
+-- BFS43 = Ben
+-- T = Teen
+-- BFT40 = Rachel
+-- BFT42 = Jennifer
+-- BW = Baltimore White Marsh Cloudwalkers
+-- J = Junior
+-- BWJ46 = Terrance
+-- BWJ47 = Onyi
+-- BWJ48 = Uche
+-- S = Staff
+-- BWS45 = Granados
+-- BWS46 = Pierre
+-- T = Teen
+-- BWT44 = Isaac
+-- BWT46 = Isaac
+-- BWT47 = David
```

<not all data displayed>

Error Messages, Solutions, and Support

There are a lot of possible error messages. Most should tell you what is wrong by it's name. But some will be harder to understand.

If you are unable to fix an error, you may can contact me about it. If possible I would like you to include the following in the email.

1. The name of the program that is giving the error message.
2. If the program causing the error is the "pwr.exe" PineWood Racer program than I will ask you to start the program with the "/s" option. To do this from DOS you would use the command line "pwr /s". And from windows you will need to click on Start -> Programs -> PineWood Racer -> Other Options -> PineWood Racer With Options. You will be asked for the option. Type in "/s" without the quotes. Then have the program generate the error message. Once the error has happened click Exit on the error message and you will come back to windows. Then click on Start -> Programs -> PineWood Racer -> Other Options -> Race Data Folder. You will get a folder up on the screen. It may or may not have files in it. Next just tap the "Back Space" key on the keyboard. This will take you to the PineWood Racer folder. You should see a document named Bootlog.txt. Attach this file to the Email
3. Give me the version and build number of the program that is causing the error. To get this run the program that is causing the error. Upon start up, you will be presented with a screen with the version and build number.
4. Give me the name of the person or organization to whom the program was registered when it was purchased. Without this you will not get support. It must match the same name or organization as the one that is registered.
5. The interface Version and Serial Number. You will find this on the interface it's self. If you built your own interface let me know!!!!
5. Give me a method of contact, either by Email or Phone.

Email all this and anything else I should know about to help@pinewoodracer.com.

If you need support please contact me through my Email address (help@pinewoodracer.com) or you can get information on my web page at <http://www.pinewoodracer.com> I'm sorry to say that you will not find any phone numbers for support. But if you Email me and you need my phone number I would be able to Email it to you if I felt it was needed. I should respond to an Email within 24 hours (business days only).

Frequently Asked Questions

You can get an updated list of Q&A at my web page. <http://www.pinewoodracer.com>

Q: Is the PineWood Racer a DOS or Windows program?

A: It is designed for Windows 95/98 but is actually programmed in DOS. I use PowerBasic which is a DOS compiler that is very efficient. Because of this I can easily access the interface device without having to build windows drivers and other hard to write DLLs and VxDs. My program has windows drivers built into it so it will work very well with Windows. It can even turn windows off so it can enable it's accurate timer system. It also must have windows installed to enable it to work with networking systems. It uses IPX/SPX (not the same as TCP/IP) protocol.

Q: How do I enable IPX/SPX network support in Windows?

A: The PineWood Racer will only work with Windows 95, 98, and ME networking. It will not work with Windows for Workgroups, NT, 2000, or XP. Even though all of these support IPX/SPX protocol.

You must also have a network card installed and setup in your system.

To install the IPX/SPX protocol just follow the following instructions.

1. Click "Start"
2. Click "Settings"
3. Click "Control Panel"
4. Double-Click on "Network"

You should now see a list of items, scroll through the list and look for something that has "IPX/SPX" at the beginning of the line. If you don't see it then continue on. If you do, then it's already installed and setup.

5. Click "Add.."
6. Select "Protocol" and click "Add.."
7. Under "Manufacturers" find and select "Microsoft"
8. Under "Network Protocols" find and select "IPX/SPX-compatible Protocol"
9. Click "OK"

That should be it... Windows may ask for the windows CD, if it does just follow the instructions on the screen. It will then ask you to restart the system. After this is finished you should be ready to run the PineWood Racer software in network mode.

Q: Can I download your program for free?

A: Yes you now can. I now have a demo program out for people to test. It is fully enabled except for track interface communication will not work.

<http://www.pinewoodracer.com/download>

Q: How Can I build a Derby Track?

A: I don't build derby tracks but I have found a WebPages that will help you build one for yourself! Go to the following WebPages below!

<http://www.inetworld.net/bosworth/index.html>

Q: Why can't I get my interface to work with a PCI Printer Port?

A: If you have installed one of the new PCI printer ports into your system and you can't get the interface to work on that port, it's because it's not set at a standard printer port address.

Standard addresses are 3BCh, 3F8h, and 2F8h. To correct this problem do the following:

- 1.Right click on "My Computer" icon.
- 2.Select "Properties..."
- 3.Select "Device Manager" tab.
- 4.Click on the little plus symbol in front of "Ports (COM & LPT)"
- 5.You should see your new port. Double click on the new port. If you do not know which one is the new port, then consult the technician that installed the port for you.
- 6.Click the "Resources" tab.
- 7.Click the "Use automatic settings" to remove the check mark.
- 8.Find the "Input/Output Range" in the list and double click on it.
- 9.Use the Up and Down arrows to select a new address. Try to use one of the previous mentioned. If you are unable to find one that is unused or are unable to get to one of the address, skip to step 11.
- 10.Click "OK" several times until it asks you to restart, or you are back to the desktop. You should now be able to use the pine wood racer. If you are still having problems then continue onto step 11. Otherwise you are finished...
- 11.Click "Cancel"
- 12.Click "Use automatic settings" to place the check mark back.
- 13.Take a note of the Input/Output Range on paper.
- 14.Click "Cancel" several times until you are back to the desktop.
- 15.Click "Start"
- 16.Click "Run"
- 17.Type "c:\pwr\pwr.ini" and press Enter
- 18.This should bring up a Notepad windows with the PineWood Racer settings in it.
- 19.Look for a line that reads "PortSearch=3BC 378 278" add to this list the port that you wrote down in step 13. Example if the port in setup was 1123 - 1223 then you should add 1123 to the PortSearch to come up with a line that reads "PortSearch=3BC 378 278 1123"
- 20.Click "Save" from the "File" menu.

21. Close out of the notepad program

22. Try and run the PineWood Racer again. It should now find the interface. If you still have trouble then you may need to contact a local computer technician and have them look at this documentation. And you can Email me for support if you would like.

Q. What is free dos

A. I use free dos for my boot disk ability and a few other commands. The following is off of freedos.org web site.

FreeDOS aims to be a complete, free, 100% MS-DOS compatible operating system (mostly achieved.) Today, FreeDOS is ideal for anyone who wants to bundle a version of DOS without having to pay a royalty for use of DOS. FreeDOS will also work on old hardware, in DOS emulators, and in embedded systems. FreeDOS is also an invaluable resource for people who would like to develop their own operating system. While there are many free operating systems out there, no other free DOS-compatible operating system exists.

FreeDos' license agreement states that I must supply the source code along with the program. On the original CD-Rom disk there is a FreeDos CD folder that has the original source CD and CD Image files.

For more information go to <http://www.freedos.org>

Also read there license agreement.

End User License Agreement

Robert F. Gage II Software

You Must Read the Agreement Before Installing Software Customer Software License Agreement

This software package contains **PineWood Racer** software program(s), PineWood Racer Interface driver software programs and an electronic user's manual collectively (the "Software Programs") on CD-ROM or Magnetic Disk media (the "Media"). Certain of the Software Programs were developed and are owned and distributed by third parties (the "Software Publishers"). Your license, as set forth below, to use the Software Programs is granted by Robert Gage II.

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