

BestTrack®

Champ Timer

Finish Line Timer

***A*ssembly *M*anual and **C**OMMAND **M**ANUAL**

VERSION 4.0



Timer Manufactured By:

SRM Enterprises, Inc., Producers of BestTrack Pinewood Derby Tracks

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Last Revised 6/11/12

IMPORTANT! Use only the 12V power supply supplied with your timer! Wrong power supply voltage will damage your timer & void the warranty!

1 The Champ Timer Finish Line Overview

We thank you for purchasing the *BestTrack™* Champ Timer Finish Line system. This manual will assist you with the communication between the Champ Timer Finish Line system and a computer.

The *BestTrack™* Champ Timer Finish Line produces consistent instant race results. The Champ Timer is designed to produce results with excellent precision and ease.

Special features of the Champ Timer include:

- 1 to 8 lanes supported.
- Large (2 ¼ inch) displays, readable across a large room.
- 6.5 inch clearance above track.
- Race results instantly displayed to race spectators.
- Useable with or without a computer connection.
- Computer interface standard.
- Race times resolved to .00005 seconds.
- Race times selectable to send 3, 4 or 5 decimals.
- Reset button and/or timed automatic reset. (settable time or disabled).
- Start gate switch.
- Built-in sensor IR illuminators (no lamps are required).
- Photo finish trigger.
- Built-in test functions.
- Flexible display configuration.
- Flexible output configuration.
- Displays are mounted on clear Lucite panel with black trim.
- Space Derby race with optional sensors.
- Your preferences such as number of decimals stored in unit.
- Easy to install.

The Champ Timer lends itself to dynamic racing, since the on-board co-processor can complete timing calculations with results being passed to a computer.

Champ Timer system consists of:

- 1- Champ Timer system unit with 1 – 8 displays.
- 2- Champ Timer Setup Program (LINESETUP2.EXE) on CD.
- 3- AC Power Adapter.
- 4- RS-232 cable attached to frame.
- 5- Reset/Start gate switch and mounting bracket
- 6- 50 ft. cable for Reset/Start Switch

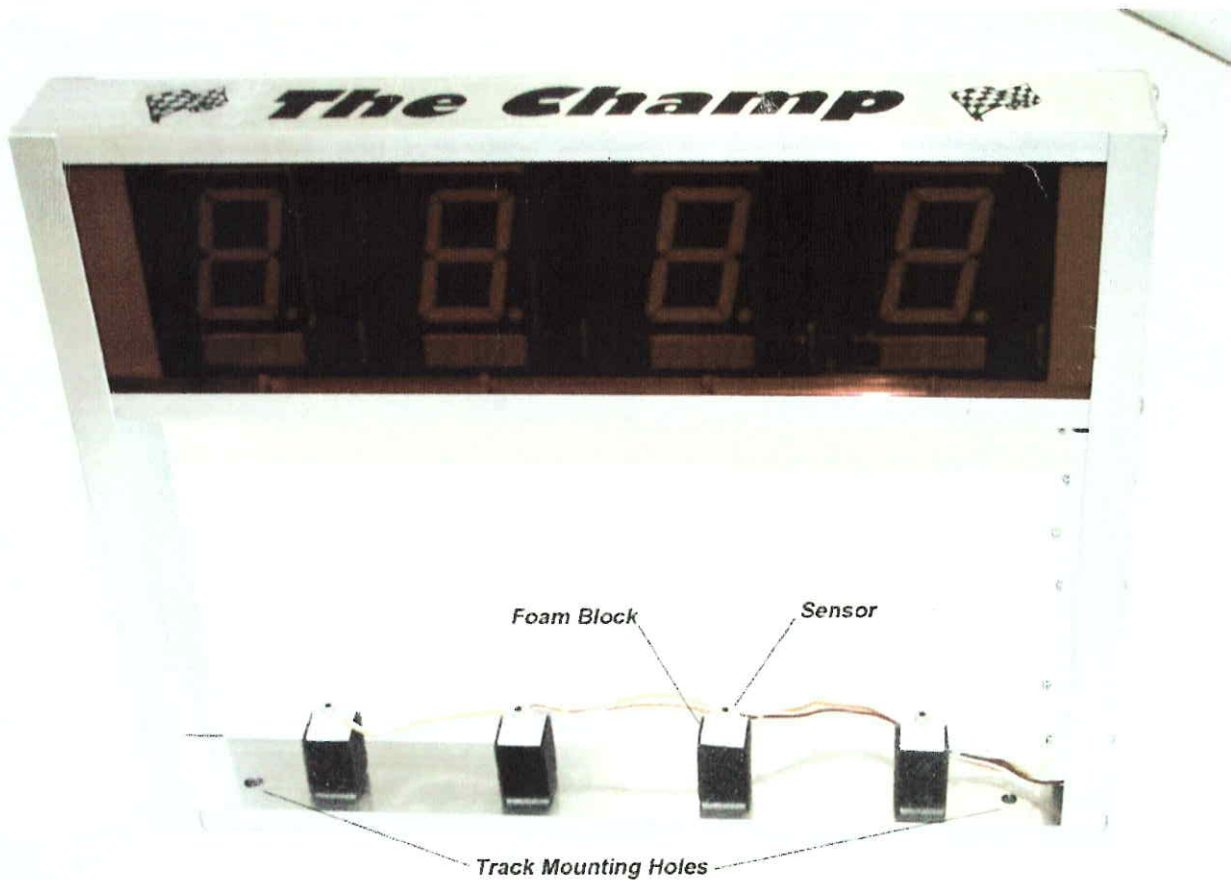
2 General Operating Instructions

The Champ Timer Finish Line System may be set up for use as a race timer or it may be set to test mode to test the sensors.

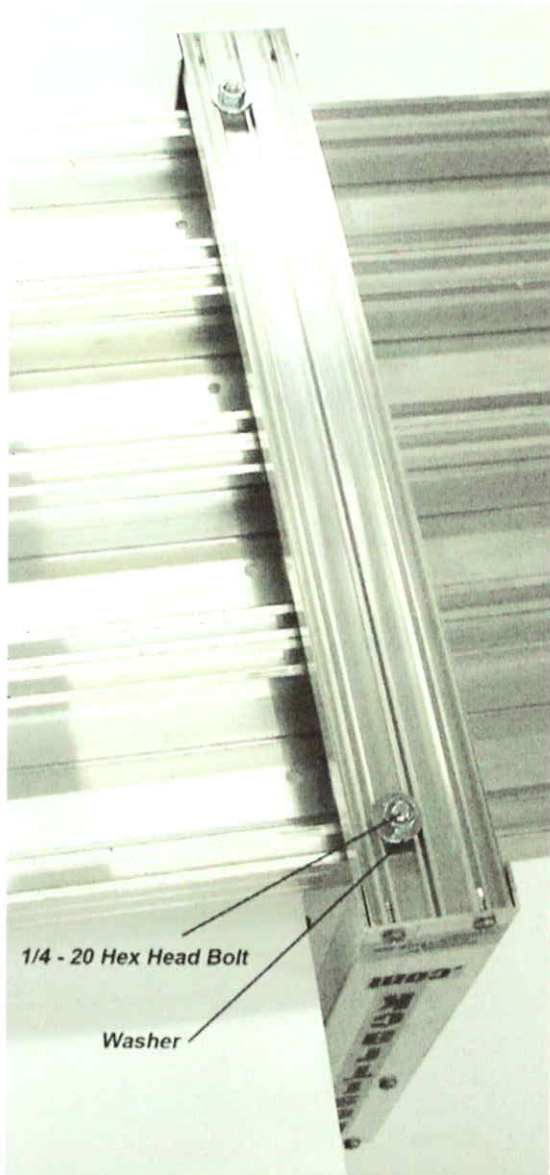
The Champ Timer Setup Program (LINESETUP2.EXE) is supplied with the finish line so that operating parameters may be easily set or changed to your preference without having to know the commands.

2.1 Setup Champ Timer Finish Line hardware

Follow these simple steps to install the Champ Timer Finish Line over the track. For a complete description of the installation of the Champ Timer Finish Line on your track, refer to the Installation Manual.



1. Your Champ Timer comes completely assembled, ready to be mounted on your BestTrack Pinewood Derby track

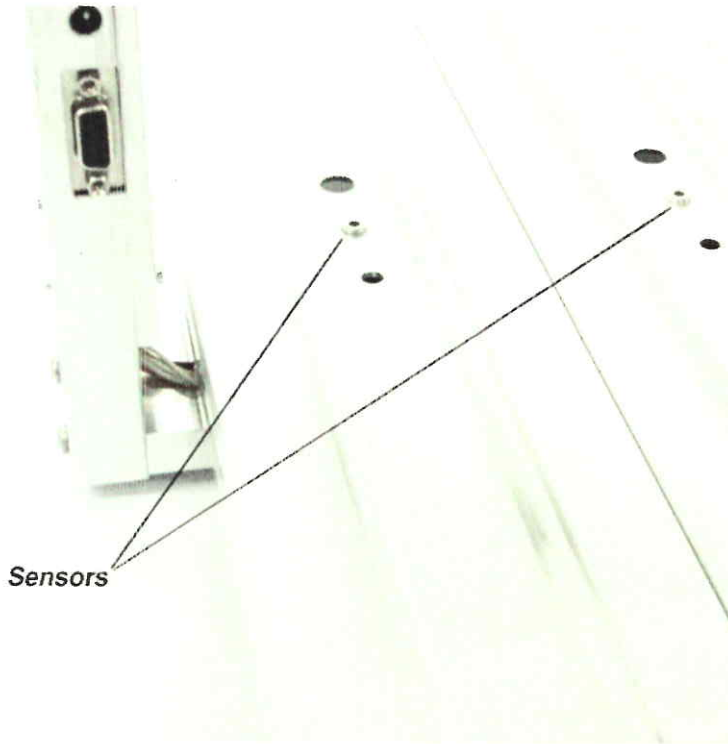


2. Slide two 1/4-20 X 1" long hex head bolts (included) in the outer mounting slots of the first & last lanes of your timer section of track. (You will have to remove the connector angle at one end of the timer section if your track is already assembled.) Align these bolts with the center timer hole punched in your track. **Tighten a nut on this bolt to hold it in location. This nut also provides spacing so the sensor wires will not get pinched.**

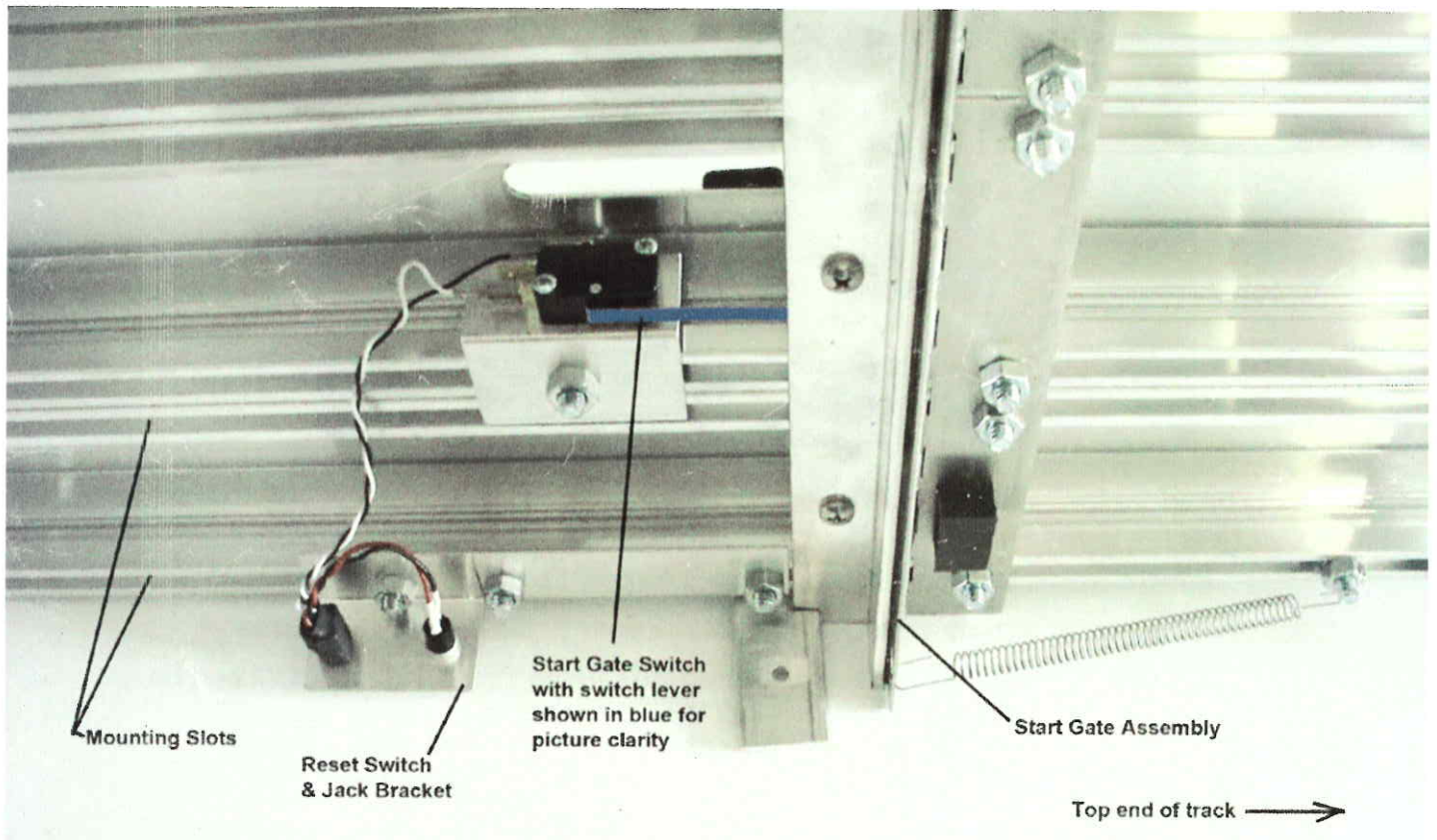
3. Slide the timer over the end of the track with the foam blocks holding the sensors beneath the track. Align the timer mounting holes with the bolts installed in step 2. Place a washer over each bolt and secure the timer with two additional nuts. **Do not over tighten.**

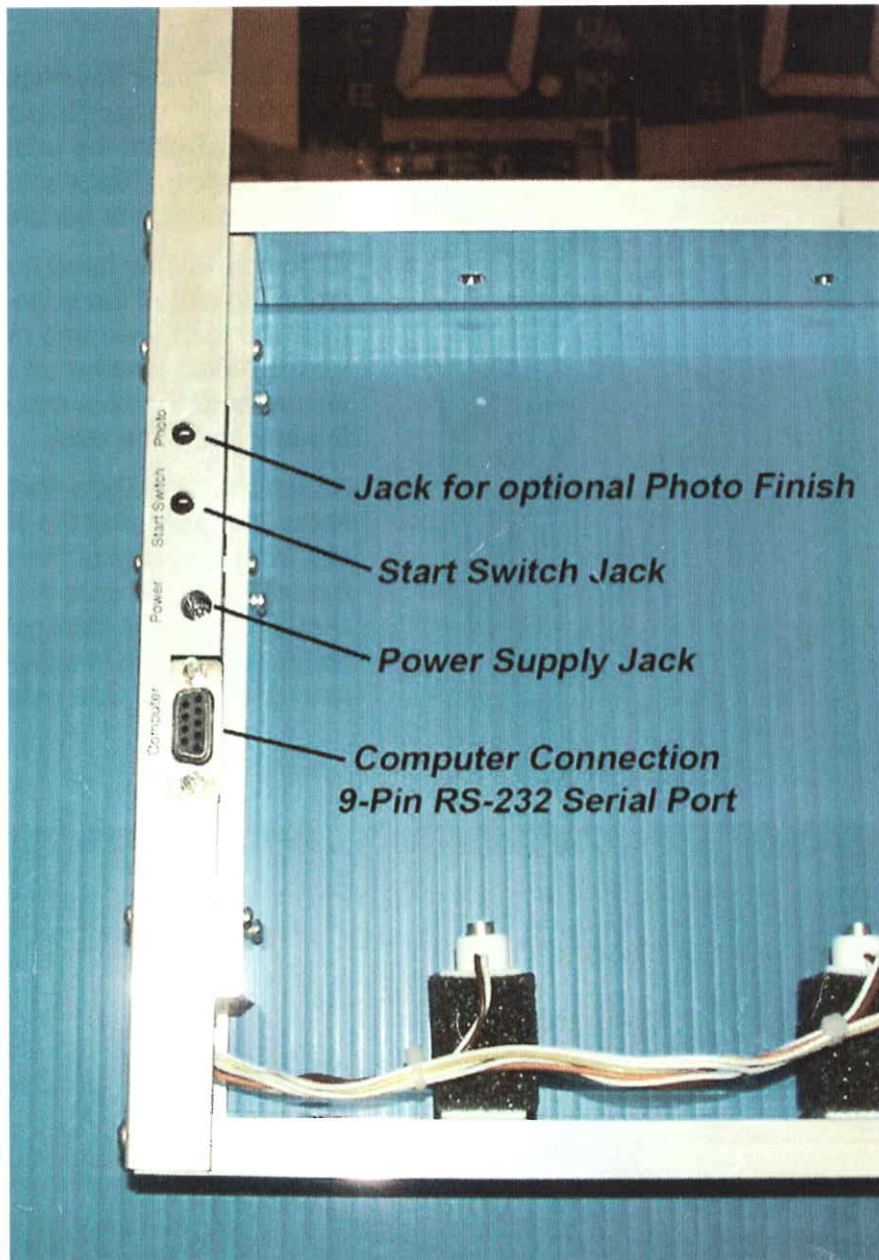


**Do Not Pinch
The Wires When
Attaching Your
Timer!**



4. Align the sensor housings on each foam block so they fit into the timer holes punched in the middle of each lane. The foam block acts as a spring to keep the sensor securely in place.
5. Slide a 1/4-20 hex head bolt into the mounting slot at the edge of the track near the start lever and mount the Reset Switch Bracket as shown in the picture below. Use a hex nut to fasten the bracket to the track.
6. Attach the Start Gate Switch in the same manner using the 3rd mounting slot from the edge of the track. Slide the start lever (shown in blue for clarity) under the start gate as shown so that the switch is activated as the start gate drops. See below.

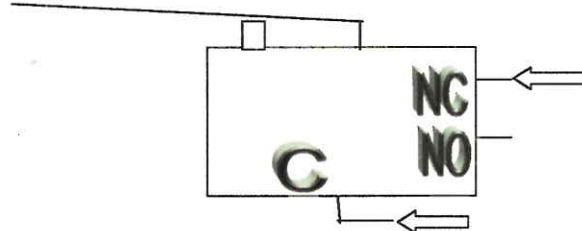




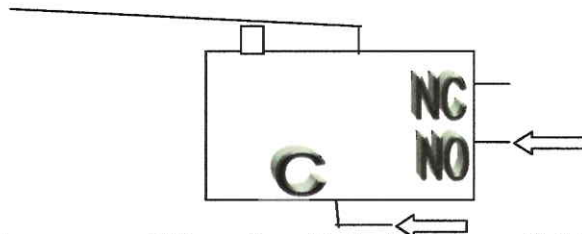
7. Plug the power supply into the mating connector on the Champ Timer unit.
IMPORTANT! Use only the 12V power supply supplied with your timer!
Wrong power supply voltage will damage your timer & void the warranty!
8. Plug the 9-pin RS-232 interface cable into the Champ Timer and any COM port on your PC. You may also use an RS-232 to USB conversion cable to use a USB connector on your computer. Use the CD that comes with the USB converter to install the driver.
9. Plug one end of the Reset/Start Switch cable into the leg of the timer and the other end into the jack with the Reset/Start Switch. Make sure that it is fully inserted. You

may mount the Start Switch onto your track or use the timer without it. If you do decide to mount the start switch, please follow the wiring instructions carefully.

WIRING INSTRUCTIONS: The supplied sensor switch has three terminals marked C(Common), NC(Normally Closed) and NO(Normally Open). The preferred method is to have the switch pressed before the race and un-pressed when the race starts. This method requires the use of the C and NC contacts.



If you want the switch to be un-pressed before the race and pressed when the race starts, then the push-on terminal needs to be on the NO contact as indicated below.



10. Plug in the Photo Finish Device if you have one. This optional interface is available from Smartline Derby Timers at: www.etekgadget.com
11. Lastly, using the AC adapter, plug the Champ Timer Finish Line timer into a source of power.
12. **Please note: Check to make sure the start gate switch is fully depressed when the start gate is in the up position. If not, you may need to slightly bend the lever on the switch.**

2.2 Run the Champ Timer Setup Program

We supply the Champ Timer Setup Program (LINESETUP2.EXE) on a CD to establish the initial communication and also for updating any settings that you may wish to change.

You may use the LINESETUP2 program directly from the CD or copy it to any directory of your choice. You only need the one file: LINESETUP2.EXE to run this program.

Before you start the LINESETUP2.EXE program make sure that the Champ Timer Finish Line Timer is plugged into the computer and turned on.

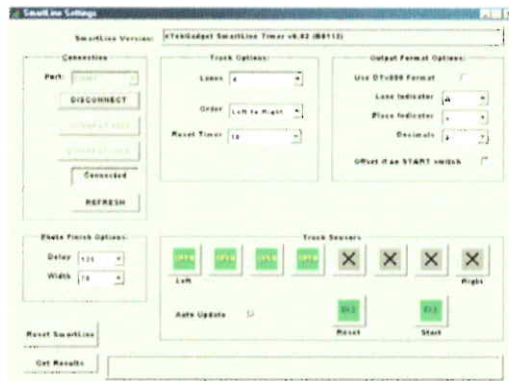
Make sure that you do **NOT** have any other programs running that use the same COM port, such as a race manager program.

To start the Champ Timer Setup Program, simply double-click on the LINESETUP2.EXE program name.

Select the COM port you will be using for communication in the Connection box.

Click the “CONNECT/AUTO” button. The “CONNECT” button is currently displaying “DISCONNECT” in the picture below because it has already been pressed and the status is “Connected”.

The Champ Timer Version should appear at the top of the box. The Track Sensors area will show the state of the sensors and switches. You may check the Auto Update checkbox to obtain continuous readings of the sensors and switches. These don't work correctly in DTX mode.



This is the display as it appears when there are 4 lanes and communication has been established successfully. Waving a hand under the sensors triggered the timer and the 'Get Results' button was pressed in order to see the result string from the timer.

In the new version, if you see “forced connection” instead of the “version” the timer is not connected properly. Use the explicit “CONNECT/” buttons to connect to the timer and recycle power.