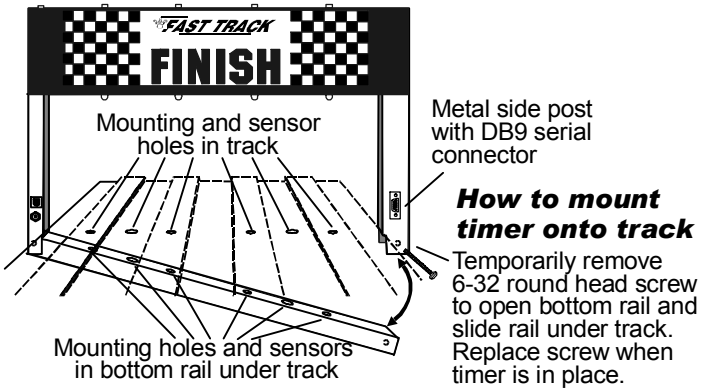
How to install your *Fast Track* flashing light display timer model K1 with optional remote start switch

(If you have ordered the Quick Mount or have a Best Track, disregard this section and refer to the mounting instruction sheet for installing your timer)

Enclosed you will find the Fast Track finish tine, remote start switch, a computer interface cable and USB converter*, AC adapter (and any options ordered). The Fast Track finish line contains all the electronics, sensors and displays for the Fast Track system.

To install the Fast Track finish line to your track, mark the finish line on your track with a pencil. Now mark the midpoint of each lane where it crosses the finish line. These marks should align with the location of the sensors in the bottom rail of your Fast Track timer, which was manufactured according to the track measurements provided on the order form.

Next, measure from the nearest sensor to the mounting screws. Mark this spot where it crosses the finish line. This marks the spot to put the mounting screws. The other marks are for the sensors that are mounted in the bottom rail of the Fast Track finish line. Now carefully drill these marks in the finish line of your track with a 3/16 inch drill bit. The sensor holes should be in the middle of each lane. The two other holes are for mounting and should be countersunk with a 1/4 inch bit so that the mounting screws are flush with the surface of the track.



Once these holes are drilled you we ready to mount the Fast Track finish line to your track. Remove one bolt in the bottom corner of the finish line. With this bolt removed the finish tine can now hinge open. (If you take out the wrong bolt the finish line will not be able to open because of wires that are in that side of the finish line.) Remove and save the mounting screws. Now with the Fast Track finish line open, run the bottom rail under the track. Close the finish line and replace the bolt.

Check for proper alignment of all of the holes in the track. if a hole in the track does not match that of the sensors in the rail or the mounting holes in the rail doesn't line up, you will have to ream out the holes in the track that do not match. When you have good hole alignment, you can insert the two mounting screws through the top of the track and into the threaded hole in the bottom rail. Be careful that the sensors fit into the holes you drilled in the track.

Connecting the start switch and AC adapter

Connect the start switch to your track so that the car release lever on your track closes the start switch as the cars wait at the starting line (see illustration on reverse side). When the cars are released the switch should open. Run the start switch cable under the track all the way back to the finish line. Plug the start switch connector into the small RJ11 telephone type socket in the side post of the timer. Plug the AC adapter into the other round socket in the side post (or use the optional battery pack if you ordered one.) Plug the AC adapter into a wall outlet and you are ready to roll.

How to operate the *Fast Track* timer

Close the starting gate so that the start switch pushed in. This starts the self test. In the test mode all display lights should be off. If a display light is on then something is blocking the sensor for that lane. Once all display lights are off, you will be able to start a race.

Put the cars in their starting position. Open the start gate (all the display lights on the timer will blink and go off - this shows that the timer has started timing) and release the cars. When the first car crosses the finish line, the

*The computer cable and USB converter is included so you can send commands from your computer to your timer using hyperterminal.

NOTE: In order to run race management software with this timer, it must have the Computer Serial interface (PS) option.

light over that lane will light and remain lit. As the second place car crosses the finish line, the light over that lane will flicker on and off very fast. When the third place car crosses the finish line, the light over that lane will blink slowly. The fourth place light flashes once as the last place car passes over the sensor and stays off. (If you have fewer than four lanes, the last place light will flash once and stay off.)

After recording results, close the start gate. This presses the reset switch shut to start a new race. Ties can also be displayed if two cars cross the finish line within less than 0.0002 of a second. Two or more continuous lights would indicate a first place tie. Two flickering lights would indicate a second place tie. Ties are very rare.

If you have problems...

1) If one or more display lights come on with the remote start switch depressed: Then the infrared sensors in the bottom rail are not receiving the signal from the Infrared transmitters in the bottom of the finish line banner. Check the holes in the track and make sure there is nothing obstructing the sensor, and that it is properly aligned in the hole.

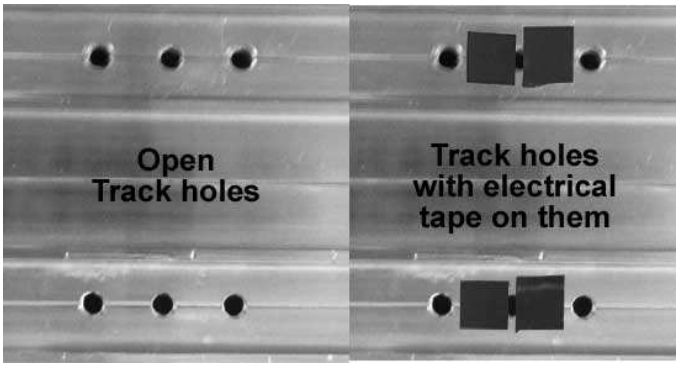
2) If nothing is working: Then Unplug the power adapter from the side post of the finish line banner. Make sure the outlet is functional. Reconnect the power adapter and plug it in. Put your hands over all the holes in the finish line. If the display lights now work then you may have a remote start switch problem.

If you are trying to use the timer in direct sunlight

You may have trouble running our timer in direct sunlight, although it may run in shade. Here are several ways to improve the performance in sunlight:

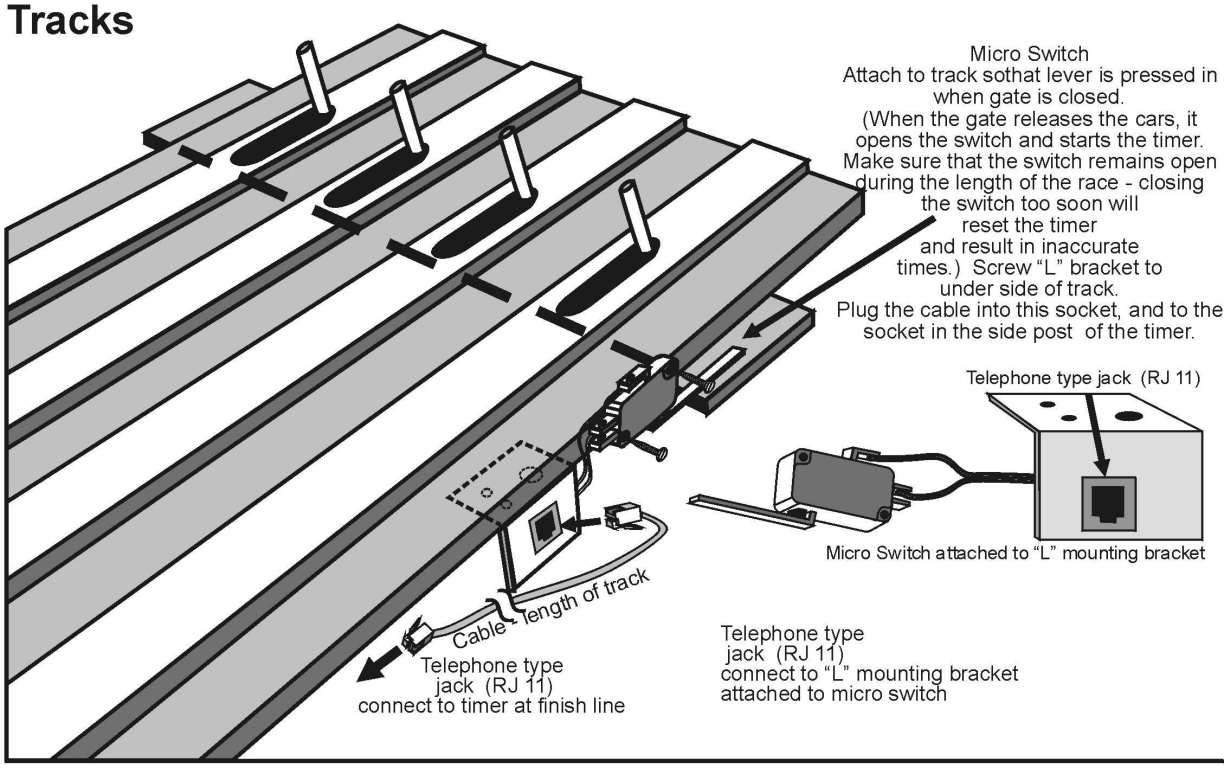
- Make sure no light is getting to the back of the sensors. Cover the back of the sensors with black tape.
- Use a small hole in the track. 1/8 inch hole should work fine.
- Make the interior of the hole flat black, or other dark color, so indirect light is not reflected down to the sensor.
- Make the sensor hole deep. It should be at least 1/2 inch deep for best results.
- Put black electrical tape on either side of the hole in the track below the infrared transmitters to make a slot that will let in less light. See photo below.

We have used J-B Weld, or J-B Kwik epoxy to fix holes that were too big. You can fill the big hole with the epoxy, then redrill them to a smaller size. The new hole is a flat gray color that works well.

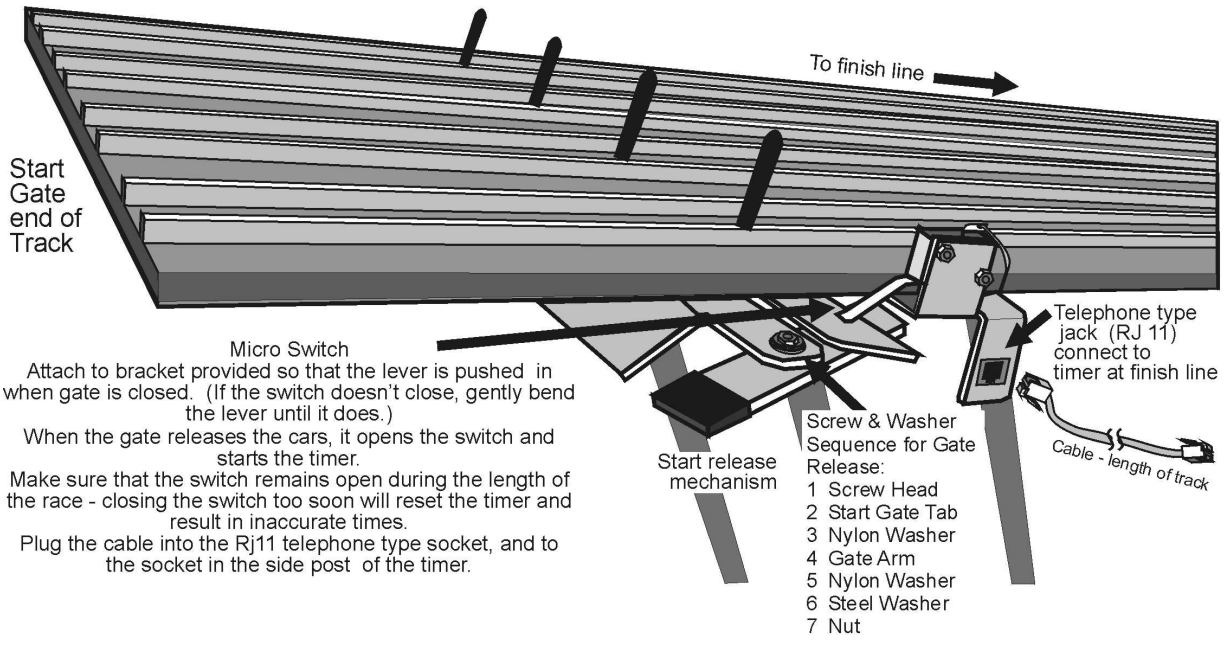


Remote Start Switch Diagram

Most Wooden Tracks



Micro Wizard & Piantedosi Aluminum Tracks



Commands that can be given through the serial port:

M(A-G) **Mask unused lanes**
MA would mask out lane A. **MB** would mask out lane B and so on. **MG** would enable all lanes by clearing the mask.

RL (0-6*) **Reverse lane if 0 is set to normal** * Number of Lanes of your track
This command reverses the data stream sent from our timer to your computer or remote time display – ie- Lane ABC becomes CBA on your computer.

RE **Reset Eliminator mode**
If the timer is in the Eliminator mode, it will reset back to the standard mode of racing.

RF **Return features in binary**
This command will return 8 binary bits like 0011 0111. A 1 means the option is enabled:
1111 1111 all feature bits set. 0000 0000 all feature bits clear

RS **Return serial number**

RA **Reset lane – Force results**
Force the timer to end the race and send the results of all lanes that have finished. This is great feature for when a car crashes, burns and falls off the track.

LR **Reset laser gate**
When the race is over the computer can reset the laser gate. This can work like the RA command, but does nothing if the customer does not have a Laser Gate.

LE **Set timer for Eliminator mode**
Eliminator will score only a first and second place for lane pairs. Makes 3 races on a 6 lane track or 2 races on a 4 lane track.

LF **Load feature**
This feature is enabled only with a password – guessing a serial number will give you an error and may disable features in your timer.

LX (A-O) **Change time or disable automatic reset**
In the command line, each of the letters of the alphabet A through O will add 2 seconds to the reset time. So to change the automatic reset time to 6 seconds enter: LXC, and to change the automatic reset time to 25 seconds enter: LXO
To disable the automatic reset enter: LXP

N0 **Old format**
Converts the race time data to the old timer format:
A=3.001! B=3.002 C=3.003 D=3.004 E=3.005 F=3.006 <LF> <CR>

N1 **New format**
Converts the race time data to the new timer format:
A=3.001! B=3.002” C=3.003# D=3.004$ E=3.005% F=3.006& <CR> <LF>

N2 **5 digit time format start switch closed and open status**
Only on 2012 and newer timers.

RM **Read mode**
Shows the current modes set for the timer:
6 000011 0 0 0
Number of lanes used in reverse order mode - 6
Lanes E and F are masked - 000011
Lanes are not reversed - 0
Not in eliminator mode - 0
Old data format - 0

RG **Returns start switch condition**
The timer will return a "1" if the start switch is closed and "0" if the switch is open.

LO **Turns off the laser bit or gate release bit**

LN **Turns on the laser bit and causes the motor gate to open**
Only for the automatic gate release.

LG **Pulse laser bit for solenoid style gate release**

RV **Return version of firmware and serial number**

RX **Simulate the closing of the start switch for half a second**
This ends the race and sends any results to the computer. You must have the "Force Print" option.

LX(0-9) **(K2 & K1 Models A-O) Change time or disable automatic reset**
In the command line, each number after the x will multiply 2 secondss to the reset time. So, to change the automatic reset time to 6 seconds enter **LX3**, and to change the automatic reset time to 18 seconds enter **LX9**.
To disable the automatic reset enter **LX0.**

LX **K3 model time interval between alternating position then times on the finish line display**
In the command line, each number after the x will multiply 2 seconds to the alternate time. So, to set the rate of change to 6 seconds enter **LX3** and to set the rate of change to 18 seconds enter **LX9**.
To display only the time without displaying position enter **LX0**.

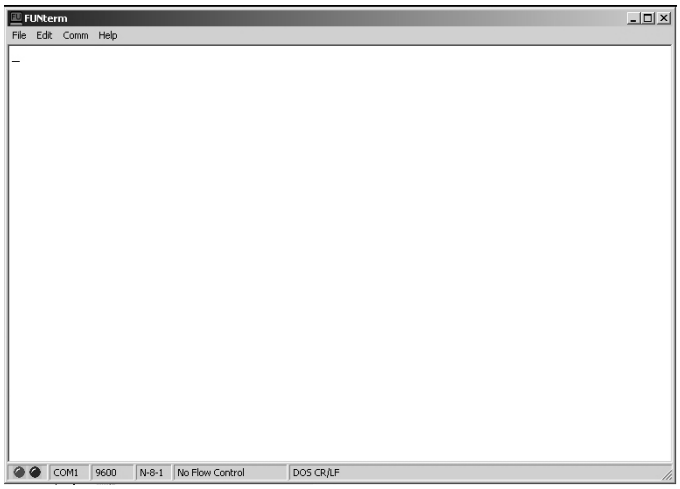
Race Data Finish Order Punctuation:

21h	-	!	-	First Place
22h	-	"	-	Second Place
23h	-	#	-	3rd
24h	-	$	-	4th
25h	-	%	-	5 th

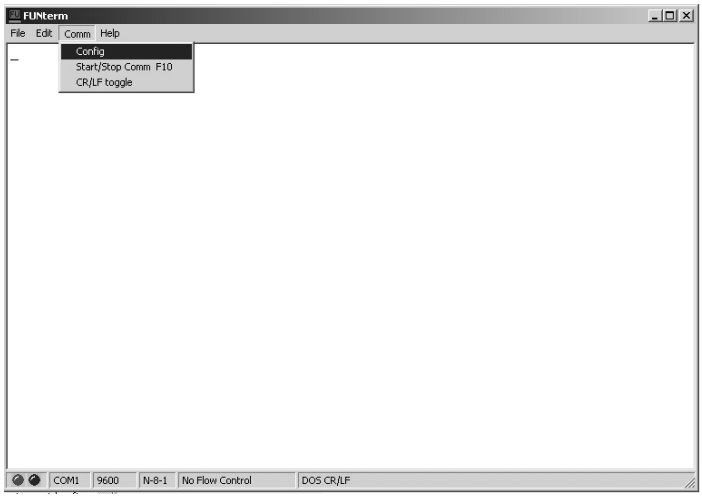
To change Options or view times from your race in FUNterm:

- Plug your timer into a power source
- Using the computer serial cable and/or the USB converter, plug your timer into the com port or USB port on your computer

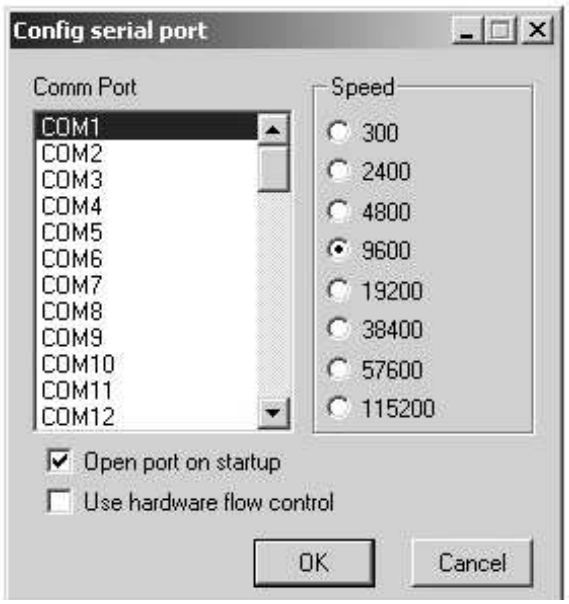
Go to Microwizard.com and under “downloads” on the menu, download the program “FUNterm.exe”
- This is a stand alone program that doesn’t require an install
- Double click on the saved FUNterm.exe file



1. This window will come up



2. Put down Comm
- Click on Config



3. A New Window will come up:
- Choose the correct comport that your timer is connected to. Don’t change anything else because the timer uses the default settings.
- click okay

4. You should now be able to type commands to the timer through the computer, or, once all the cars have raced and the lanes have finished, the times should automatically display.

To enter commands - type RV and hit enter. The version number of the timer should display on your computer screen. If it does, you are ready to enter the option commands of your choice.

If you don’t see the version number, you probably have a comport conflict. See “Frequently Asked Questions” on our web site for a list of ways to trouble shoot the problem.