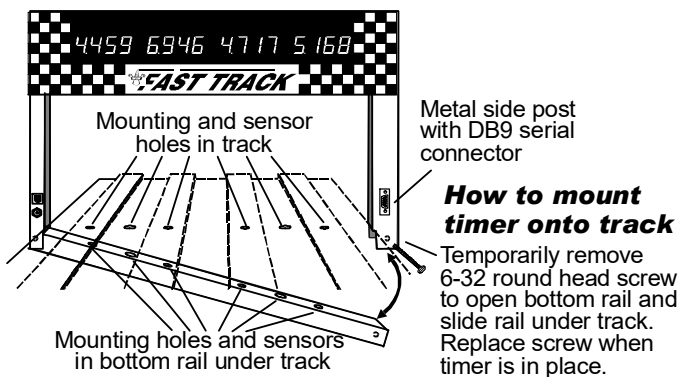# Micro Wizard Instructions

K3 Grand Prix

Enclosed you will find the Fast Track finish line, AC adapter, laser gate, a computer interface cable and USB converter* (plus any optional equipment ordered). The Fast Track finish line contains all the electronics, sensors and displays for the Fast Track system.

How to install your *FAST TRACK* K3 4-digit actual times and 1-digit sequence of finish display timer

(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)

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. This should be the same spacing as the sensors in the bottom rail of your Fast Track timer and was manufactured according to the measurements provided on the order form. If the spacing Is not the same, call 1-888-693-3729 (office) or (859) 380-3882 (cell).

If the spacing looks correct, then drill a hole in the center of each lane with a 3/16 drill bit. Measure the distance from the mounting screws on the Fast Track timer to the closest sensor. Mark the spots between lanes on your track where the mounting screws go and drill them with a 3/16 drill bit. These mounting holes should be countersunk with a 1/4 inch bit so that the heads of the mounting screws are flush with the surface of the track.

Mounting and sensor holes in track

Mounting holes and sensors in bottom rail under track

Metal side post with DB9 serial connector

How to mount timer onto track

Temporarily remove 6-32 round head screw to open bottom rail and slide rail under track. Replace screw when timer is in place.

Once these holes are drilled, you are ready to mount the Fast Track finish line to your track. Remove the screw in the bottom corner of the finish line opposite the power jack. With this screw removed, the finish line can hinge open. (If you remove the wrong screw, it can't be opened due to the wires running to the sensors). Remove and save the 2 mounting screws.

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, you will have to ream out the holes in the track that do not match.

Once you have good hole alignment, make sure the sensors are located at least 1/4" below the surface of the track. (If the track is too thin, add a board between the bottom of the track and the timer sensors to achieve the proper thickness). Now insert the two mounting screws in the countersunk holes through the top of the track and into the threaded holes in the bottom rail.

Quick Test

1. Plug the power adapter into the timer then into an electrical outlet. If one or more boards displays a dash, then its sensor is not getting enough light. Hit reset switch and try again with more light.
2. Put the boards in test mode by depressing the remote start switch and keeping it depressed. Cover each sensor. Each board will display a "0" unless blocked, then it will display a dash "-". This is the correct reading for test mode. If you did not get this reading, please call us for help at: 1-888-693-3729 (office) or (859)380-3882 (cell).

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

Micro Wizard Instructions

Connect the laser gate or light tree gate to your track as specified in the laser gate or light tree gate instruction sheet.

How to operate the _FAST TRACK_ timer
Close the starting gate so that the start switch lever is pushed in. All displays should be zeros. If a display is showing a dash, then something is blocking it's sensor. If one or more displays show a dash, then skip this section and read "If you have problems" below.

Once the start switch opens the timer will begin timing. A few seconds after the last lane finishes the order of finish will display if you have purchased the sequence of finish option. The timer will continue to flash times and order of finish until it is reset.

Any car that takes more than 9 seconds to cross the finish line will not be scored. Even the slowest cars make it across the finish line in less than 5 seconds.

If you have problems

1) Check the holes in the track. Can you see the infrared sensors through the holes in the track? If not you may need to ream out the holes. Check the infrared transmitters above in the finish line banner. They should be located directly above the sensors. If needed, they can be gently bent to give a more perfect alignment.

2) If nothing is working, make sure the outlet is functional and replug it in. Put your hands over all the holes in the finish line. The display lights should now work. If you still have a problem give me a call, Stuart Ferguson, at 1-888-693-3729 (office) or (859)380-3882 (cell). We offer a full 2 year warranty. If it hasn't been abused, we'll fix or replace it free, including ground shipping, or refund the purchase price if we are unable to meet your satisfaction.

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.

Open Track holes / Track holes with electrical tape on them
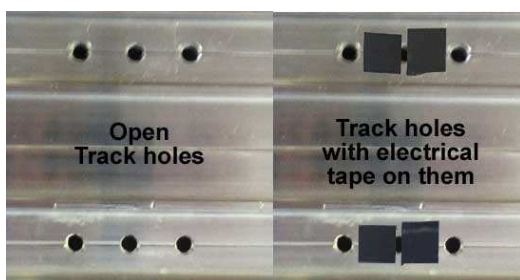
## How to install your K3 Fast Track Laser Start Gate

Enclosed you will find the laser start gate, side mount brackets and connecting cable. The laser start gate provides the most precise start signal possible. It eliminates any question regarding inconsistent start gate operation. As the cars begin to roll off the starting line a laser beam is interrupted signaling the timer to begin. Some people mount the laser at axial height, others mount it nearer to the start gate so the start gate itself breaks the laser beam.

To install the device on your track, pencil a perpendicular line approximately one inch in front of the starting line. Plug your FAST TRACK Timer into an electric outlet using your AC power adapter. Then plug the cable coming from the black box into your FAST TRACK Timer. The red beam coming from the laser must be aimed directly into the small white tube on the side of the black box. Press and hold the reset button to turn on the red light. If it is lined up correctly, the red light will stay on when you release the reset button.

While holding the start gate in position, on either side of the pencil line, drop the car release mechanism. Make sure that the car release mechanism does not interfere with the laser beam. If the red light goes off during this test, reposition the beam and try again. Once the correct position is located, carefully drill pilot holes in the underside of the track for mounting the metal bracket and the plastic bracket that has the black box. The black box extends above the track, while the metal bracket extends below the track. Attach the brackets with wood screws. The laser is then attached to the metal bracket by magnets, which allow for precise adjustment.

Test the starting device

With the laser starting gate mounted and plugged into your FAST TRACK timer, place one or more cars on the starting line with the car release mechanism closed. Make sure the red beam is aimed and centered directly into the white tube. Press the reset button. The red laser light signifies that the beam is on and properly aligned. If the laser light does not stay on, readjust the laser beam by carefully sliding the magnet on the metal bracket until the beam is centered in the tube. Release the cars. The red light should go off when the cars break the beam.
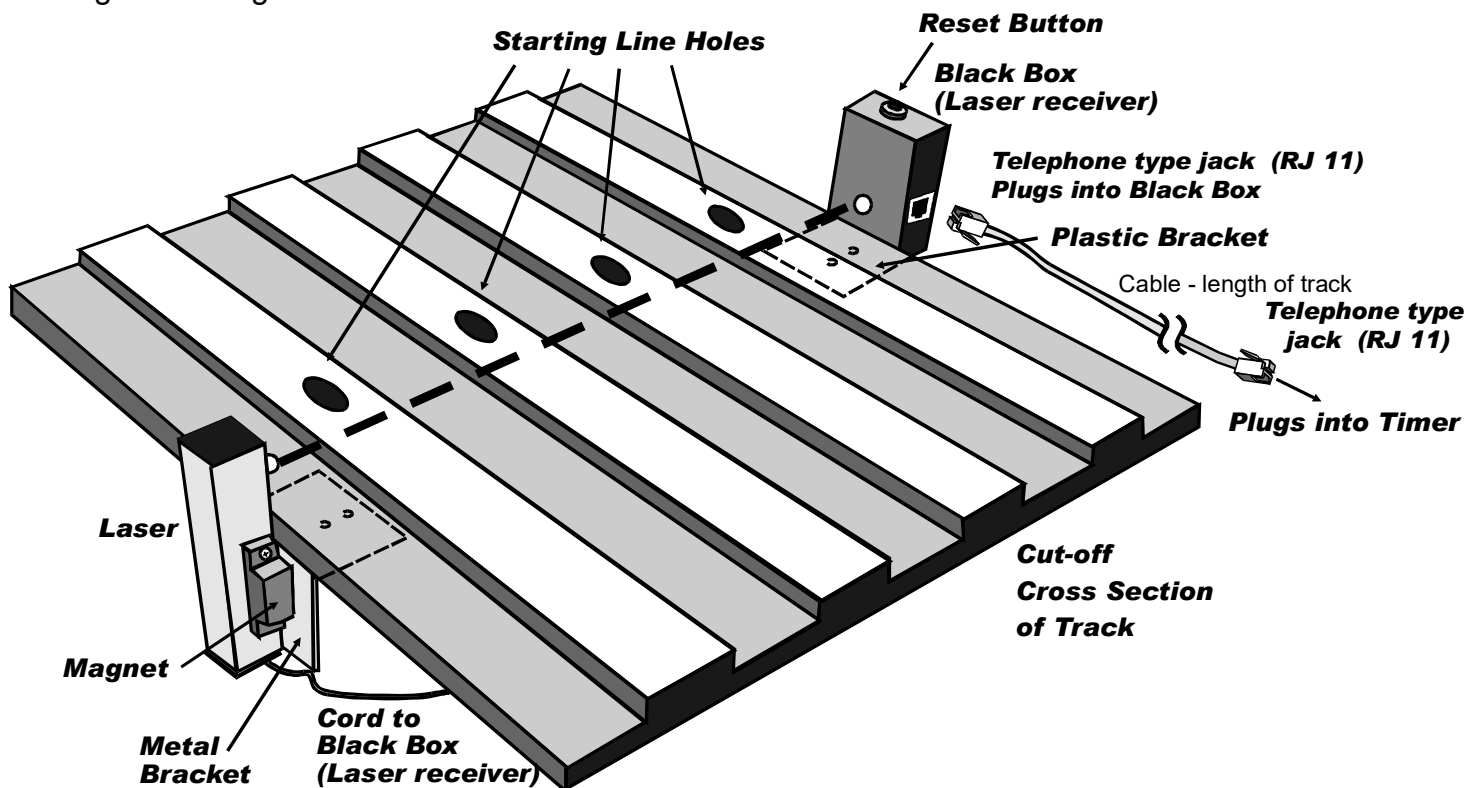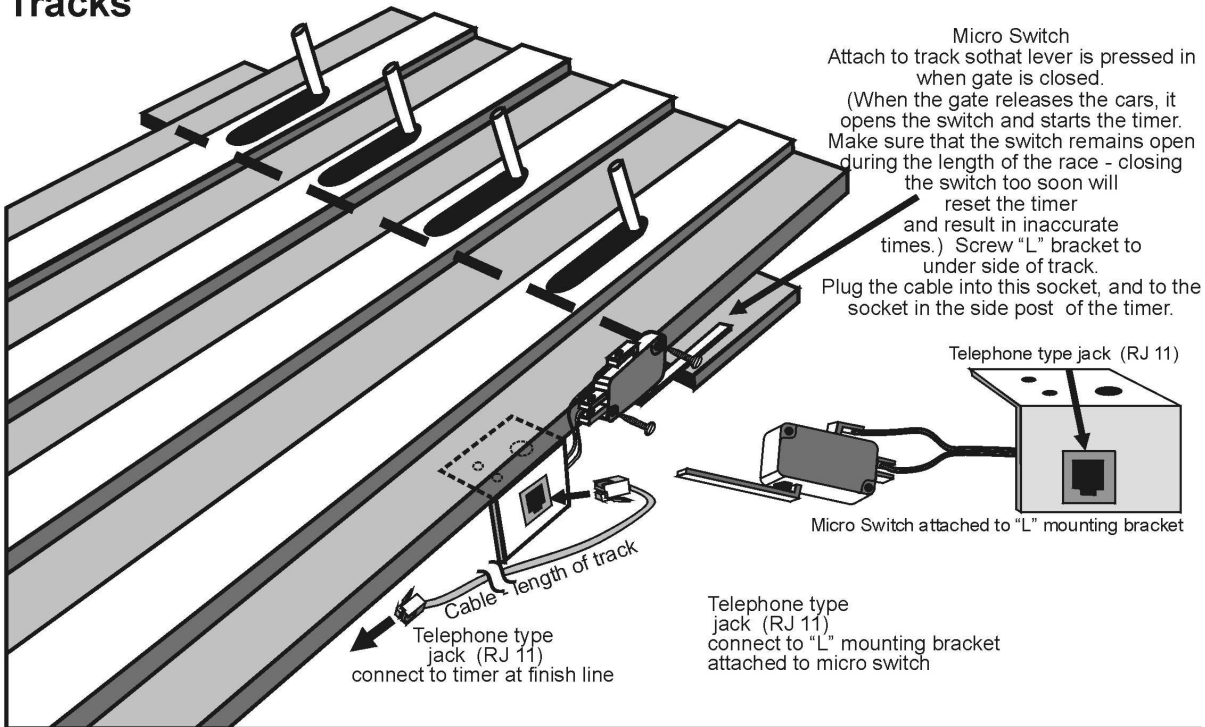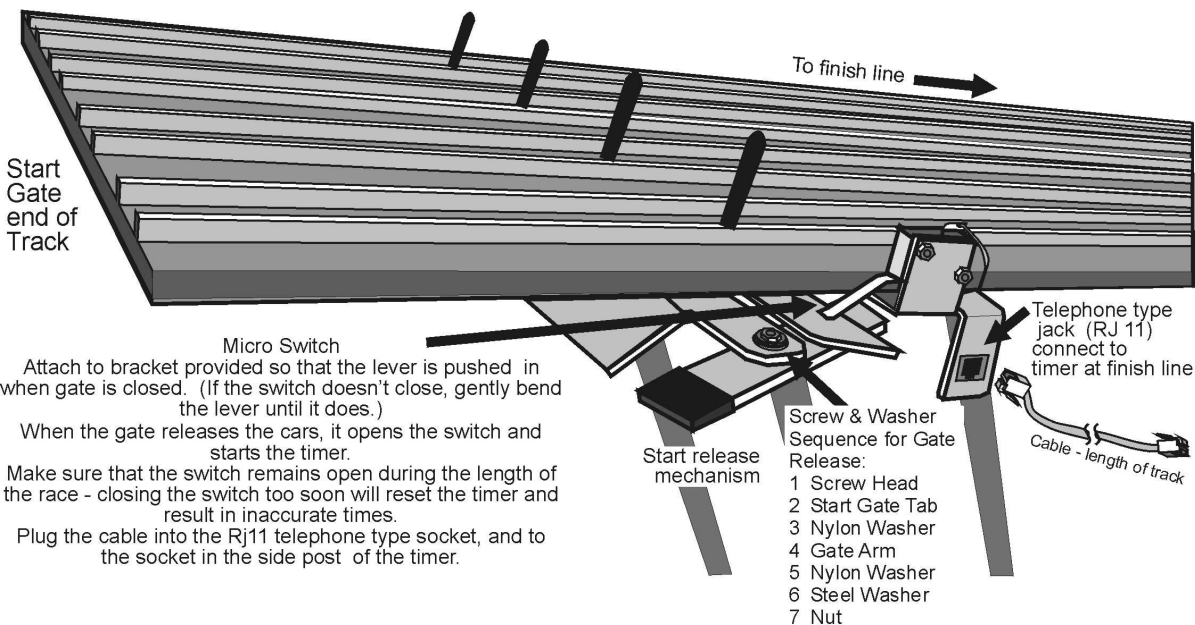
Remote Start Switch Diagram

Connecting the start switch and AC adapter (The remote start switch is a back-up option in the unlikely event that your laser gate fails)

Connect the start switch to your track so that the car release lever closes the start switch (see illustration below). 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 into the small socket in the side post of the timer. Once the finish line is secured to the track, you can connect the AC adapter (or optional battery pack if ordered) to the large socket in the side post. Plug it in and you are ready to run.

Most Wooden Tracks

Micro Switch
Attach to track sothat lever is pressed in when gate is closed.
(When the gate releases the cars, it opens the switch and starts the timer. Make sure that the switch remains open during the length of the race - closing the switch too soon will reset the timer and result in inaccurate times.) Screw "L" bracket to under side of track.
Plug the cable into this socket, and to the socket in the side post of the timer.

Telephone type jack (RJ 11)

Micro Switch attached to "L" mounting bracket

Cable - length of track

Telephone type jack (RJ 11)
connect to timer at finish line

Telephone type jack (RJ 11)
connect to "L" mounting bracket attached to micro switch

Micro Wizard & Piantedosi Aluminum Tracks

To finish line

Start Gate end of Track

Micro Switch
Attach to bracket provided so that the lever is pushed in when gate is closed. (If the switch doesn't close, gently bend the lever until it does.)
When the gate releases the cars, it opens the switch and starts the timer.
Make sure that the switch remains open during the length of the race - closing the switch too soon will reset the timer and result in inaccurate times.
Plug the cable into the Rj11 telephone type socket, and to the socket in the side post of the timer.

Start release mechanism

Screw & Washer Sequence for Gate Release:
1 Screw Head
2 Start Gate Tab
3 Nylon Washer
4 Gate Arm
5 Nylon Washer
6 Steel Washer
7 Nut

Telephone type jack (RJ 11)
connect to timer at finish line

Cable - length of track

Micro Wizard Instructions

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)   **Changes the cycle time of the SOF option**
In the command line, each of the letters of the alphabet A through O will add 2 seconds to the display cycle time. So to change the cycle time to 6 seconds enter: LXC, and to change the cycle time to 25 seconds enter: LXO. To disable SOF enter LXP this will disable the cycle time, and only display times without the sequence of finish.

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.

Micro Wizard Instructions

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 display   **K3 model time interval between alternating position then times on the finish   line**

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   -   %   -   5th

### 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"
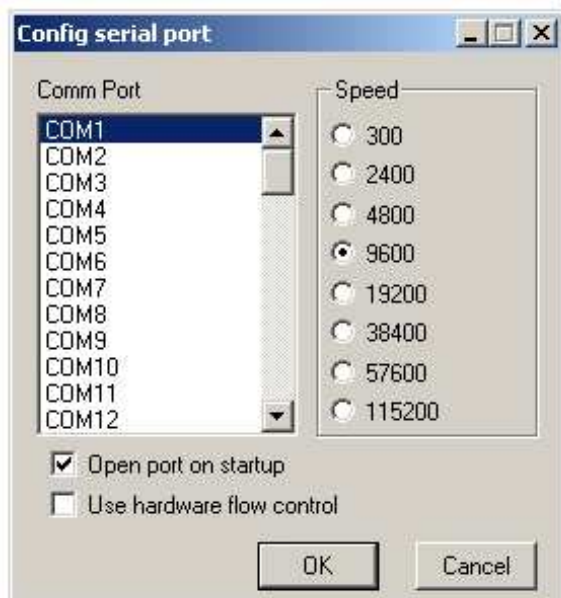- This is a stand alone program that doesn't require an install
- Double click on the saved FUNterm.exe file
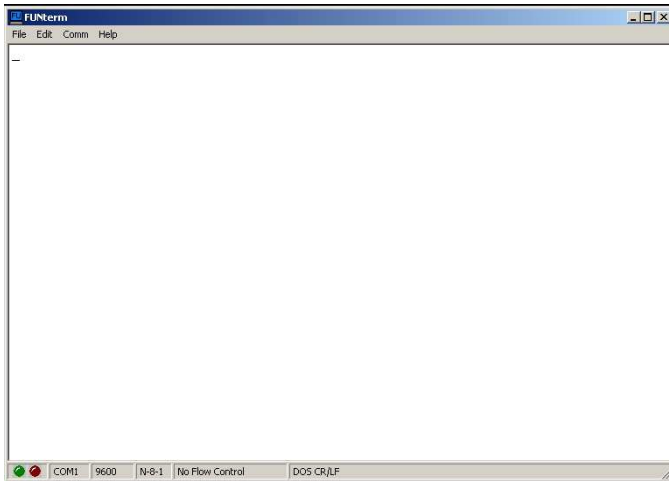
1. This window will come up
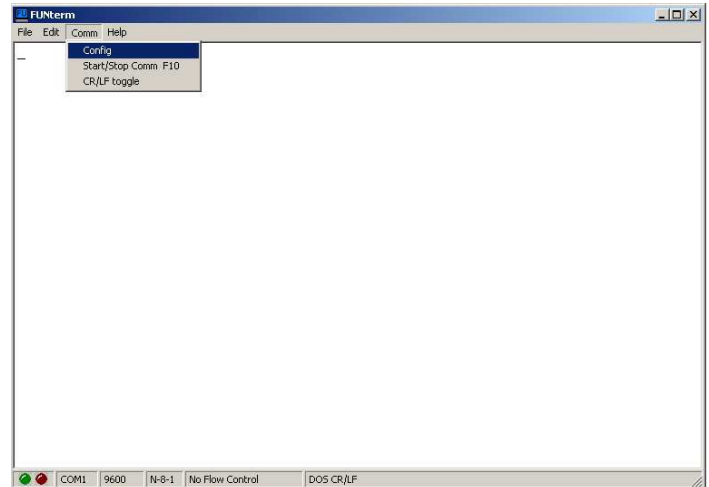
2. Put down Comm
- Click on Config

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.