

K2 Grand Prix

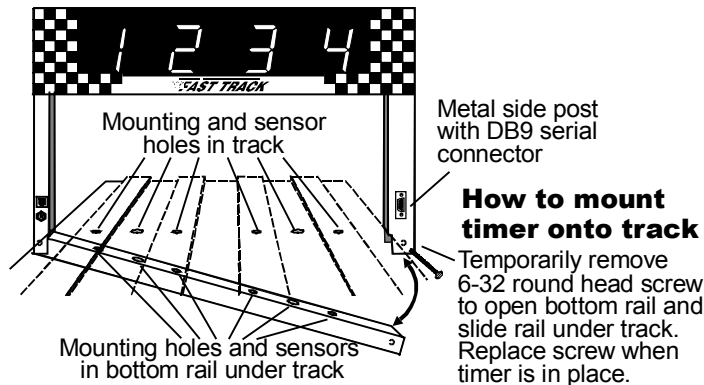
Enclosed you will find the Fast Track finish line, AC adapter, laser gate, CD with the Fast Track utility program and a computer interface cable* (plus any optional equipment ordered). The Fast Track finish line contains all the electronics, sensors and displays for the Fast Track system.

How to install your FAST TRACK K2 single 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 me at 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.



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.

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

How to operate the FAST TRACK timer

Press the laser gate reset button. Make sure that the red beam is on and properly aligned. All displays should be zeros. If a display is showing a dash, then something is

*The computer cable and utility software CD are included for the computer data option, and for use when upgrading your timer. See "Computer Data Option" in this instruction packet.

blocking its' sensor. If one or more displays show a dash, then skip this section and read "If you have problems" below. If all zeros are displayed without a decimal point, then you are ready to race. (The zeros will appear with a decimal point when the timer is held in reset mode).

Put the cars in their starting position. Release the starting gate. Watch as the cars race toward the finish line. When the first car crosses the finish line the display over that lane will display a "1". As the second car crosses, it's display will show a "2" and so on for each lane of your track. If two cars cross the finish line together within less than 0.0002 of a second, a tie will be displayed. Ties are very rare.

If you have problems

1) If a display shows a dash after the timer has reset itself, then the infrared sensor in the bottom rail is not receiving the signal from the infrared transmitter in the top of the finish line banner. Check the holes in the track. Make sure nothing is blocking them. Can you see the infrared sensors through the holes in the track? Check the infrared transmitters in the top of the finish line banner. They should be positioned directly over the sensors, if not, they can be gently bent to give a more perfect alignment with the sensors below.

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.

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.

How to install your K2 Fast Track Laser Start Gate

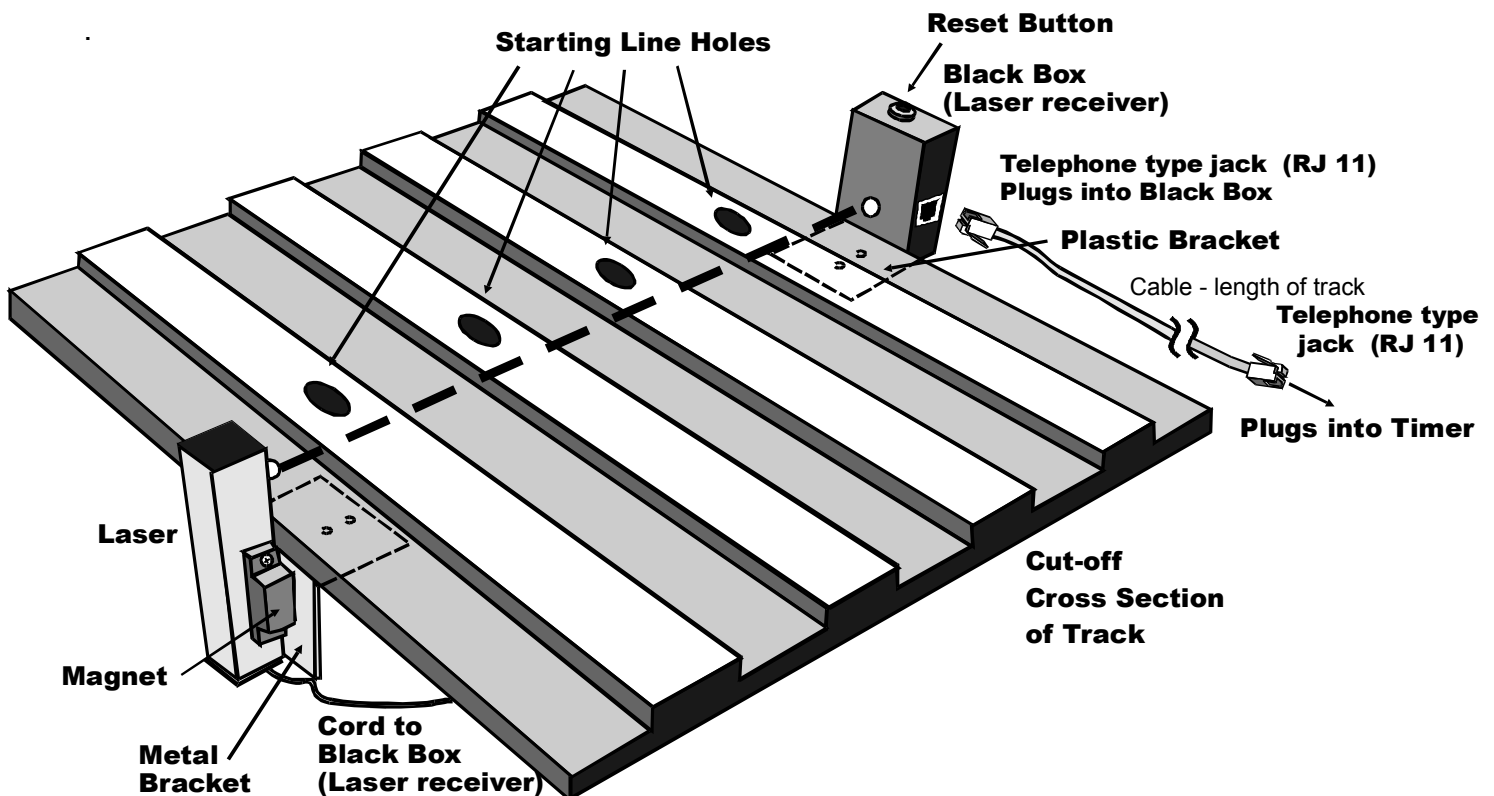
Enclosed you will find the laser start gate, side mount brackets and connecting cable. The laser start gate provides the most precise start signal possible. It eliminates any question regarding inconsistent start gate operation. As the cars begin to roll off the starting line a laser beam is interrupted signaling the timer to begin.

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 light signifies that the beam is on and properly aligned. If the red 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.

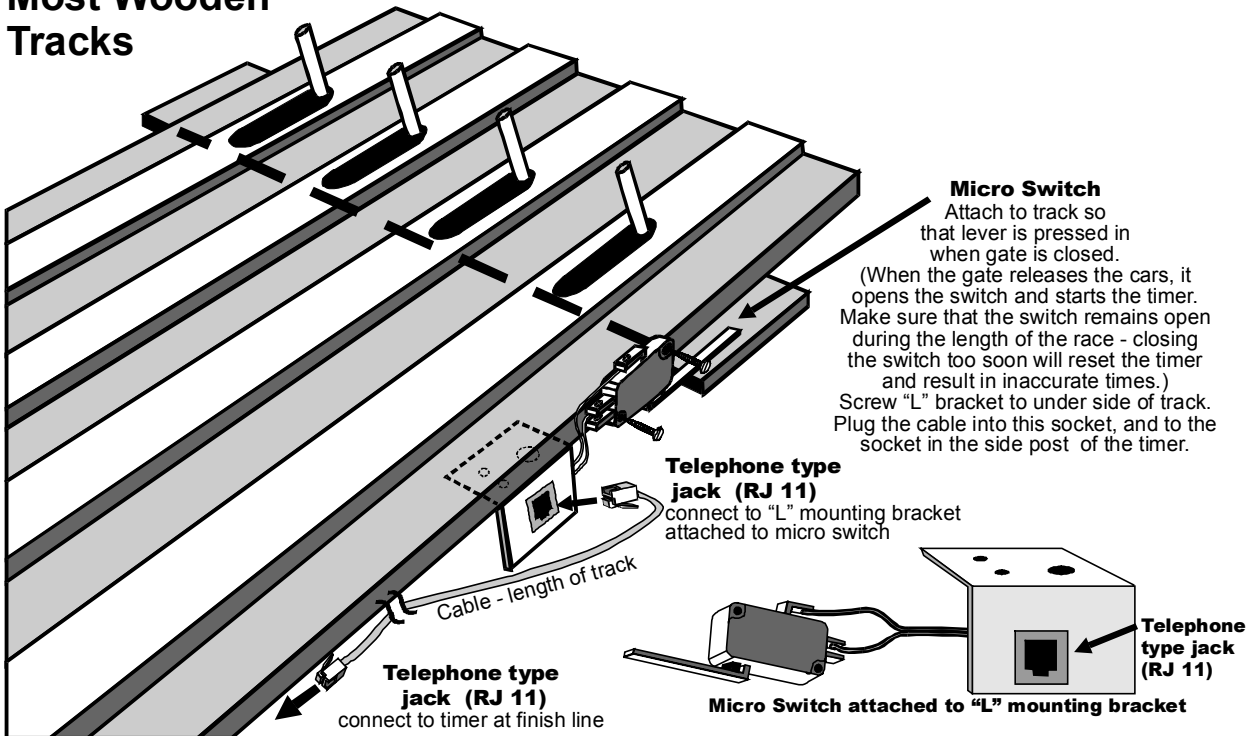


Remote Start Switch Diagram

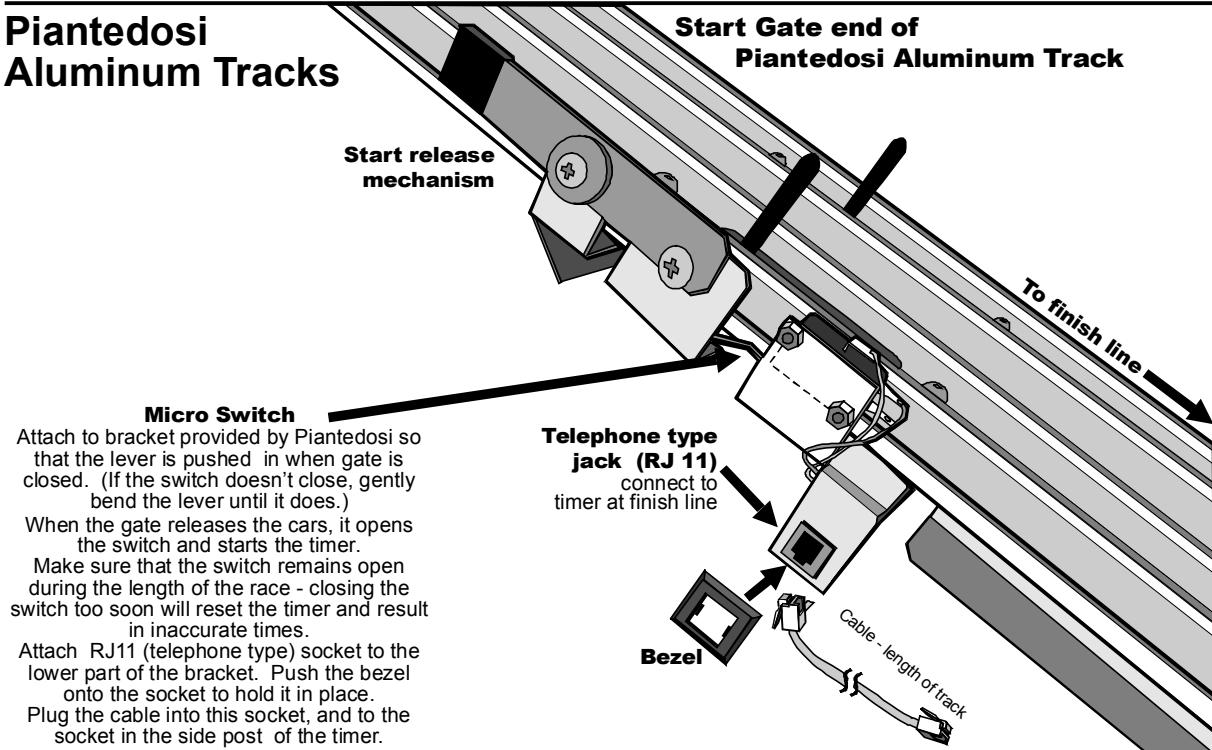
Connecting the start switch and AC adapter (The remote start switch is a back-up option in the unlikely event that your laser gate fails)

Connect the start switch to your track so that the car release lever on your track closes the start switch as the cars wait at the starting line (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 connector 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



Piantedosi Aluminum Tracks



Computer Data Option

Your K2 timer is fully duplexed and software upgradable via your computer com port.

NOTE: In order to run Race Management Software with this timer, it must have the Computer Serial Interface (PS) option.

Software Options (visible in the “Features” box)

- S** - Serial Race Data Sends the actual time race data from the Micro Wizard timer to the computer. This is the raw data for any race management software.
- M** - Mask Lanes This command will prevent data from being sent from unused lanes – useful for eliminator races or trials.
- R** - Reverse Lanes This command reverses the data stream sent from our timer. Some race management software will require the data sent from the timer in reverse lane order. This can also be used with our remote display to make a double-faced timer at the end of your track.
- E** - Eliminator Sets timer to 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.
- F** - Force Print Forces the timer to end the race and send the results of all lanes that have finished. This is a great feature for when a car crashes, burns and falls off the track.
- L** - Reset Laser When the race is over, you can actually reset the laser gate from your computer! Does nothing if you do not have a laser gate.
- C** - Count Down Clock Enter the minutes from which the timer will count down. Click “set countdown time” button and watch it go! Nice feature to show the intermission length between race events.
- U** - Unused For future use.

The screenshot shows the 'Fast Track Setup Utility' window with the following callout boxes:

- Choose the number of lanes your timer has.** (points to 'Number of Lanes' radio buttons)
- Choose the com port for your timer's input.** (points to 'Comm Port' radio buttons)
- Redraws the screen** (points to 'Refresh' button)
- Option R Above** (points to 'Reverse' radio button)
- Choose the lanes you want your timer to utilize. Option M above. (This will change if you have checked eliminator or reverse lane order)** (points to 'Lanes In Use' checkboxes)
- This converts the race data to the old timer format. (to be used with older race manager software programs)** (points to 'Data Format' radio buttons)
- Option R Above** (points to 'Eliminator' radio button)
- Option F Above** (points to 'Force Print' button)
- Option E Above** (points to 'Eliminator' radio button)
- Option L Above** (points to 'Reset Laser' button)
- This feature is enabled only with a password. The letters represent the options you have. ("O" means you do not have that option).** (points to 'Set Feature' button)
- This is your timer's serial number. You will need this to upgrade any options** (points to the serial number field)
- Option C Above** (points to 'Set Countdown Timer' button)
- TO UPGRADE OPTIONS: Call Micro Wizard for a code and type it in this text field** (points to the 'Set Feature' button)

Below are the commands that can be given through the serial port using hyper terminal

Commands:

- BL** **Boot load command**
Reloads the firmware in your timer – requires a Micro Wizard file with a hex extension.
- 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 (see next page for definition):
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 tracks 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=3.00! 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=3.00! B=3.002” C=3.003# D=3.004\$ E=3.005% F=3.006& <CR> <LF>
- 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
- PCXX** **Count Down Timer** XX=00-99
Enter the minutes you want the timer to count down from

Race Data Finish Order Punctuation:

- 21h** - ! - First Place
22h - “ - Second Place
23h - # - 3rd
24h - \$ - 4th
25h - % - 5th
26h - & - 6th

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

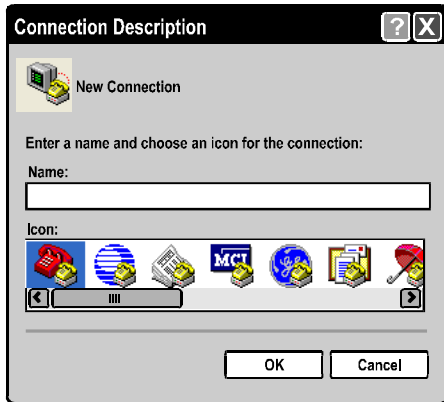
- Plug your timer into a power source
- Using the computer serial cable, plug your timer into the com port on your computer

On your Computer desktop – go to **Programs**

- choose **accessories**
- choose **communications**
- choose **hyperterminal** (the one with the phone icon)

1. This window will come up:

- put a name on it
- click **OK**



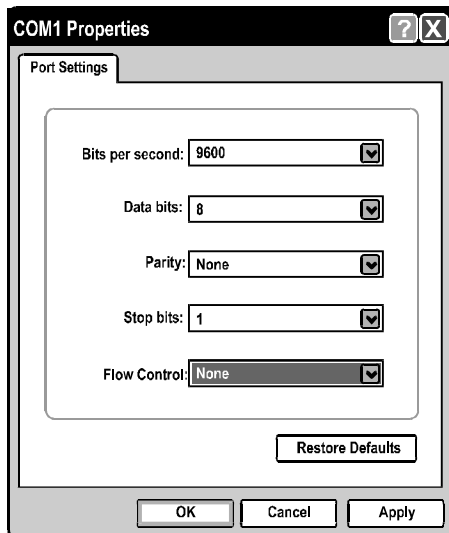
2. A New Window will come up:

- Click the down arrow on the “Connect using” box and choose the comport that is connected to your timer
- click okay



3. Another New Window will come up:

- Choose the options below
- 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. See the “Commands using Hyperterminal” sheet.

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.