

P1 KIT ASSEMBLY INSTRUCTIONS

Kit Contents:

(If you have ordered the Quick Mount option, your kit's contents will differ from this list. Please refer to the Quick Mount instruction sheet for a list of Quick Mount items.)

- 2 black ABS **panels** cut to your track's width
- 2 aluminum square tubing - **side posts**
- 1 aluminum **top rail** - same length as ABS panels
- 1 aluminum **center rail** -2 inches shorter than top rail
- 1 matte finish aluminum bottom **rail** - ½" shorter than top rail (If you have the Quick Mount option, this part and those marked with "*" will not be included in this kit).
- 1 electronically complete **circuit board** with attached **sensors** and **power jack**
- 1 package of mounting **hardware** which contains:
 - 4 4-40 phillip's head screws, spacers & small nuts per lane; *2 6-32 flat head screws;
 - *2 6-32 round-head screws; *2 large nuts; *2 self-tapping screws, *1 small grommet per lane, 1 large black grommet per lane, and 1 red plastic dome lens per lane.
- 1 **AC Adapter**
- 2 *Fast Track* **decals**
- 1 computerized **template** sheet

Tools Needed for Assembly:

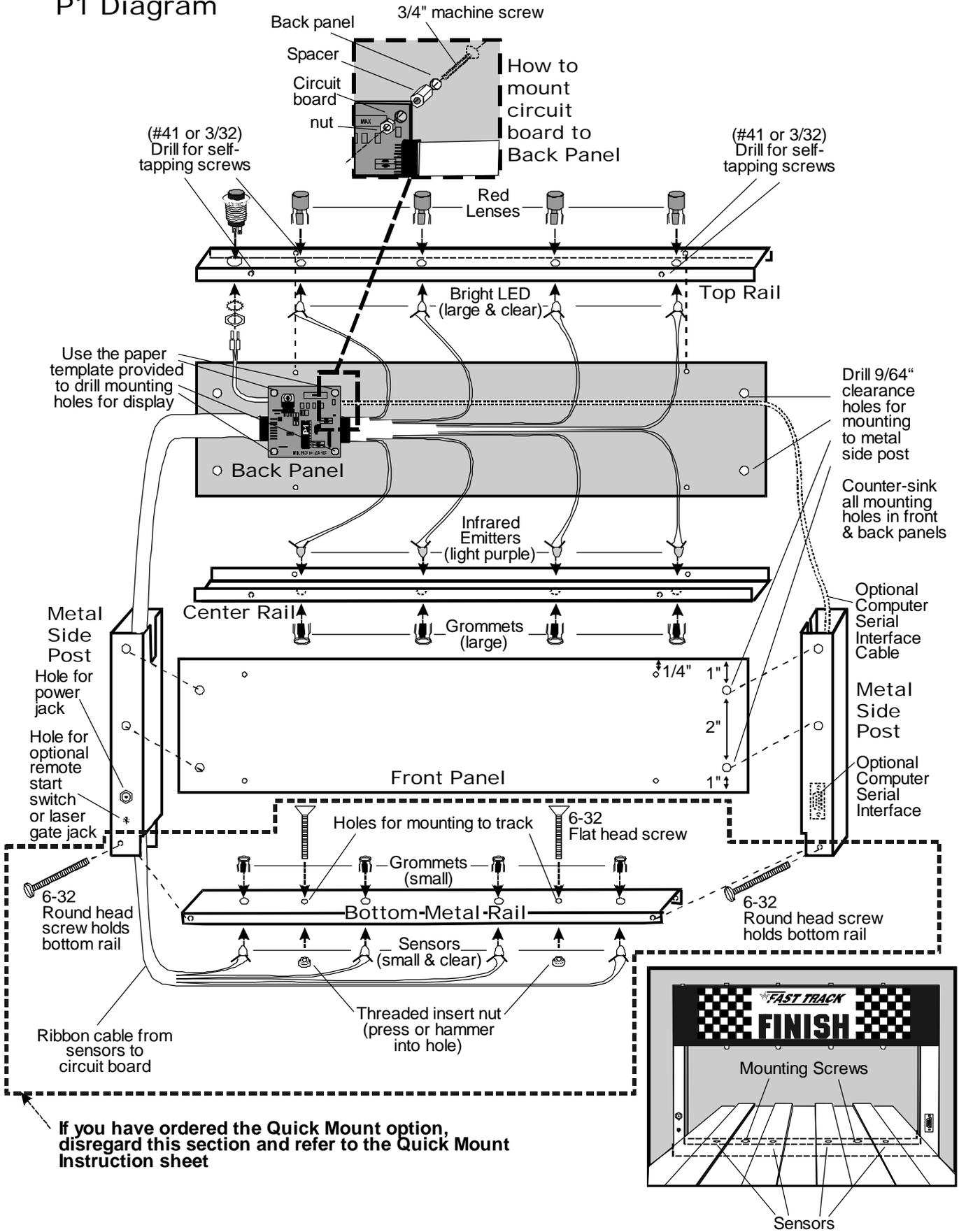
- drill, drill bits and 1/4" counter sink
- Philips screwdriver
- Hot glue gun or silicon glue (If you use silicon glue, it has to cure for 24 hours before you can use your timer).
- Tape

Quick Test

1. Lay board on a nonconductive surface (wood, Formica). Make sure sensors have plenty of incandescent light.
2. Plug the power adapter into the power jack then into the electrical outlet. Each light will go on in position order then go off. Cover each sensor with your hand. The lights will display the finish ... **First place will light up and stay constant, second place flickers quickly, third place will blink slowly, fourth place will light up momentarily then go off.**
3. Put the board in test mode by depressing and holding in the reset switch. Cover each sensor. The light for that lane will light up showing it is testing correctly. If you do not get this reading, please call us for help at: 1-888-693-3729 (office) or (859)380-3882 (cell).

*If you have ordered the Quick Mount option, these items will not be included in this kit.

P1 Diagram



P1 KIT ASSEMBLY

STEP 1- DRILL MOUNTING HOLES

Tape template to smooth side of black back panel. (Note: you may have to cut the template in the middle to fit the plastic.) Also tape front panel to back panel with rough sides together. With panels together, only drill holes for sides, top, and bottom mounting screws using 9/64 bit. Remove front panel. Drill circuit board mounting holes on back panel only, using 9/64 bit. Counter-sink holes on rough side of both panels.

STEP 2- ATTACH CIRCUIT BOARDS

Anchor circuit boards to back panel by inserting 4-40 screws from textured side; anchor spacers, then circuit board, then small nuts. Attach metal side posts with self-tapping screws to back panel. See diagram for proper placement. Feed ribbon cable with the power jack and sensors into metal side post. Attach power jack into hole on side post. Temporarily attach front panel to unit with self-tapping screws.

STEP 3- MARK AND DRILL TOP RAIL FOR RESET SWITCH & RED LENSES

Measure center of each lane from left side of track. To mark top rail for location of red lenses centered over each lane of your track, add 1 inch to these measurements to allow for the width of the side posts. Drill holes with a ¼ bit. Drill a 31/64 hole for the reset switch 1 ½ inches from left end of the rail.

STEP 4- MARK AND DRILL CENTER RAIL

Mark and drill center rail using the same measurements of the centers of your track using ¼ bit.

STEP 5- ATTACH TOP RAIL AND CENTER RAIL

Temporarily place top rail in unit. Mark mounting holes on top rail. Drill mounting holes in top rail using 3/32 bit. Temporarily place center rail in unit, mark mounting holes in rail, then drill these holes using 3/32 bit. Push red lenses in top rail. Push large grommets in center rail. Attach red push button switch to top rail. Attach top rail and center rail to back panel only with self-tapping screws. Remove front panel. Insert and glue lights (large clear bulbs) into red lenses, making sure top light goes into first hole from left, second light goes into second hole, etc. Insert emitters (large light purple bulbs) into grommets on center rail making sure first emitter from the **bottom** goes into first hole from left on center rail, second emitter from the bottom goes into second hole, etc. Attach front ABS panel to side posts, top rail, and center rail using self-tapping screws.

STEP 6- MARK, DRILL AND ATTACH BOTTOM RAIL

(If you purchased the “Quick Mount” option, disregard this step and refer to the “Quick Mount Instructions” page)

On bottom rail, mark off 3/4” from left side. From that point, mark and drill holes for sensors using same measurements of centers of lanes of your track using 3/16 bit. Mark and drill 2 timer mounting holes between outer sensors using ¼ bit. Press (hammer) threaded inserts into these holes through the bottom side of the rail. Press grommets into sensor holes from top side of rail. Place bottom rail between ends of side posts making sure sensor holes measure same as centers of lanes on track. Drill a hole through both side post and bottom rail using 9/64 bit. Secure with 6-32 round head screws and nuts. Push sensors into grommets. Glue wire and sensors in place. If you use silicon glue, it will have to cure for 24 hours before you can use the timer. Test unit. (It does not need to be attached to track to do this.)

STEP 7- DECORATE

Attach decal sheets to front and back panels.

How to install your *Fast Track* flashing light display timer (model P1)

(If you have ordered the Quick Mount option, disregard this section and refer to the Quick Mount Instruction sheet for installing your timer)

Enclosed you will find the Fast Track finish line, 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 are 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 line 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.

Plug the AC adapter into the 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

First press and hold the reset button located on top of the finish line. 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. Press and release the reset button. Open the start gate and release the cars. When the first car crosses the finish line, the 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. (If you have the 4 lane model, the light flashes once as the fourth place car passes over the sensor and stays off.)

After recording results, press the reset button to start a new race. Ties can also be displayed if two cars cross the finish line within less than 0.001 of a second. Two or more continuous lights would indicate a first place tie. Two flickering lights would indicate a second place tie. Ties of any kind are very rare.

If you have problems...

1) If one or more display lights come on with the reset button 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. Can you see the infrared sensors through the holes in the track? Check the infrared transmitters in the bottom of the finish line banner. They can be gently bent if necessary, to give a more perfect alignment with the sensors below. You can also check the infrared transmitters with Radio Shack's infrared sensor Cat. No. 276-099 it should cost less than \$8.00. This sensor works only at a very close range 1 or 2 inches (also handy for checking the tv remote control).

2) If nothing is working: 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 reset switch problem.

3) If you still have a problem: give me a call, Stuart Ferguson, at (888) 693-3729 (office) or (859) 380-3882 (cell phone). We have a two year warranty on the Fast Track system. 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.