P3 KIT ASSEMBLY INSTRUCTIONS

Kit Contents:
(If you ordered the Quick Mount, or have a Best Track, the contents of your kit will differ from this list. Please refer to the mounting instruction sheet for a list of mounting items.)

1 clear (or tinted gray tinted) **display panel** - cut to fit your track's width
1 ABS black lexan **back panel** - cut to fit your track's width
2 aluminum square tubing - **side posts**
1 **top rail** - tapped for voltage regulator
1 **bottom rail -** ½" shorter than the top rail (If you have the Quick Mount option, this part and those marked with "*" will not be included with this kit)
1 string of **circuit boards**
1 pkg. of hardware (**4** 4-40 screws, spacers & small nuts per lane; ***2** 8-32 wood screws; ***2** 6-32 round-head screws; ***2** large nuts; ***2** pressed nuts; **12** self-tapping screws (plus more if you have a wider track), ***1** black grommet per lane)
3 various size **decal sheets**
1 35 ft. wire with **reset switch** (with Laser gate option, we include the remote start switch for back-up and testing purposes).
1 **AC adapter**
1 computerized paper **template**

Tools Needed for Assembly:

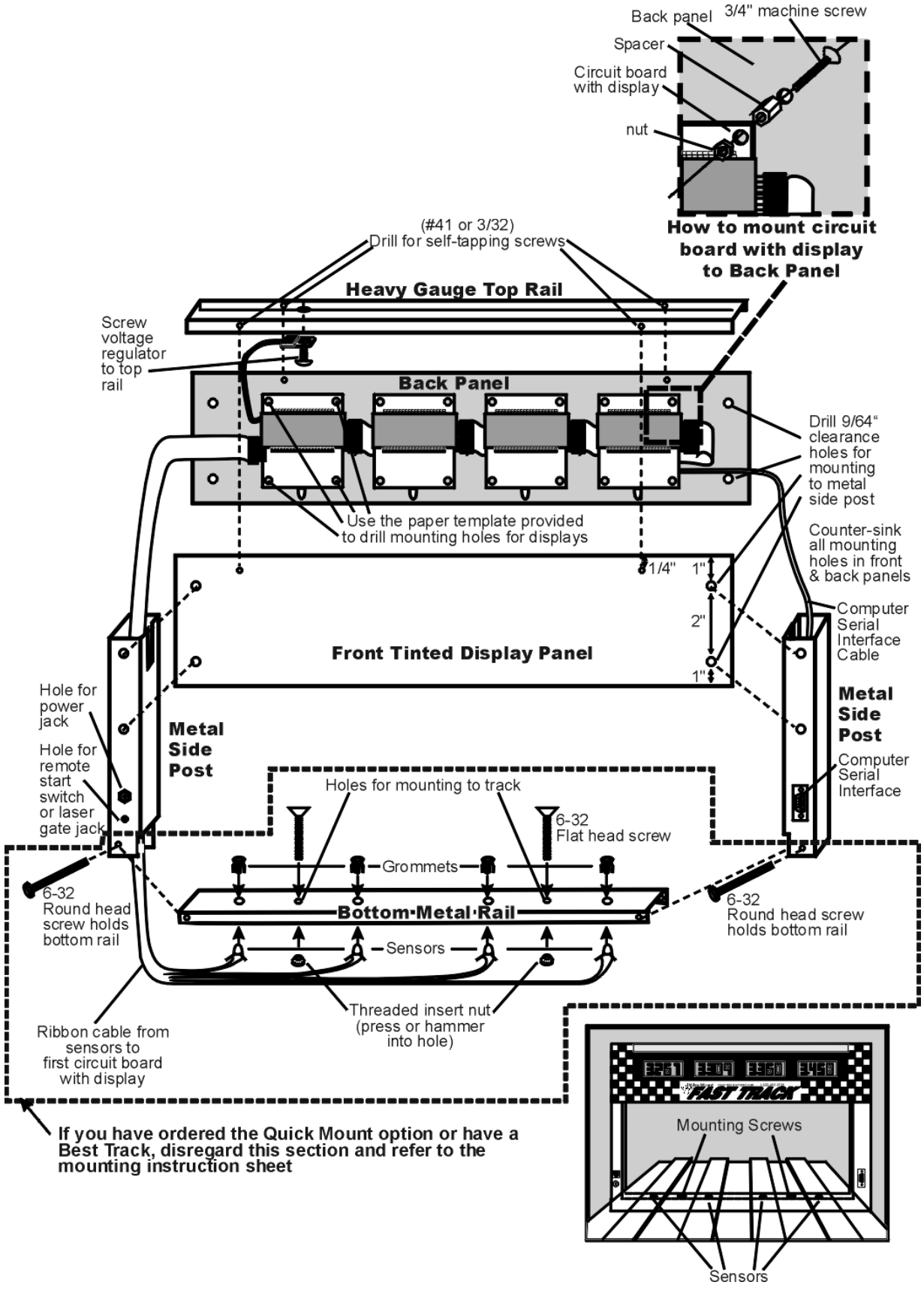
- drill and drill bits, 1/4" counter sink
- Philips screwdriver
- tape
- glue gun or silicon glue

Quick Test:

1. Lay boards on a nonconductive surface (wood, Formica, etc.) Make sure none of the boards are touching each other and that the sensors have plenty of incandescent light. Bolt the "tagged" voltage regulator to the threaded hole in the top rail (discard nut).
2. Plug the power adapter into the timer then into an electrical outlet. All the display boards will light up with "0.000". If one or more displays does not light up, then its sensor is in the shade.
3. Plug the reset switch into its outlet on cable. Put the boards in test mode by depressing the switch and keeping it depressed. Cover each individual sensor. Dashes (---) should appear in each display area as it's corresponding sensor is covered. Release the start switch and do not cover any sensors. After 9 seconds, every display should read 9.999. If you do not get this, go to section "If you have Problems". If you did not get this reading, please call us for help. (1-888-693-3729)

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

P3 Diagram


Back panel
3/4" machine screw
Spacer
Circuit board with display
nut
How to mount circuit board with display to Back Panel
(#41 or 3/32) Drill for self-tapping screws
Heavy Gauge Top Rail
Screw voltage regulator to top rail
Back Panel
Drill 9/64" clearance holes for mounting to metal side post
Use the paper template provided to drill mounting holes for displays
Counter-sink all mounting holes in front & back panels
1/4"
1"
2"
1"
Computer Serial Interface Cable
Front Tinted Display Panel
Hole for power jack
Hole for remote start switch or laser gate jack
Metal Side Post
Metal Side Post
Computer Serial Interface
Holes for mounting to track
6-32 Flat head screw
Grommets
6-32 Round head screw holds bottom rail
Bottom Metal Rail
6-32 Round head screw holds bottom rail
Sensors
Threaded insert nut (press or hammer into hole)
Ribbon cable from sensors to first circuit board with display
If you have ordered the Quick Mount option or have a Best Track, disregard this section and refer to the mounting instruction sheet
FAST TRACK
Mounting Screws
Sensors

P3 KIT ASSEMBLY

STEP 1- DRILL MOUNTING HOLES

Tape template to smooth side of black back panel. Also tape display panel to back panel. With panels together, only drill holes for sides and top mounting screws using 9/64 bit. Remove display panel. Drill circuit board mounting holes on back panel only using 9/64 bit. Counter-sink holes on front side of display panel and rough side of back panel.

STEP 2- ATTACH CIRCUIT BOARDS

Anchor circuit boards to back panel by inserting 4-40 screws from textured side; anchor spacers, then circuit boards, then small nuts. (NOTE: if you have the serial option, connect the brown plug coming from the serial side post to the brown connector on back of circuit board making sure teeth align properly.) Attach metal side posts with self-tapping screws to back panel. NOTE: see diagram for proper placement. Feed ribbon cable into metal side post and attach "power jack" into large hole and "start switch" jack into small hole. Attach display panel to unit with self-tapping screws.

STEP 3- MARK, DRILL AND ATTACH TOP RAIL

Temporarily place top rail in unit with pre-drilled hole close to the voltage regulator. Mark mounting holes on top rail. Remove top rail and drill mounting holes in top rail using 3/32 bit. Anchor voltage regulator. Attach top rail with self-tapping screws. Hint: use soap on screw threads.

STEP 4- MARK, DRILL AND ATTACH BOTTOM RAIL

(If you purchased the "Quick Mount" option or have a Best Track, disregard this step and refer to the "mounting Instructions" page)

On bottom rail, mark off 3/4" from left side. From that point, mark and drill holes for sensors using same measurement 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 of the rail. Press grommets into sensor holes. 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 ribbon cable and sensors in place. Test unit. (It does not need to be attached to track to do this.)

STEP 5- DECORATE

"Cut & paste" the *Fast Track* decals to the front and back panels of your timer for a professional look (see P3 diagram).

How to install your *Fast Track* 4 digit display timer (model P3LCD)

Enclosed you will find the Fast Track finish line, AC adapter, remote start switch with attached cable and any optional equipment you ordered.

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

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. This should be the same spacing as the sensors in the bottom rail of your Fast Track timer and was custom made according to the measurements provided on the order form. If the spacing is not the same call: (859)384-3571.

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 these spots 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 bolt in the bottom corner of the finish line opposite the power jack. This enables the finish line to hinge open. (If you remove the wrong bolt it won't be able to open due to wiring running to the sensors.) Remove and save the two mounting screws.

Slide the bottom rail of the finish line under your track. Close the finish line and replace the corner bolt. Check for proper alignment of all holes in the track. If a hole in the track does not match that of the sensor in the rail or the mounting hole in the rail doesn't line up you will have to ream out the holes in the track that don't match.

If you now have good hole alignment make sure the sensors are located at least 1/4 inch below the surface of the track. If the track is very thin you may need to add a board between the underside of the track and the metal rail with the sensors. Insert the two mounting screws into the countersunk holes in the top of the track and into the threaded holes in the bottom rail of the finish line to secure it to your track.

Connecting the start switch and AC adapter

Once the finish line is secured to the track, 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 back). 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 finish line. Plug the AC adapter into the large socket in the side post. Plug the other end into an outlet and you are ready to run.

How to operate the *Fast Track* timer

Close the starting gate so that the start switch is closed. With the start switch closed the timer is reset, and all displays will show zeros. To test the timer and sensors, hold the start switch closed and cover each individual sensor. Dashes (---) should appear in each display area as it's corresponding sensor is covered.

Release the start switch, after 9 seconds, it should time out and each display should read 9.999. If you don't see this, skip ahead to the section below "If you have problems." Once the start switch opens the timer will begin timing. The displays will stay all zeros until all the lanes have finished or 9 seconds has elapsed. Then each lane that finishes will have it's time displayed. The winning time flashes.

If you choose not to use a lane, cover that sensor before the race. (A coin works well).

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 2 cars cross the finish line together in less than 0.0002 of a second, a tie will be displayed. Ties are very rare.

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, unplug the start switch and the power adapter from the side post of the finish line banner. Now reconnect the power adapter but not the start switch. Put your hands over all the holes in the finish line, remember you have 9 seconds to cover up the holes in the finish line. If the display lights now work then there may be a problem in the start switch.

3) If you still have a problem, give me a call, Stuart Ferguson, at (859)384-3571 (office) or (859)380-3882 (cell). We offer a two year warranty on the Fast Track system. If it has not 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.

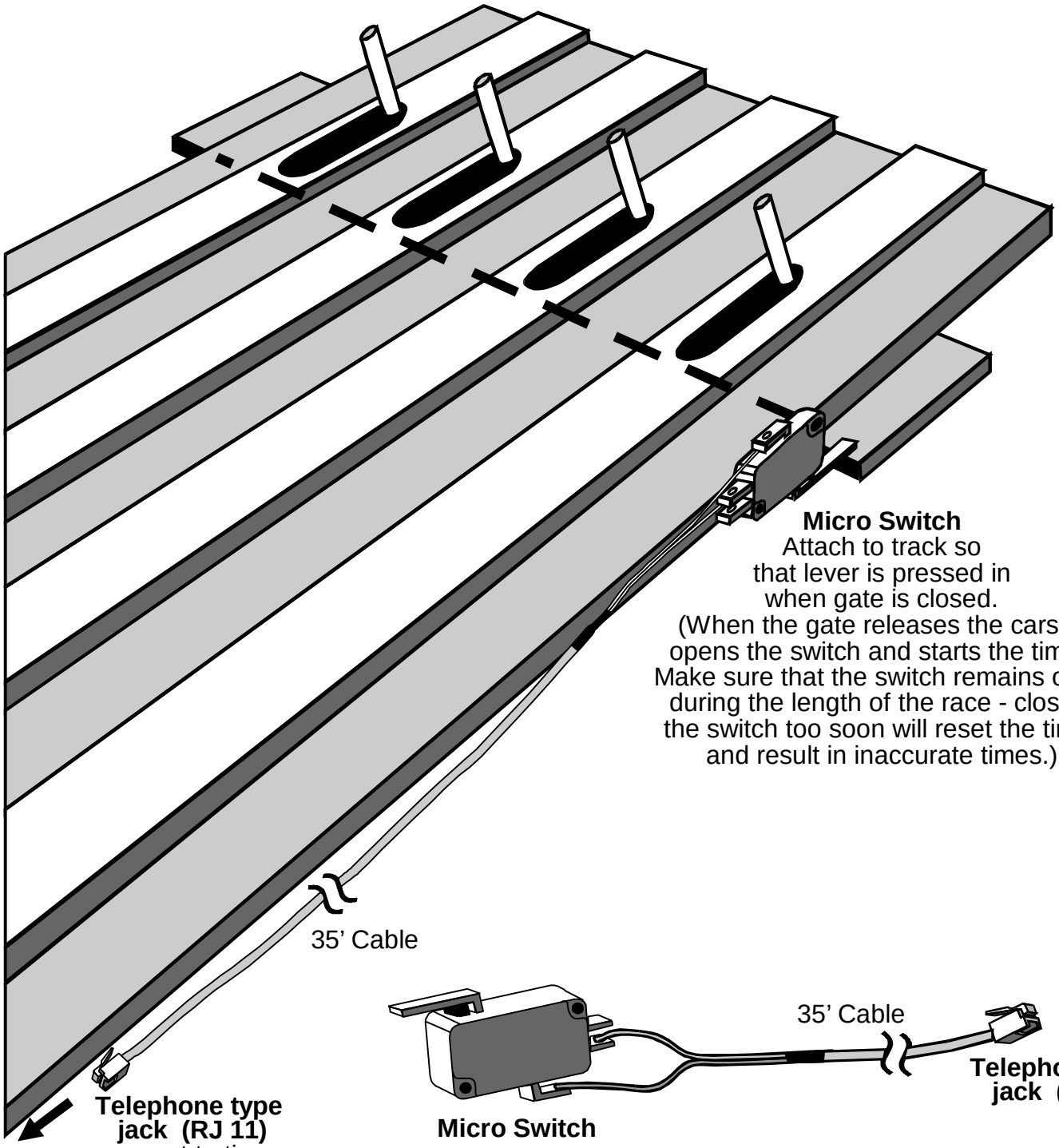
If you are trying to use the timer in direct sunlight

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.

Remote Start Switch Diagram



Micro Switch
Attach to track so
that 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.)

35' Cable

35' Cable

Telephone type jack (RJ 11)

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

Micro Switch

If you have purchased the computer serial interface option:

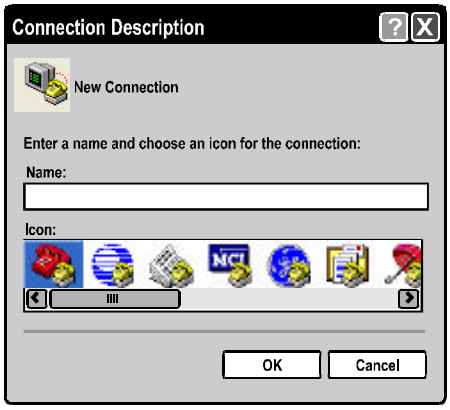
How to set up the computer serial interface using Hyperterminal:

- 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**

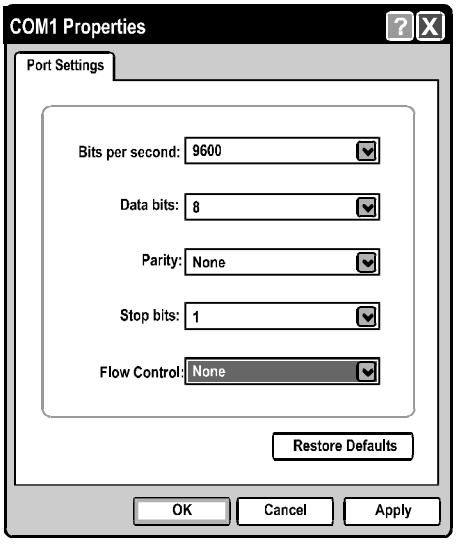
- choose **accessories**
- choose **communications**
- choose **hyperterminal** (the one with the phone icon)

1. This window will come up:
   - put a name on it
   - click **OK**

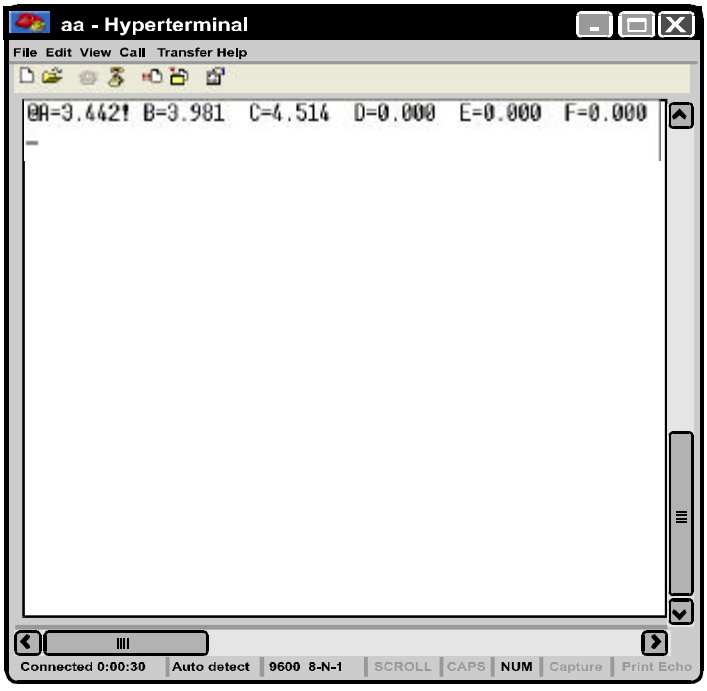


2. A New Window will come up:
   - choose COM1
   - click okay

3. Another New Window will come up:
   - Choose the options below
   - click okay



4. Your screen should show the times after all lanes have finished.



If you don't see the times, you probably have a comport conflict. See "Frequently Asked Questions" on our website for a list of ways to trouble shoot the problem