



**Trackmate Racing**

**DP500/DP900**

**V10.0**

**USER MANUAL**

Updated May 20, 2020

## Computer Requirements

PC Requirements are very low and it can run on old and new computers. Desktops and laptops. Many customers are using laptops for convenience if used at temporary tracks.

Minimum requirements are:

- Windows 7/8/10
- USB port, a second USB port required for the printer.

Size of memory and hard drive is never a problem. CD drive is not required

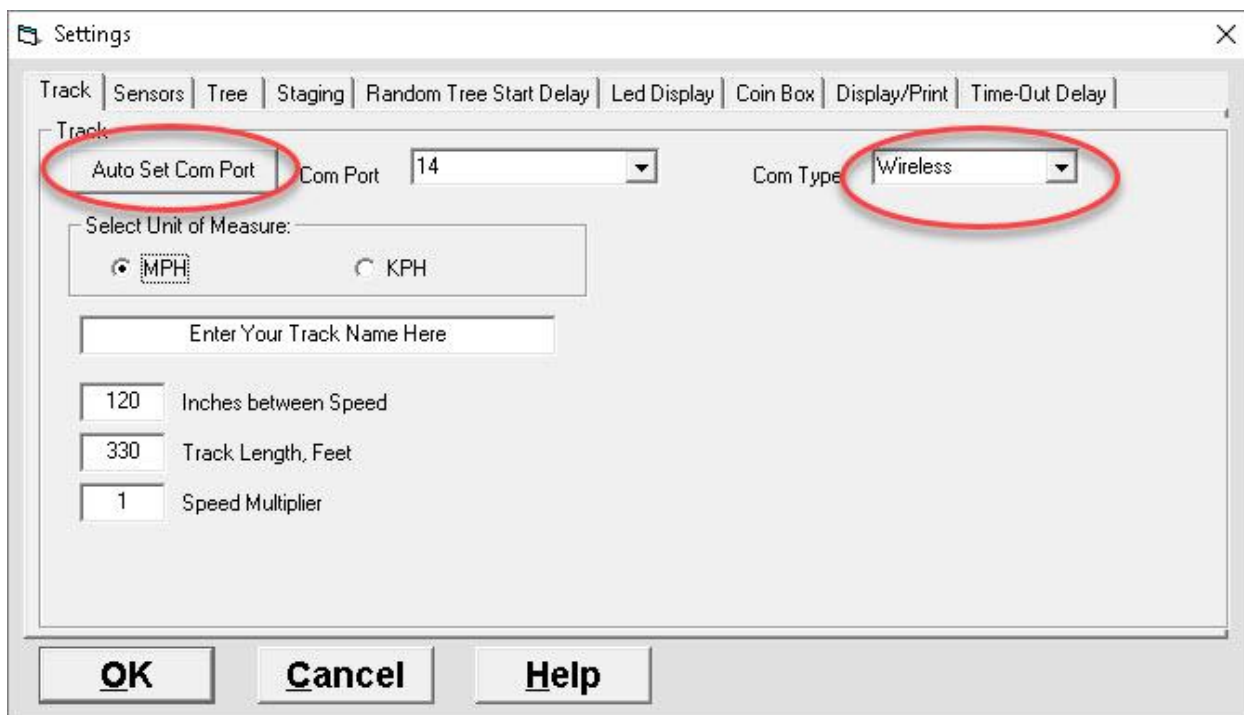
## Software Features Version 10.0

- Full Tree, tree drops yellow, yellow, yellow, green
- Pro Tree, All 6 yellows come on for .4 seconds then green
- Bracket Racing, enter dialins and tree will give slower car a head start
- Index Racing, cars can not run faster than a certain time
- Two staging modes, to adapt to snowmobiles or wheels
- Armdrop drag racing
- Dual or single lane hardware support
- .001 second accuracy
- Prints race slips Automatically or Manually
- View logged races
- View/Print top qualifiers
- Supports pre-stage, stage, 60ft, speed and finish sensors
- Sensor Test
- Adjustable Pro Tree and Full Tree Times to non-standard values
- Swap Lanes In A Single Click
- Supports LED sign, Display ET, MPH, or Dialin
- Flash winner on tree option
- Can be used for trial runs
- Built in spreadsheet to view and sort logged races
- Supports Arm drop racing
- Import racers from text file

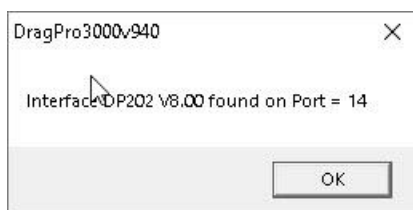
## Getting started

Let's first see if we can communicate with the system. Do the following steps.

1. Install USB driver
2. Install software (Version 10.0 as of March 2020)
3. Plug in PC wireless module into Computer
4. Power on wireless startline module
5. Remove it from Demo mode, menu>Demo
6. Select Com Type: Wireless, SemiWireless, Wired
7. Installation Settings> Autoselect Com port



If everything went well you should get an interface found message popup on the screen.

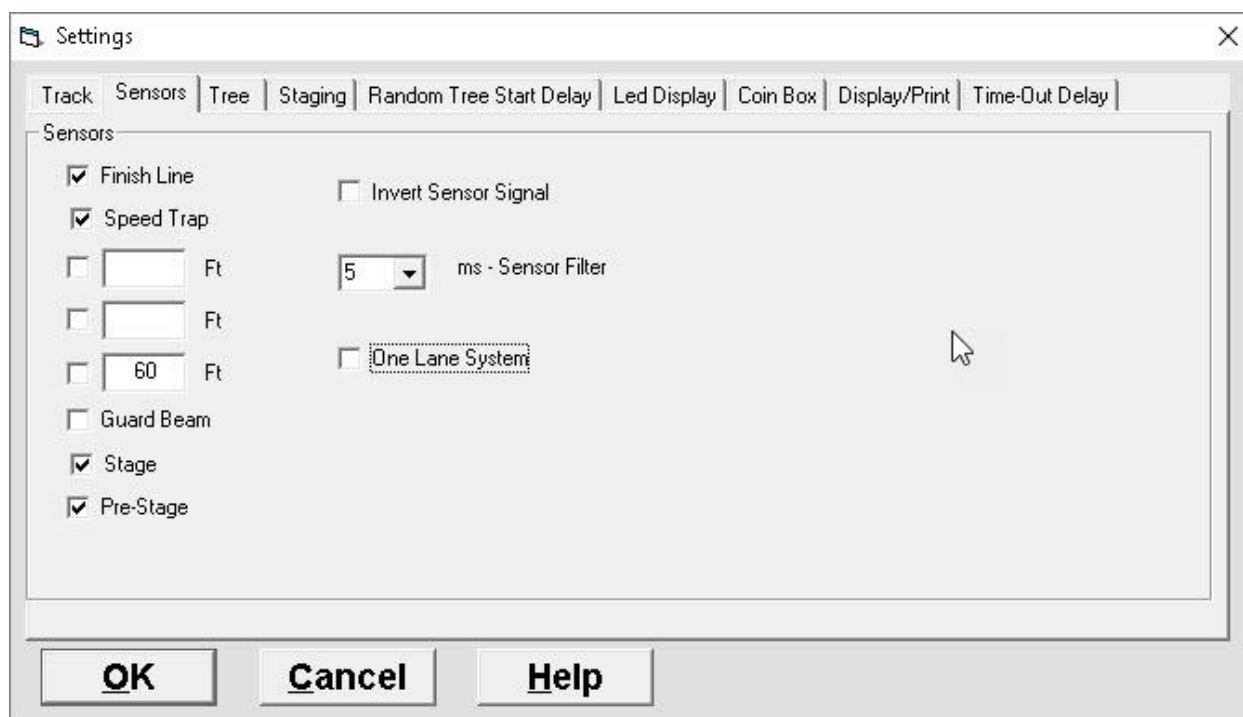


**PC wireless module**

## Important Settings that you must get right for system to work

**Sensors Tab>Invert Sensor Signal:** This should be left unchecked

**Sensors Tab>Installed Sensors:** Check mark all the sensors installed. If you are using the system as a speed trap or armdrop drag racing then prestage and stage will be unchecked as there will be no startline module being used or start sensors.



**Tree Tab>Invert Tree Signal:** Depending on the tree used, this setting may need to be checked or unchecked. If this setting is incorrect the lights that should be off will be on and vice versa.

### Staging Tab>Staging:

**Pre-stage/ Stage:** Both pre-stage sensor and Stage sensor should be blocked when staging. This is the normal setting and should be the one to use except in special cases.

**Pre-stage/ Start:** This mode is sometimes used for snowmobiles or RC cars. Block Prestage Only, If pre-stage sensor is not installed, roll up to the start line without blocking the stage sensor. When this mode is selected the prestage and stage lights will both come on when the sensor is blocked.

**Select Units of Measure:** MPH or KPH

**Track Name:** Enter Track Name, this is what will appear on time slips.

**Inches between Speed Trap and Finish Line:** Enter in inches distance between speed trap sensor and finish line sensors. It must be entered in inches even if metric is selected, 2.54cm = 1 inch. Normally this will be 120 inches which equals 10 feet

**Track Length:** This number is not used to compute any data but will appear in the time slip, you may enter scale or real length.

**Speed Multiplier:** Normally left at 1. Multiplies real speed by the number in this box. Can be used to display a more realistic speed in some smaller scale applications such as slot cars.

**Pro-Tree, Yellow on Time:** Normally left at .4. This means the yellow lights will stay on for .4 seconds.

**Full Tree, Yellow on Time:** Normally left at .5

**Flash Winner on Tree:** Instead of having Win lights you can flash the winner on a tree. The Green light will flash. This will also display breakouts, top yellow will stay on if the racer does a break out.

**Printing:** Set number of copies for time slips

The Finish RF module may be powered by a 12 volt gel cell.

**Do not..**

Do not open RF modules, doing so may damage the short coax antenna cable connection inside. .

Do not put RF modules in containers, even tupperware containers at it may affect range.

### **Setting Com port**

To set Com port go to Settings>Track

Use Autoset Com port button

### **Testing RF wireless radio link**

click VER button (in the middle of the screen)

You should see two responses in the bottom right box

@0102..... is from start line

@0103..... if from finish line

useful to see which box is working or not working.

### **Testing Tree**

To test Tree power on controller, Tree should do a left right sequence from top to bottom IF all lights stay on, don't panic, you just need to change the setting in the software, *invert tree*. If some lights did not come on, most of the time it's due to the light bulb not screwed in completely.

## Sensors

The black box is the receiver and installed in between the two lanes. The lid may be removed to screw it down to something. The white box is the infrared transmitter for the beam, you can install the 4x AA batteries by removing the lid, to power on, simply plug pigtail into the box. Maximum recommended lane width is 30 feet.



Picture of wooden boxes made by a customer to hold the sensors for snowmobile racing.

### Test Sensors

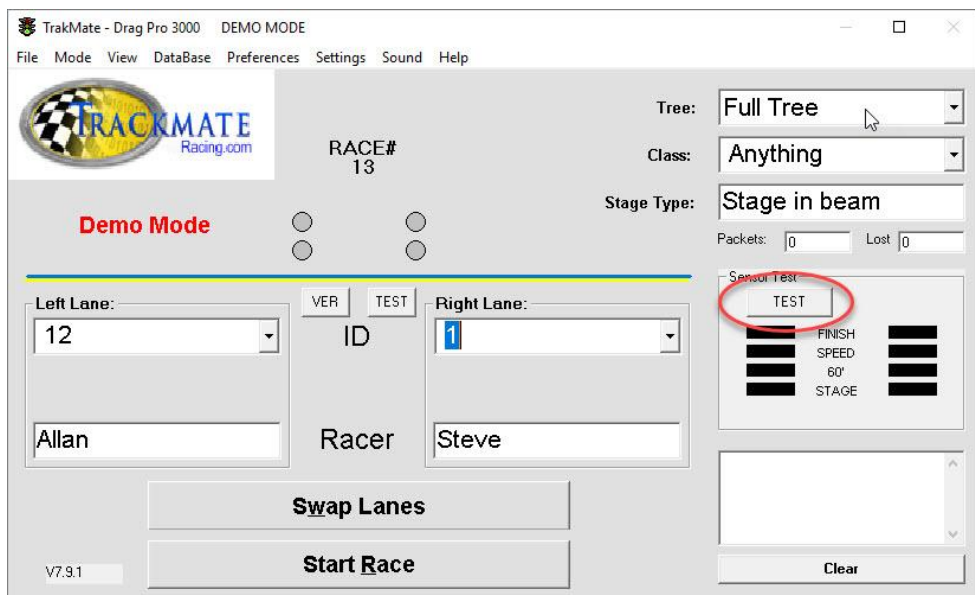
Use the TEST button located on the right side of the screen to test sensors. (see picture below)

Green = good

Red = blocked

Black = data not received. which can happen sometimes

Test it several times after installing to make sure you never get a red response



## Stage Settings

There are two options :

To change staging method you must go to settings>staging

*Option: Place car in stage beam* - Blocking the first beam will light prestage lights... blocking stage beam will light up stage lights, racer is now ready

*Option: Place car before stage beam* - This mode is normally used with snowmobiles or other vehicles when blocking the stage beam with the front wheels is difficult. Blocking prestage only will light up both prestage and stage lights on the tree, racer is now ready. If you go too deep and block the stage the Red light will come on as a warning, you will need to backup.

## Abort Race (one lane passes)

Abort race to get results if only one car crosses the finish line. The **ESC key** is used to abort a race. This will be required when doing one lane passes

## More RF Range

Raise modules a one or two feet or higher off the ground. RF module at PC should be as high as possible. There should be a line of sight between PC RF module and start line module also line of sight between PC RF module and Finish module.

## Speed Trap

Speed trap should be 10 to 20 feet before the finish line. For accurate MPH enter the exact distance between speed and finish sensors in inches in settings.

## Reference

ET = elapsed time and does NOT include reaction time

ET-DI ET - Dialin. lets the driver know how far off he was from his dialin

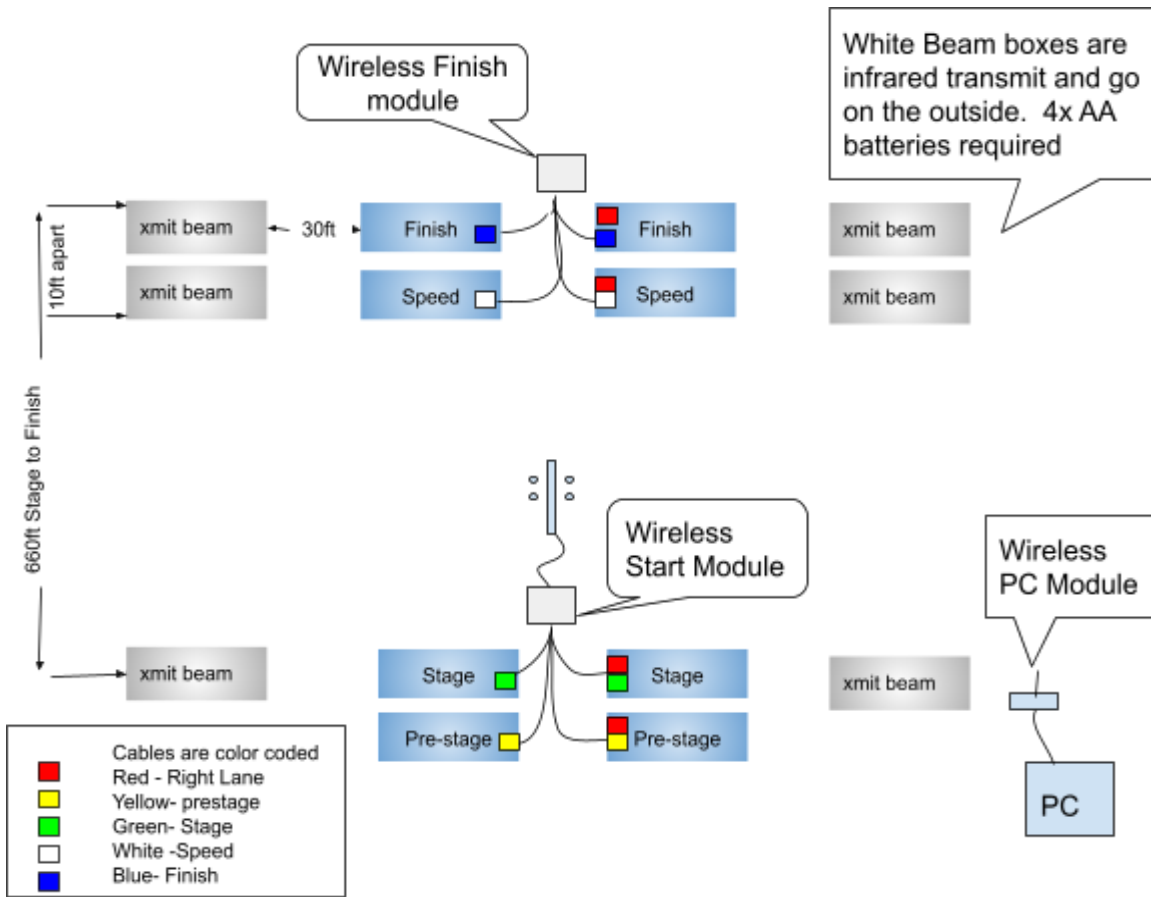


Diagram using economy Stage beam. Only one white xmit box per lane should be installed at the start line as shown.

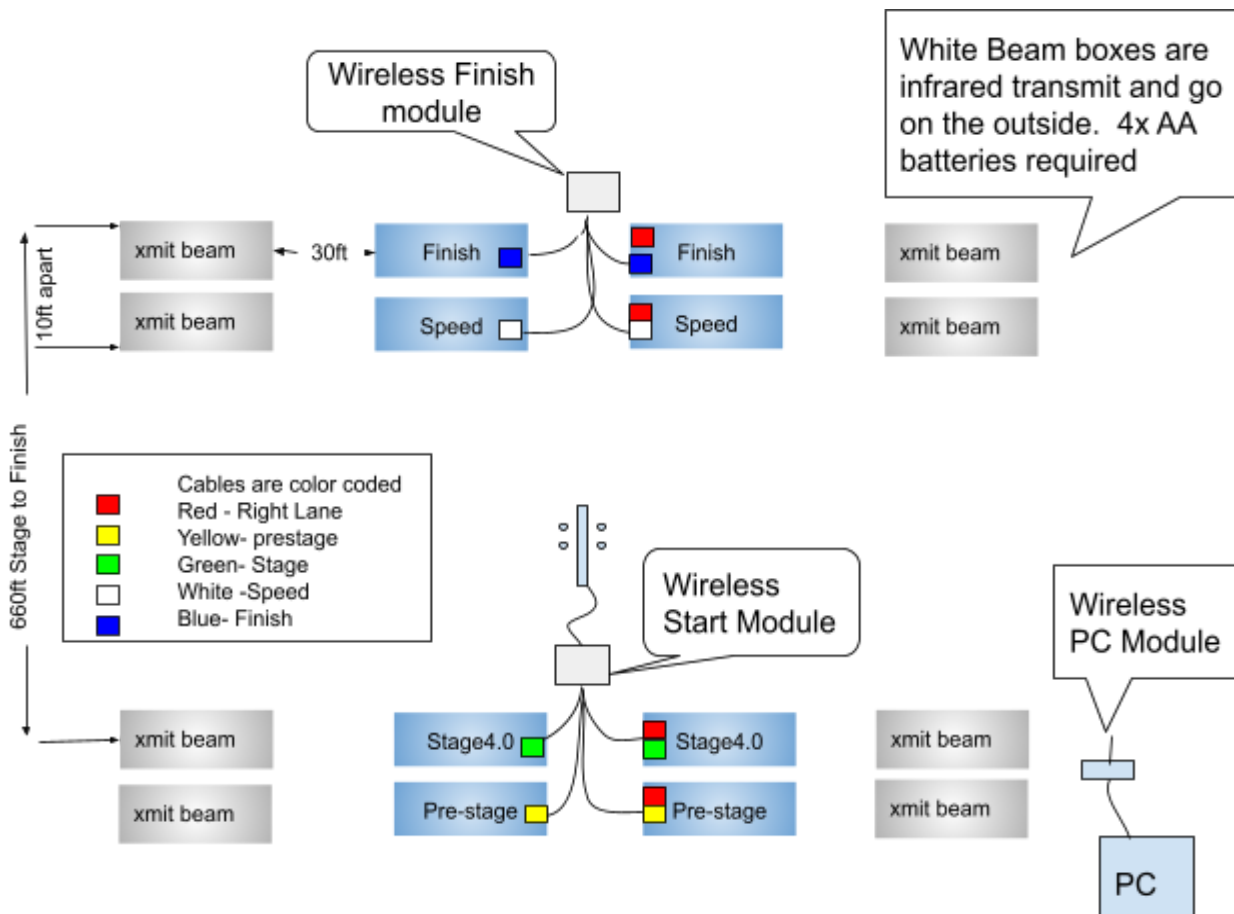
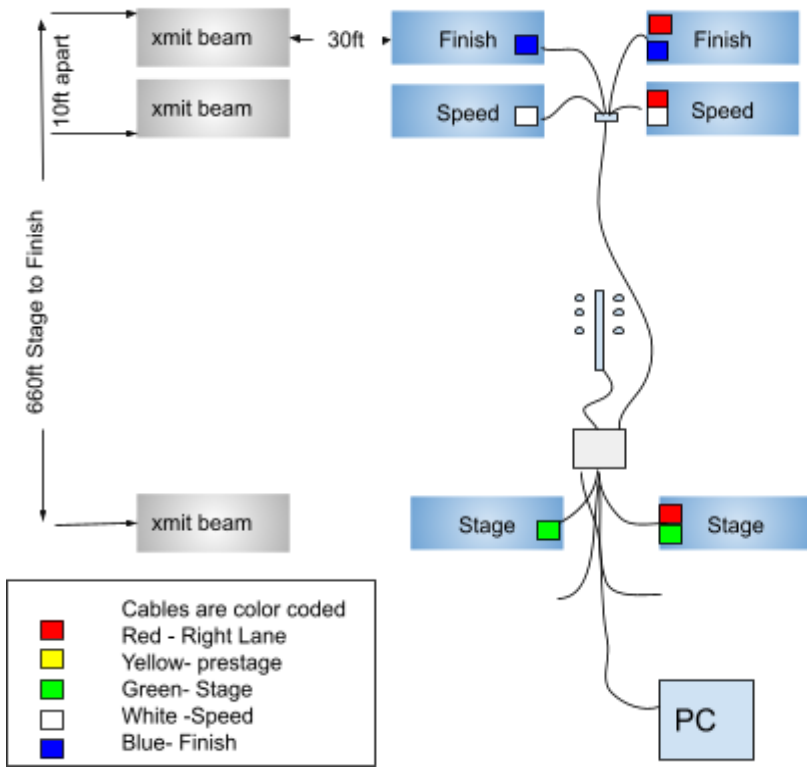


Diagram using Stage Beam 4.0

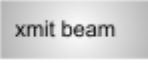
System with simple start beam



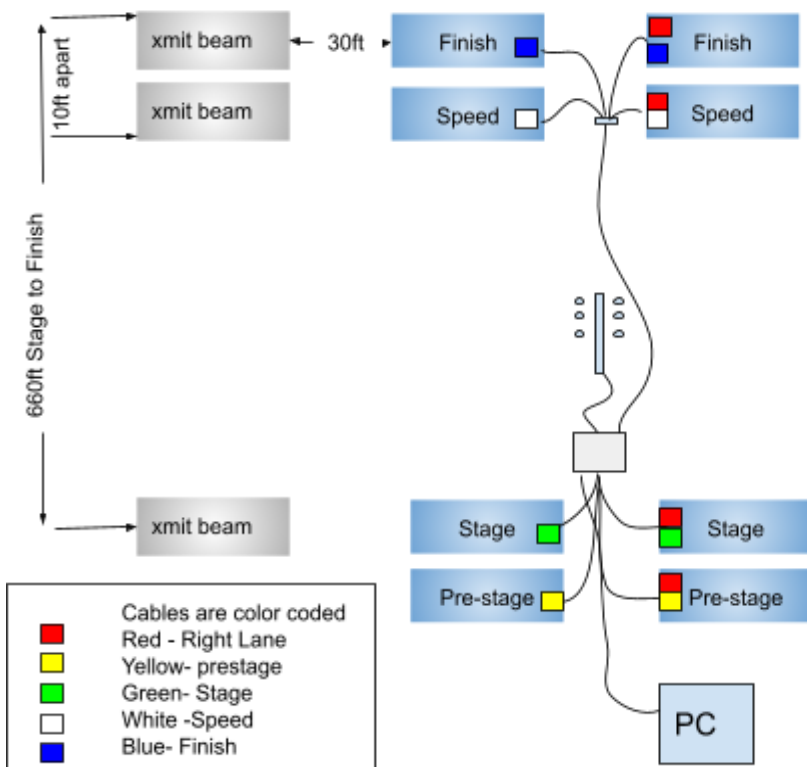
### Wired Version



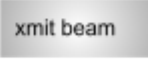
White Beam boxes are infrared transmit and go on the outside. 4x AA batteries required



### Wired Version Prestage/Stage

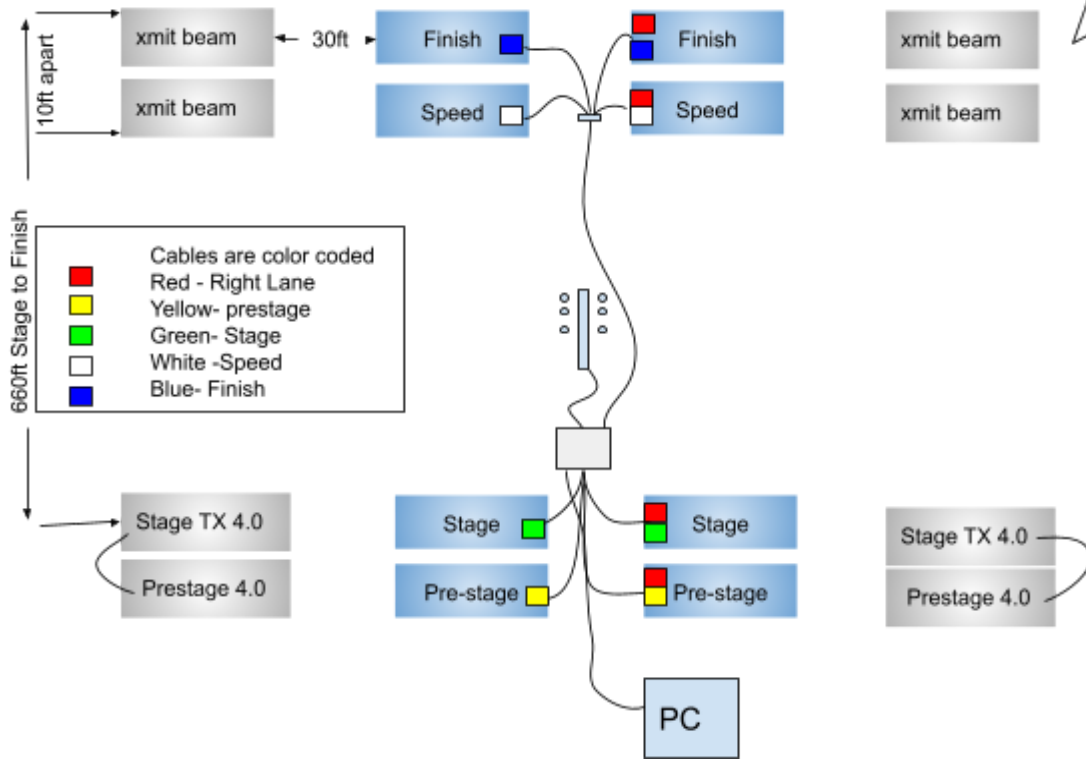


White Beam boxes are infrared transmit and go on the outside. 4x AA batteries required

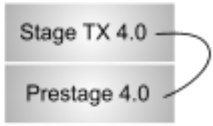


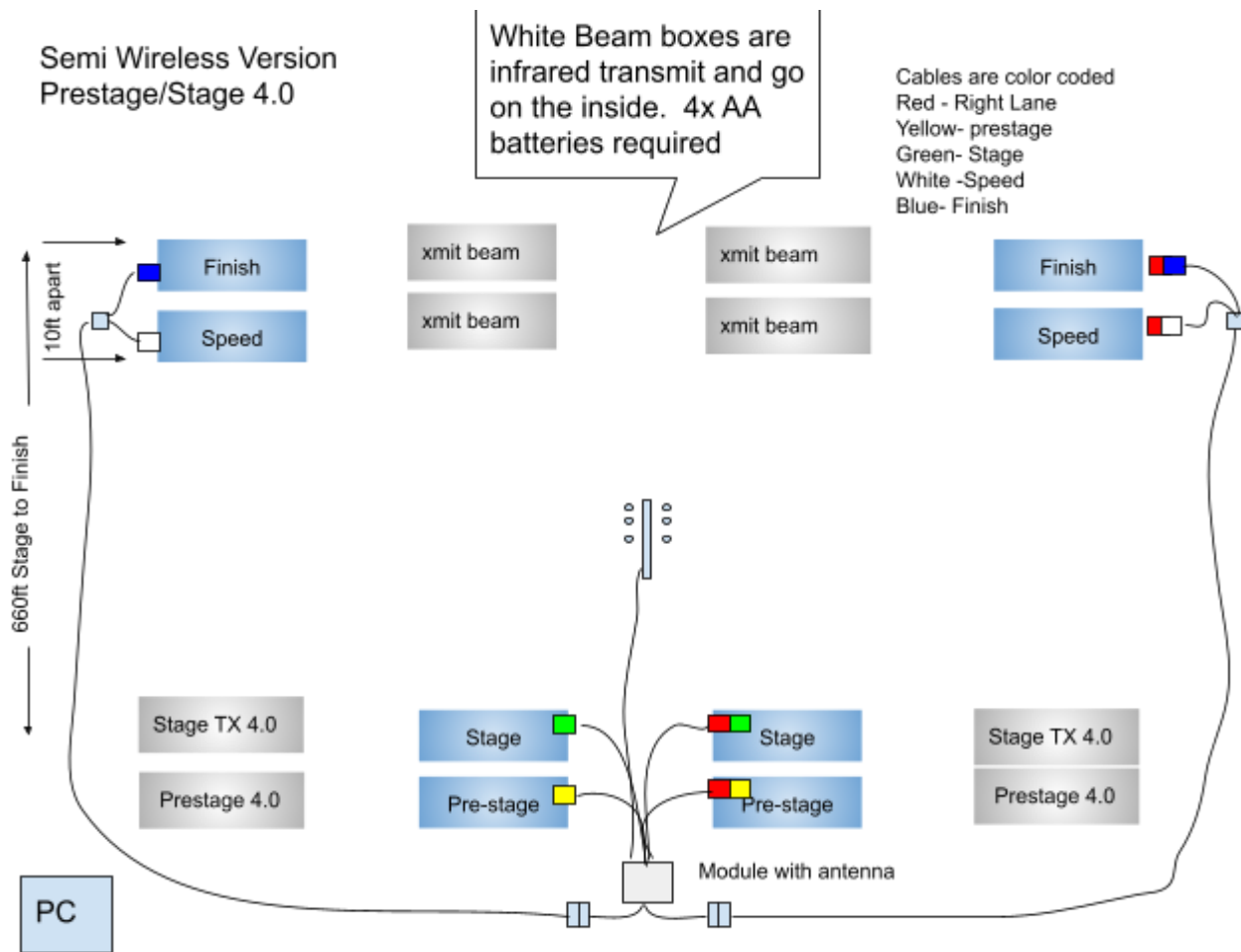
Use only one white infrared transmit box per lane at the starting line as shown

Wired Version  
Prestage/Stage 4.0



White Beam boxes are infrared transmit and go on the outside. 4x AA batteries required





### Wiring Color Code

Cables are color coded to assist in connecting correct cable to sensors.

Sensor	Left Lane	Right Lane
Prestage	Yellow	Red-Yellow
Stage	Green	Red-Green
60 ft	Black	Red-Black
Speed Trap	White	Red-White
Finish	Blue	Red-Blue

## Pin Out Speed Finish

Pin#	Wire Color	Sensor
1	Yellow	Left Speed
2	Yellow	Right Speed
3	Yellow	Left Finish
4	Yellow	Right Finish
5	Red	To all sensors
6-9	Green and Black	To all sensors

**Armdrop Drag Racing or Speed trap** only mode. Armdrop racing means no tree or start line sensors are required.

Version 9.40 now supports Armdrop Drag Racing, or the system can be used as a wireless speed trap. Start module is not required.

Go to settings>sensors and only check speed and finish sensors. All other sensors should be unchecked. You must also do this prior to doing Autoset Com port.

## **Importing Names**

DP900 Version 10.0 2 lane system

The easy way to enter names into the system before the event.

Create a text file with notepad

Each racer will have an ID number

We need to create a comma delimited file like this

**Unique** ID number,racer name and or car name,dialin or ignore this example

10,Daniel Groulx,1.500

20,John Smuck

30,Bob Slow

31,Bob Slow

32,Bob Slow

It would be a good idea if racers had the unique number displayed on their car.

My suggestion is each racer can have 10 cars, like in the example above Bob has cars 30,31,32

As you can see in the above example you can also enter their dialin for the car if you wish, so Daniel has a dialin of 1.5 seconds

## **Database**

You can delete ALL racers from menu Database>Racers.

The database and other files are located in My documents\TM-DPv913\dragpro.mdb.

## Troubleshooting

### AutoSet Com Port not working

Remove Demo mode before doing AutoSet Com port

### Problem with prestage and stage

Verify that you have prestage installed before stage beams at the start line and prestage stage cables are plugged into correct beams

### System is selecting wrong winner

Verify that the left and right cables are correct at the finish line.

Tip: **Red** marker on the cable is for **Right** side. Note ET does not include reaction time, so it's possible to have a lower ET and still lose.

### Speed not working, no speed display, 0 MPH

Verify that the speed sensors (white marker on cable) are BEFORE the finish line.

Verify that the cables for the left and right lane are correct. All cables with Red band goes in right lane

### All the tree lights stay on

Go to Settings and click OK to send parameters to the start module, if tree lights still stay on then go back to Settings again and toggle the tree signal option.



## Version Log:

### V10.0 Mar 2020

Supports single LED sign  
Improved racers database  
F2 or / on numeric keypad to Start Race  
Autotest sensors after each race

### V9.70 Sept 2019

Display RT on LED sign immediately  
Flashing winner on LED sign  
Support big decimal on dialin  
Fixed Test button staying disabled  
Auto end race for single car run  
F2 or / on numeric keypad starts race

## Glossary

**Breakout:** Used only in handicap racing, “breakout” refers to a contestant running quicker than he or she “dialed” his or her vehicle (predicted how quick it would run). Unless the opponent commits a more serious foul (e.g., red-lights, crosses the centerline, or fails a post-race inspection), the driver who breaks out loses. If both drivers break out, the one who runs closest to his or her dial is the winner.

**Christmas Tree:** Also called the Tree, it is the noticeable electronic starting device between the lanes on the starting line. It displays a calibrated-light countdown for each driver.

**Deep stage:** to roll a few inches farther into the beams after staging, which causes the pre-stage lights to go out. In that position, a driver is closer to the finish line but dangerously close to a foul start.

**Dial under:** when drivers in Super Stock and Stock (handicap categories) select an elapsed time quicker than the national index. Drivers select a dial-under, or e.t., that they think their cars will run based on previous performance. The breakout rule is in effect.

**ET:** Elapsed Time

**Elapsed time:** the time it takes a vehicle to travel from the starting line to the finish line. Also called e.t.

**Eliminations:** After qualifying, vehicles race two at a time, resulting in one winner from each pair. Winners continue in tournament-style competition until one remains.

**Foul start:** indicated by a red light on the Christmas Tree when a car has left the starting line before the green light, or starting signal.

**Full Tree:** used in Competition, Super Stock, and Stock, for which a handicap starting system is used to equalize competition. The three amber bulbs on the Christmas Tree flash consecutively five-tenths of a second apart, followed five-tenths later by the green starting light. A perfect reaction time on a full Tree is .500.

**Holeshot:** when a driver reacts quicker to the Christmas Tree to win a race against an opponent with a quicker e.t.

**Index:** the expected performance for vehicles in a class as assigned by NHRA. It allows various classes of cars in the same category to race together competitively.

**Interval timers:** part of a secondary timing system that records elapsed times, primarily for the racers' benefit, at 60, 330, 660, and 1,000 feet.

**Pre-stage:** to position the front wheels about seven inches behind the starting line so the small yellow lights atop that driver's side of the Christmas Tree are glowing. The next step is to stage and be ready to race.

**Pro Tree:** used in Top Fuel, Funny Car, Pro Stock, Pro Stock Motorcycle, Top Alcohol Dragster, Top Alcohol Funny Car, Super Comp, Super Gas, and Super Street, which feature heads-up competition. All three large amber lights on the Christmas Tree flash simultaneously, followed four-tenths of a second later by the green starting light.

**RT:** Reaction Time

**Reaction time:** the time it takes a driver to react to the green starting light on the Christmas Tree, measured in thousandths of a second. The reaction-time counter begins when the last amber light flashes on the Tree and stops when the vehicle clears the stage beam.

**Sixty-foot time:** the time it takes a vehicle to cover the first 60 feet of the race track. It is the most accurate measure of the launch from the starting line and in most cases determines how quick the rest of the run will be.

**Speed trap:** the final 10 feet to the finish line where speed is recorded.

**Stage:** to position the front wheels right on the starting line so the small yellow lights below the pre-stage lights are glowing. Once both drivers are staged, the calibrated countdown (see Christmas Tree) may begin.



Print

1	Class: Test	2
Daniel		Jack
0.070	Reaction Time	0.054
8.930	ET	9.096
0.000	ET-DI	0.000
53.43	MPH	52.49
0.150	Finish Margin	
	OK	



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