First Finish Track System

Setup & Operation Instructions

Portatree *First Finish Track Systems* are finish line ONLY track systems that accurately indicate the vehicle that crosses the finish line first. The systems can be configured for 2, 3, or 4 lane operation and support relays for 12V or 110V win lights.

Electrical Specifications:

- 4 Inputs
  - 0.5mA/Input
  - Ground Signal
  - Designed for Banner Infrared Sensors
- 4 Outputs
  - 20mA/Output
  - Ground Signal
  - Compatible with 12VDC or 110VAC relays and Portatree Win Light Modules (110VAC)
- Power Supply
  - 12-24V
  - 0.5 Amp
- Accuracy
  - Over 800,000 finish line checks/second
  - 1 check per 1.25 microseconds

Setup:

1.) Verify that the ***Input Select*** header has jumpers across the pins in each active lane
Note: *If all jumpers are removed, the system will default to Inputs 1 and 2 active. Input Select should be set correctly from the factory.*

2.) Select a reset time option on the ***Reset Select*** switches. Reset Time is the time from when the first vehicle crosses the finish line until the system resets and is ready to detect the winner of another race. Select 5, 10, 15, or 20 second Reset Time.
Note: *If multiple switches are "on", the system will choose the highest time found. If no switches are "on", the system will choose 5 seconds.*

3.) Apply power to the system

Two Lane Operation:

When the *First Finish System* is configured for 2 lanes, the system monitors both active inputs until a vehicle is detected. When an input is triggered (vehicle is detected), the corresponding win light output is enabled in the winning lane. The win light output remains enabled until the reset time passes (5, 10, 15, or 20 seconds). At this point, the system is ready to detect the winner of another pair of vehicles. If the win lights turn on in both lanes, the system has detected a tie and could not declare a winner.

Three or Four Lane Operation:

When the *First Finish System* is configured for 3 or 4 lanes, the system will monitor all active inputs until the winner (first vehicle) is detected. The win light output corresponding to the triggered input will enable, and the system will continue to monitor the remaining active inputs for the 2nd, 3rd, and possibly 4th place vehicles. Once all vehicles are detected, the system will proceed to display the finish line order using the win light outputs. If the remaining

vehicles are not detected within 5 seconds of the winner crossing the finish line, the system will display the finish line order of the lanes that were detected.

To indicate lane order, the system will begin by enabling the win light output of the winning lane. After 0.5 seconds, it will enable the win light output of the 2nd place lane (the output for the winning lane will remain activated). After an additional 0.5 seconds, it will enable the output of the 3rd place lane. If 4 lanes are used, it will trigger the 4th place lane after an additional 0.5 seconds. At this point, all win light outputs will be deactivated and the system will repeat the sequence. The system will continue to display the finish line order until the reset time passes (5, 10, 15, or 20 seconds). At this point, the system is ready to monitor the finish line of another race.

When displaying the finish line order, if 2 win light outputs turn on at the same time, the system has detected a tie and could not declare a winner for that finish position.

Troubleshooting:

The First Finish Controller is equipped with 6 status lights to aid in troubleshooting.

Red – Power light

When the unit is receiving power, the red power light will be lit

Green – Running light

When the unit is running (processing inputs), the green light will pulse

Amber – Output indicators (4)

An output indicator will light when the corresponding output (win light signal) is triggered.

For technical help, contact the Portatree Tech Department:

Email: tech@portatree.com

Phone: 508 278 2199 ext. 8

Backup Inputs/Outputs:

For 2 and 3 lane systems, the unused input/output pair(s) can be used as backups. If a problem occurs with an active input/output pair (the input or output is not working properly), perform the following steps:

1.) Remove power to the First Finish System
2.) On the ***Input Terminal***, move the input wire of the lane with the issue to an unused input
3.) On the ***Input Select*** header, remove the jumper of the lane with the issue
Once removed, this input is no longer active and will be ignored by the system
4.) On the ***Input Select*** header, add a jumper across the pins of the new input
Once added, this input is active and will be monitored by the system
5.) On the ***Output Terminal***, move the win light wire of the lane with the issue to the output corresponding to the new input in step 2
6.) Restore power to the First Finish System

After completing the above steps, the system should work properly. If the problem observed is not resolved, the issue is not with the First Finish Controller. Sensor inputs and/or win light outputs should be checked instead.