

# Digital Racing Solutions

## Start Light

### Installation Guide

## 1 GETTING STARTED

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Your Start Light from Digital Racing Solutions installation is simple and straight forward. Using this guide you should be able to perform the necessary steps within about 10 minutes time.

Tools required:

- Phillips Screwdriver
- Wire Cutters / Wire Strippers
- Electrical Tape
- Drill or Exact-o knife



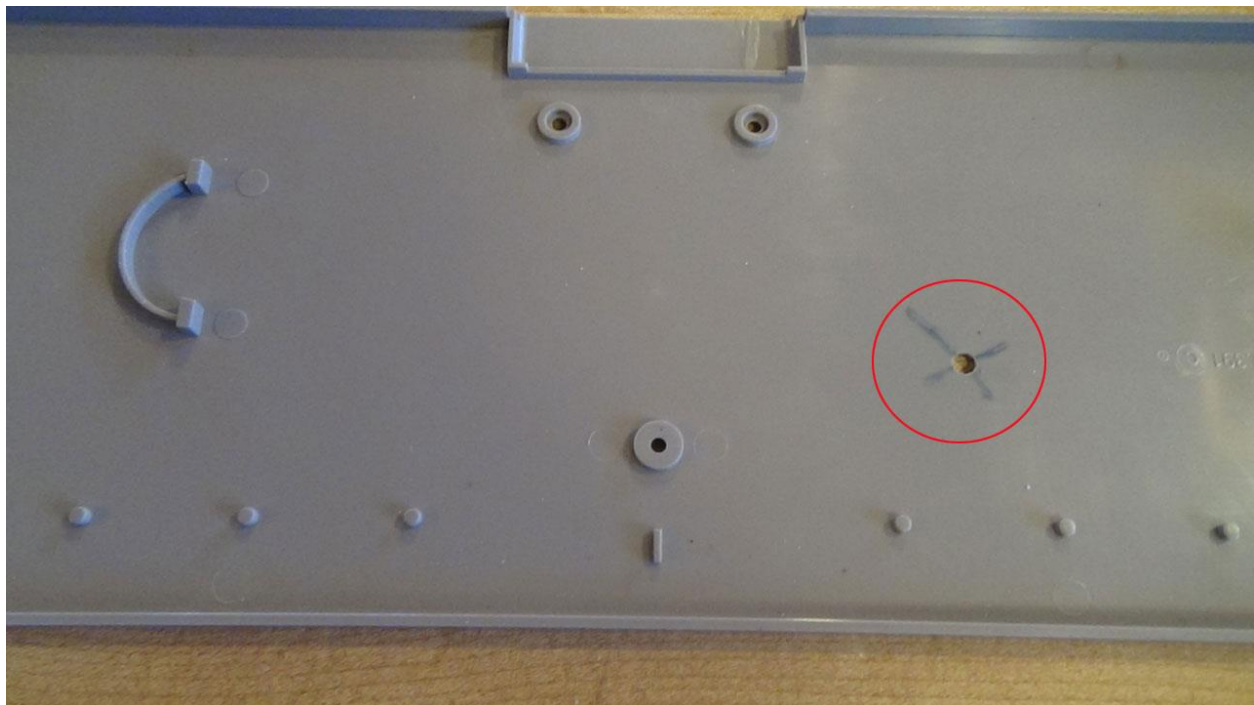
## 2 PREPARE THE UNIT FOR INSTALLATION

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Remove the Control Unit from your system and remove power. Turn the unit over and carefully remove the 7 screws on the back side.



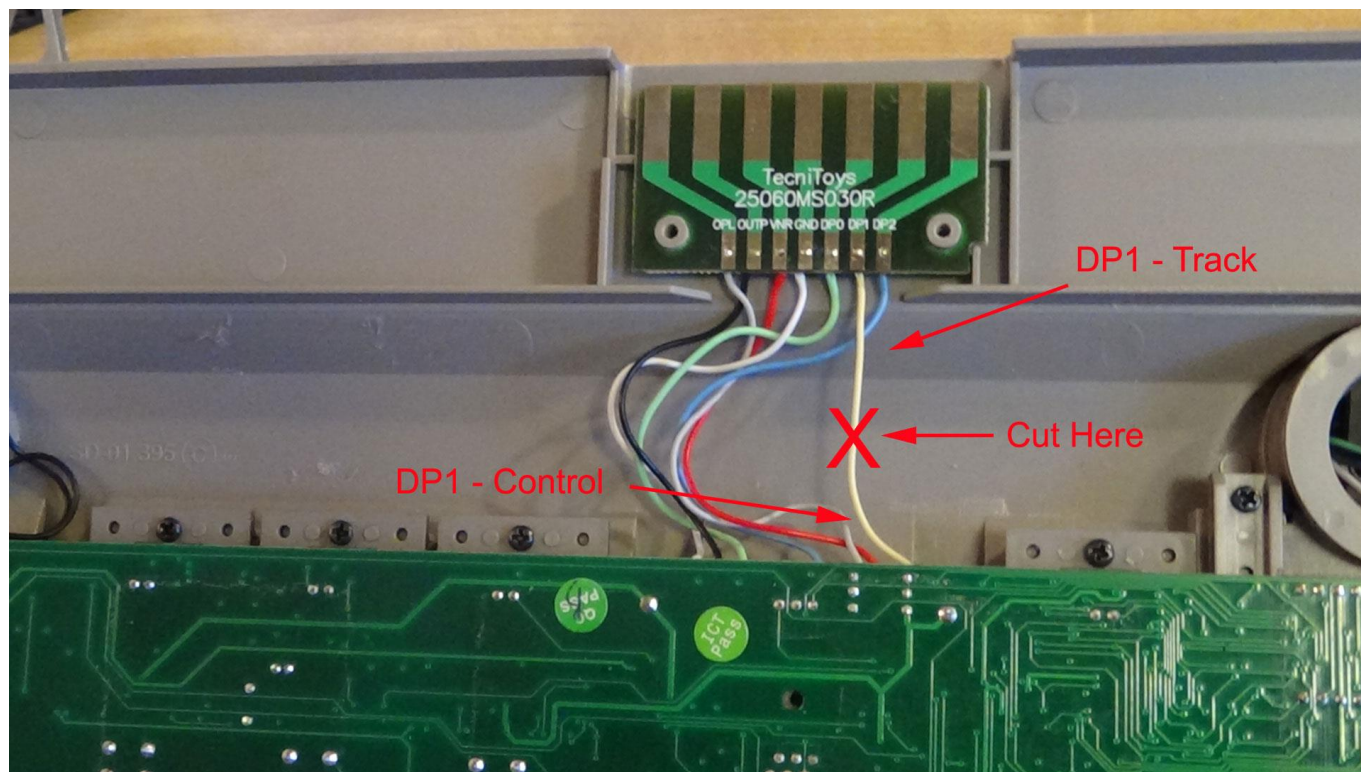
Make a small hole in the bottom of the unit to connect the relay to track power. You can use a drill or an Exact-o knife – my choice. Use caution in either event.



### 3 PITBOX INSTALLATION

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To control power, we'll need to interrupt the DP1 line – this is the positive track power line to the track. By interrupting the track power here we can also make sure that the Chronometer and Lap Counter continue to operate properly in the event power is paused during a race/heat.



DP1 should be the YELLOW wire. Snip that wire in the middle and strip a ¼" of insulation from each both ends. Attach some extra lengths of wire to each stripped wire to make sure you have adequate length to extend outside the unit. Use electrical tape to insulate the stripped connections.

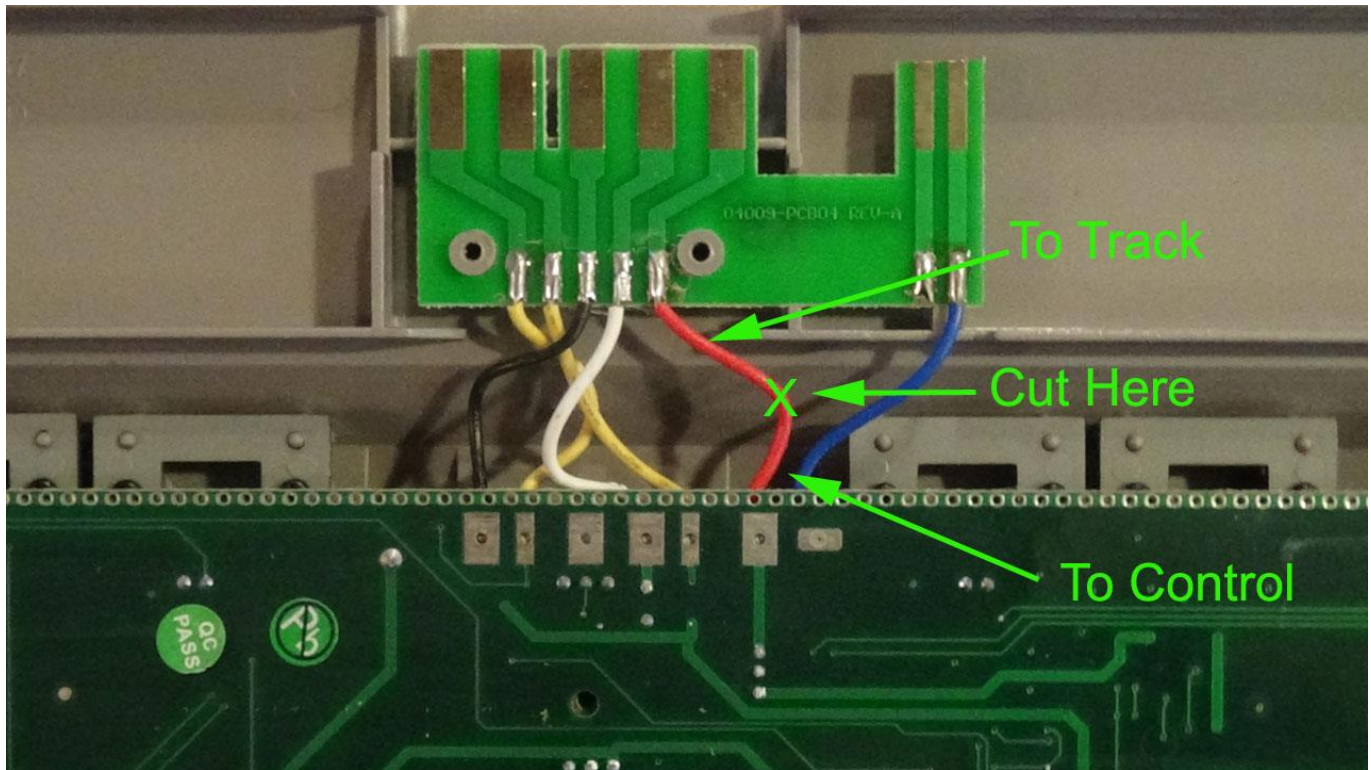
Once complete, push them through the hole in the bottom and mark which wire goes to the control unit and which wire goes to the track then close the bottom and replace the screws.



## 4 STANDARD UNIT INSTALLATION

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To control power, we'll need to interrupt the RED wire – this is the positive track power line to the track. By interrupting the track power here we can also make sure that the Chronometer and Lap Counter continue to operate properly in the event power is paused during a race/heat.

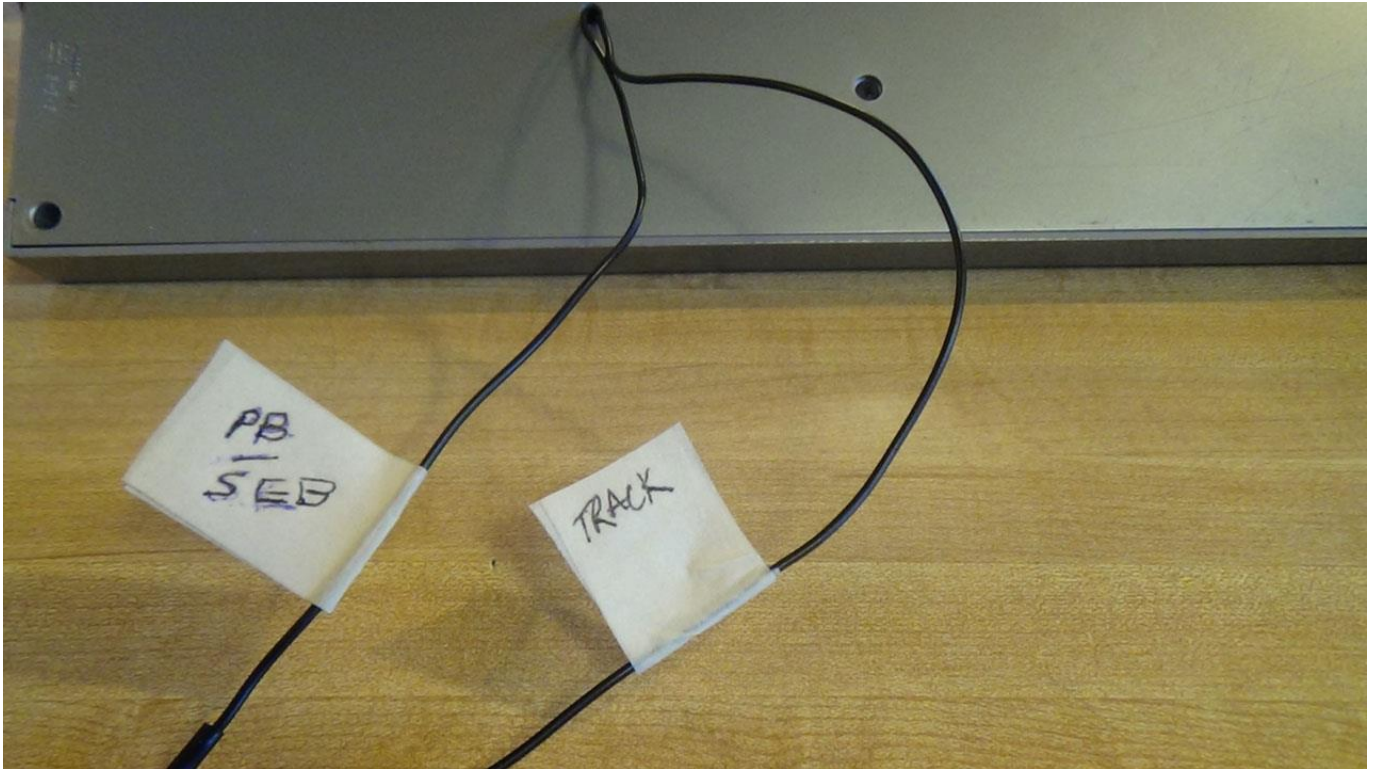


Snip that wire in the middle and strip a  $\frac{1}{4}$ " of insulation from each both ends. Attach some extra lengths of wire to each stripped wire to make sure you have adequate length to extend outside the unit. Use electrical tape to insulate the stripped connections.

Once complete, push them through the hole in the bottom and mark which wire goes to the control unit and which wire goes to the track then close the bottom and replace the screws.

## 5 CONNECT TO THE RELAY

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The two wires will now connect to the black wire pair. If you have the SEB USB Interface, you should connect the RED wire of the SEB interface to the Control Unit side.





## 6 CONNECT TO POWER

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Connect the Start Light Power Adapter to your Control Unit and then connect an SCX power supply to the Start Light Power /Adapter.



## 7 CONNECTING TO YOUR COMPUTER

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Go to [digitalracingsolutions.com](http://digitalracingsolutions.com) and download the driver installation program. A link can be found on the Start Light product page as well as the support page. Or go directly to:  
[digitalracingsolutions.com/files/CDM-v2.10.00-WHQL-Certified.EXE](http://digitalracingsolutions.com/files/CDM-v2.10.00-WHQL-Certified.EXE)

Disconnect your PC from the Internet. This is done to prevent Windows from attempting to retrieve any other version of the driver.

Run the installation file that you downloaded from our website.

Connect the Start Light to your PC. Windows should detect the Start Light and associate the correct driver to it. In rare cases, you may need to re-run the installer while Start Light is connected to complete the driver installation.






Open Windows' Device Manager. It should show a new COM device listed under "Ports". This is positive confirmation that the driver has installed and Start Light is recognized.

It is now safe to reconnect your PC to the Internet.

## 8 PC LAP COUNTER CONFIGURATION

Enable the Data for the Arduino board on the General tab and assign a COM port (only 1-16 are valid).

**Pc Lap counter Options**

**General**  **Detection**  **Power Control & Lights**  **Sound**  **Fuel** 

**Race**

- ☒ Stop race clock during pause
- ☒ Stop segment clock during pause
- ☐ Start race after detector
- ☒ Automatic lane rotation after segment
- ☐ Auto restart the race after inter-segment
- ☐ False start detection
- ☐ False start also during restart
- ☒ Print race summary at race end
- ☐ Print race summary at segment end

**Zoom (Large Display):**

- ☒ Use direct connection on port
- ☐ Display segment classement

**Display**

- ☐ Display speed Scale 1/
- ☒ Convert to Mph
- ☒ Display distance in column 'GAP'
- Lap time decimal:


**Stop & Go:**


Penalty:  Sec

Must be made within:  Laps

- ☒ My system send PIT IN signal

**Data**






- ☐ Save race data to Microsoft Access Database
- ☒ Send/Receive data from Arduino board on:  

 With digital track, LANE mean Car ID


**Ok** **Cancel**

Set the Power Control and Lights settings as shown below.

**Pc Lap counter Options**

General  Detection  **Power Control & Lights ** Sound  Fuel 

**Power control**

☐ Use LPT1  ☒ Invert Output


☐ Use K8000

☐ Use Phidget interface kit

☒ None

When power go OFF wait  sec before stop detection

**Starting lights**

☐ Use LPT1  ☐ Invert Output

☐ Use K8000


☐ Use Phidget interface kit

☒ None


☒ Set all countdown lights ON during pause

☒ Let all countdown lights BLINK during trackcall

**Other lights**

☐ Use Phidget interface kit  ☐ Invert Output

☒ None

 With digital track, LANE mean Car ID

Ok Cancel



# Digital Racing Solutions

## Start Light

### User's Manual

The DRS Start Light provides a track side means of managing simple races. It can also be used in conjunction with PCLC as a remote display and power controller.

**In stand-alone operation** (not using PCLC) the Start Light handles timing and power control for the race. There are several phases to the race session, detailed below

- **Practice** – display scrolls “open practice” continuously. When you want to end the practice session and prepare for the race, press the button. This cuts power allowing you to set up the starting grid.
- **Grid** – tower makes a brief alert noise and display scrolls “cars to grid”. Track power is off and start lights blink. Use the RACE START button on the SCXD control unit to reset your SCXD lap counter. Push the Start Light's button to begin the countdown.
- **Countdown** – the red LEDs light in sequence at 1 second intervals. Once all are lit, there will be one more interval of random duration before the race begins.
- **Racing** – time remaining will count down on the display. To pause the race (track call) press the Start Light's button.
- **Track Call** – cuts power to rails. Race clock freezes and red LEDs flash. Press button again to begin the restart countdown.
- **Race Over** – cuts power to rail and scrolls “race over”. Pressing the button again will begin another practice session.
- **Reset** – if you want to exit the race before the race time is over, you can reset the Start Light back to Practice by pressing and holding the button for 3 seconds. Note that the same press and hold action is used while in Practice to access the system configuration options.

**In PCLC mode**, the Start Light is a hardware extension to the PCLC program. Use the RACE START button on the SCXD base to start the race. The Start Light button will trigger the pause and resume functions during a race. Track power and LED behavior is slaved to the software. To access Start Light system configuration options from PCLC mode, exit the PCLC application first, then press and hold the Start Light button.

#### Configuring your Start Light system options

System options are accessed by holding the button until the desired option appears. After 3 seconds, the display will blink the race duration. After 6 seconds, it will blink the LED brightness level. After 9 seconds, it will scroll the operating mode. After 12 seconds, it will scroll the operating language. To adjust time, brightness, mode, or language, release the button when that option appears.

Time and brightness are adjusted using an up/stop/down/stop method. When you first reach the option, the current value will blink. Press the button once and it will begin to increase. Pressing the button again will stop the increase. Third and fourth presses likewise decrease and stop decreasing. Race duration can be set in range of 1-99 minutes.

For mode and language, pressing the button will cycle through the available choices.

To save the new setting, press and hold the button for 3 seconds until the red LEDs begin to flash, then release the button. The Start Light will reset and apply the new setting.

### **External Buttons**

Have you seen the Big Red Button? When one or more remote buttons are connected to the Start Light, they have the same function as the button on the top of the Start Light itself.