

Scorpius User Manual

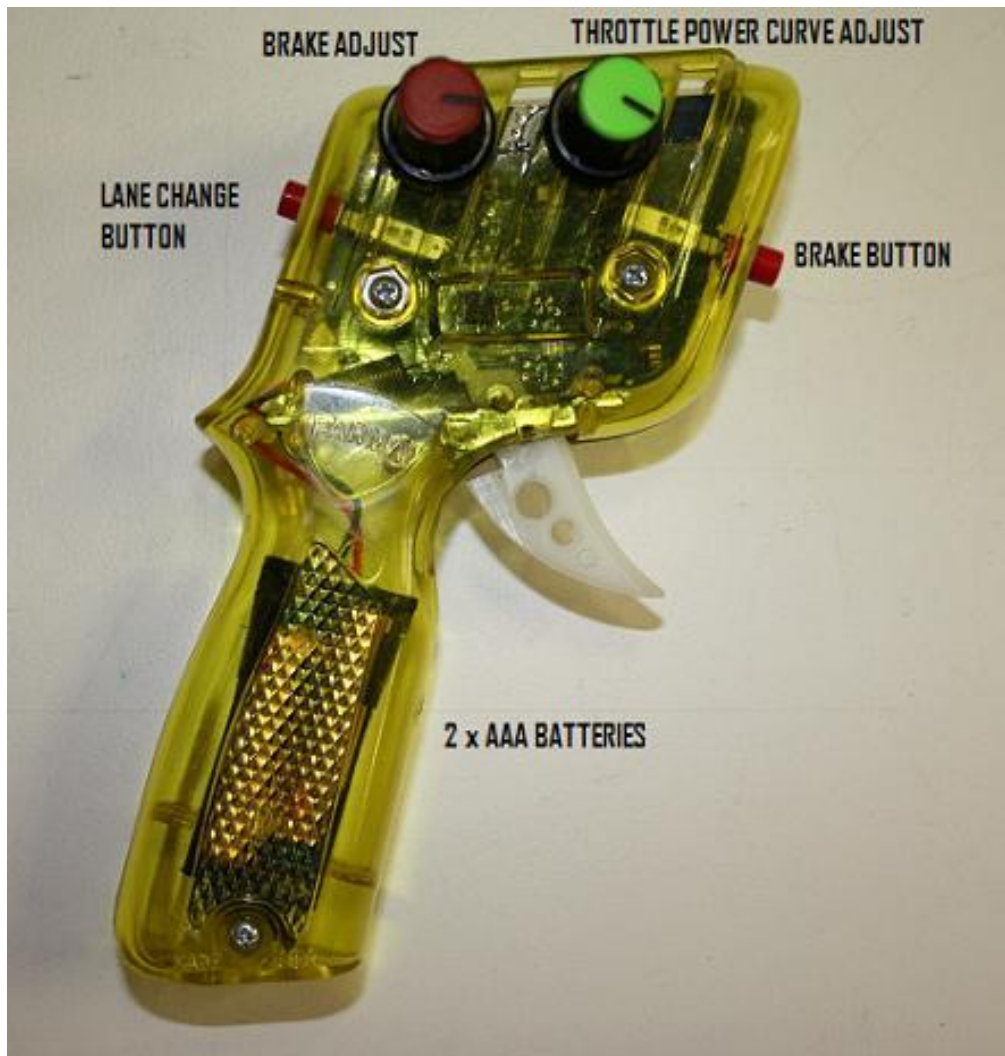
Controller

Lane change button:

Press button at rear of controller as car passes over lane change beacon to activate lane change. Also used for menu functions.

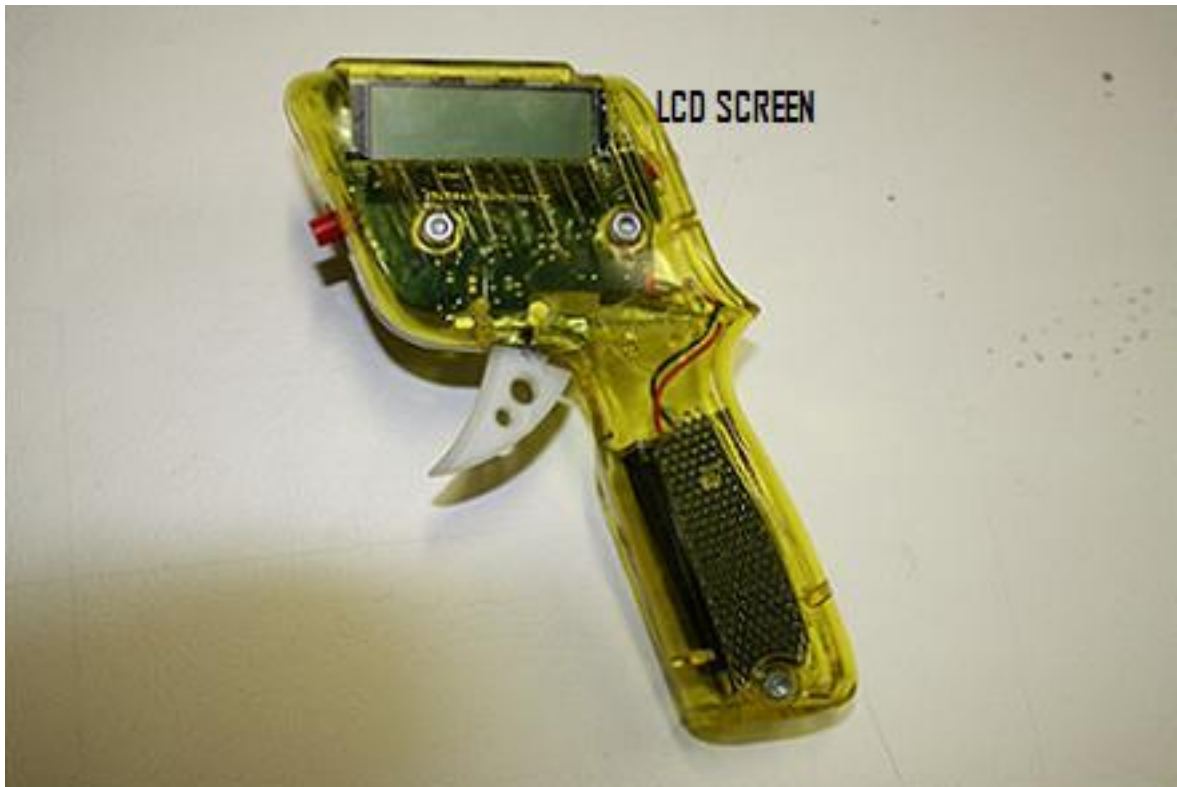
Brake button:

Press button at front of controller activate full brakes. Also used for menu functions.



Scorpis Controller

LCD Screen:



Scorpius Controller

The Homepage

The homepage shows the ID and brake.

Later versions will include Fuel (F), Tyres (T), Traction Control (TC) and Curve (C)

Scorpius ID = 8

Brake = 100%

Typical homepage screen shot

1)ID

To change controller ID number:

- i) Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.
- ii) Use brake knob to scroll to ID page
- iii) Press LC button once, this takes you to "Edit ID"
- iv) Use brake knob to scroll to desired ID number

v) Press LC button to exit edit page
vi) Press brake button to exit menu page.
The controller ID is now set.

2) Fuel

Currently under development.

3) Tyres

Currently under development.

4) Brakes

Figures represent percentage 0-100

5) Traction Control

Currently under development.

6) Curve

Currently under development.

Menu screens:

1) Reflash from PC

Displays as follows:



Scorpius Throttle Booter

Reflashing updates the controller with the latest software.

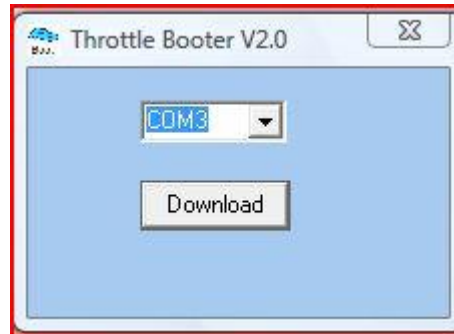
To reflash controller:

- i) Click on Scorpius Throttle Booter on PC.
- ii) Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.
(The menu could be on any page depending on position of brake knob at the time)
- iii) Use brake knob to scroll to "Reflash from PC"

Menu

ReFlash from PC

iv) On PC press "Download" to prompt

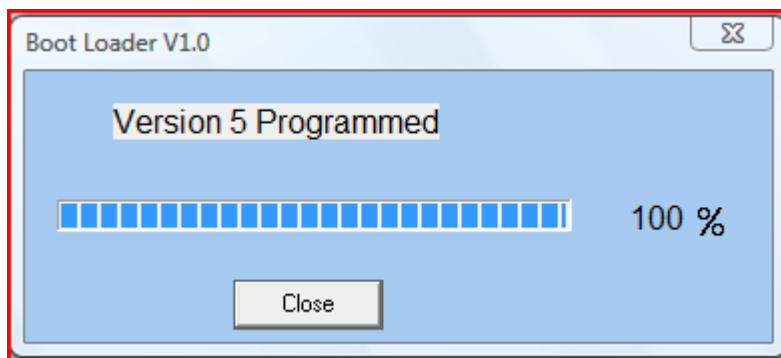


v) On the controller press LC button to start download.

The controller screen will show like this:

Reflashing...

On PC download progress bar should start filling from 0 to 100%

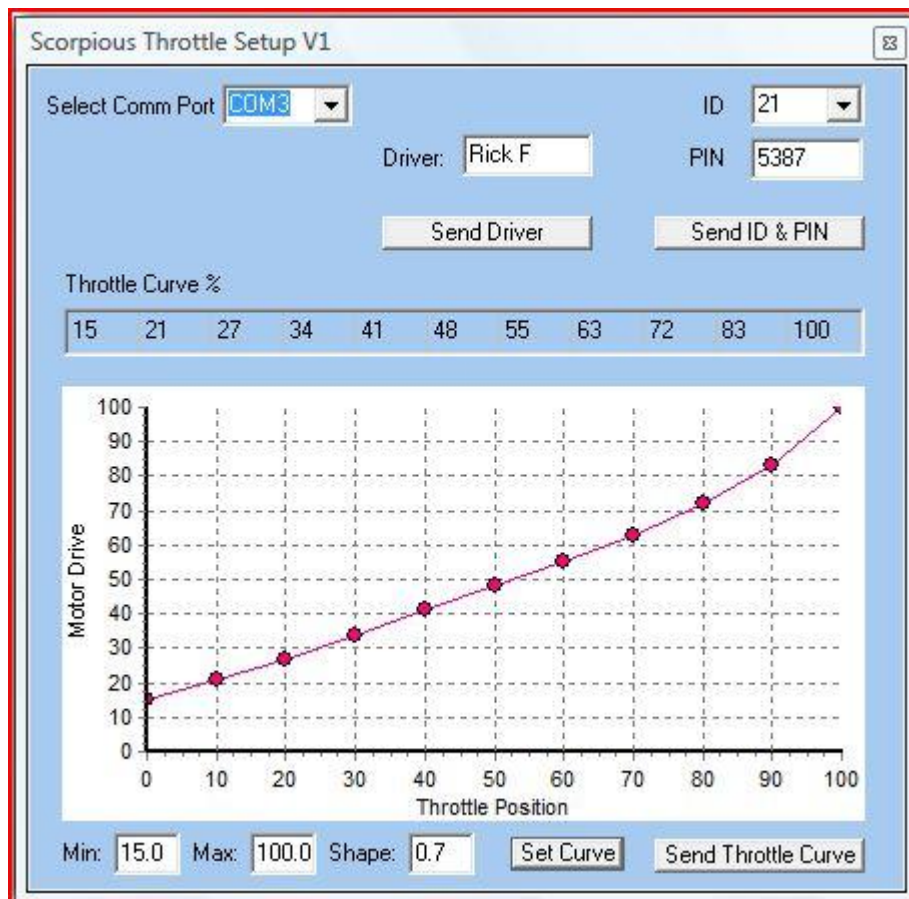


vi) Press "Close" once the progress bar is full.
After 5 seconds controller screen will return to the home page.

vi) Close Scorpius Throttle Booter program
Your controller has now been reflashed (upgraded) wirelessly.

2) Configure from PC

Displays as follows:



Scorpius Controller Set Up Program

3 functions on your controller you can reconfigure from your PC

- i) Reconfiguring Driver
- ii) Reconfiguring ID and/or PIN.
- iii) Reconfiguring Throttle Curve

Click on "Send ID & PIN" or "Send Throttle Curve" or "Send Driver" depending on the requirement.

Select "Config from PC" on hand controller menu.

Menu

Config from PC

Press LC button. "Configuring..." will come up on controller screen.

Menu

Set Car ID & PIN

Press OK on Scorpius Throttle Setup prompt box. Controller screen returns to default setting. Controller ID and PIN have now been reconfigured.

ii) Driver name

Go to Scorpius Throttle Setup program on PC

Change driver name to requirements.

Click on "Send Driver"

Select "Reconfig from PC" on controller menu.

Press LC button. "configuring" will come up on screen.

Configuring...

Press OK on Scorpius Throttle Setup prompt box on PC. After 5 seconds controller screen returns to home page. Driver name has now been reconfigured.

iii) Throttle power curve.

Go to Scorpius Throttle Setup program on PC

Change throttle curve to requirements.

Click "Set Curve"

Click on "Send Curve"

Select "Reconfig from PC" on controller menu.

Press LC button. "Reconfiguring" will come up on screen.

Press OK on Scorpius Throttle Setup prompt box.

Controller screen returns to default setting. Controller power curve has now been reconfigured.

3) Version

Menu

Version = 5

Shows the software version number for reference.

4) Driver name

To reconfigure from controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.

Use brake knob to scroll to Driver Name page.

Menu

Driver RICK F

Press LC button, use brake knob to scroll to letter. Press LC to lock it in.

Press LC button again to progress to the next letter.

Press LC button, use brake knob to scroll to letter. Press LC to lock it in.

Repeat for all letters.

Press brake button twice to escape.

5) PIN

To reconfigure from controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.

Use brake knob to scroll to PIN page.

Menu

PIN = 1234

Press LC button, use brake knob to scroll to desired numbers. Press LC to lock it in.

Press LC button again to progress to the next number.

Press LC button, use brake knob to scroll to desired numbers. Press LC to lock it in.

Repeat for all numbers.

Press brake button twice to escape.

6) Throttle power curve edit

To reconfigure from controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.

Use brake knob to scroll to "Edit Curve" page.

Menu

Edit Curve

Press LC button, use brake knob to scroll to desired point. There are 10 bands horizontally to choose from Press LC to lock the band, use the brake knob to select value between 0-100.

Edit Curve

Point 5 = 50%

Use LC button to lock value in. Use brake knob to select another point (band) and repeat for all bands.

Press brake button twice to escape.

7) Learner mode setting

To reconfigure from controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.

Use brake knob to scroll to "Learn"

Menu

Learn Max = 70%

Press LC button. Use brake knob to dial value 0-100. 100 is 100% power, 50 is 50% of full power etc.

Press brake button twice to escape.

8) Learner mode on/off

Use brake knob to scroll to "Learn Mode On/Off"

Menu

Learner Mode Off

Press LC button to select either on or off.
Press brake button once to escape.

9) Set Car ID & PIN

To transfer throttle ID and PIN to car from controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.

Use brake knob to scroll to "Set Car ID and PIN"

Menu

Set Car ID & PIN

Press LC button. Controller prompt on screen reads :

Remove CAR &
Replace on Track

Press LC button to return to menu.
Press brake button to escape.

The car now has the same ID and PIN as the controller and are a matching pair.
Ensure no other cars are stationary on the track or they will receive the same settings.

10) Controller ID

To change ID of the controller:

Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.
Use brake trim pot to scroll to ID page.

Menu
ID = 9

Press LC button
Use brake trim pot to choose desired ID

Edit
ID = 10

Press brake button to escape.

Car Decoder

Reflashing Car decoder

Select Scorpius Booter program. Press “download” button.
Lift car from rails for 5 seconds and replace.
The Scorpius car decoder now has the latest firmware.

Changing Car ID

To transfer throttle ID and PIN to car from controller:
Press LC and Brake button simultaneously for 2 seconds to activate menu on controller.
Use brake knob to scroll to “Set Car ID and PIN”

Press LC button. Controller prompt on screen reads “Remove car and replace on track”
Press LC button to return to menu.
Press brake button to escape.

The car now has the same ID and PIN as the controller and are a matching pair.
Ensure no other cars are stationary on the track or they will receive the same settings.

Edit

ID = 9

Lane Brain

Refashing Lane Brain

Select Lane Brain Booter program. Press “download”

button.

Press the reset button on the Lane Brain.

Press OK on booter window or cancel to quit.

Flippers will now operate every 5 seconds, this confirms the Lane Brain has been reflashed.

Switch off system for 5 seconds, turn system back on.

Lane Brain now has latest firmware and is ready to use..

Reconfiguring Lane Brain

Select Lane Brain Set Up program on the PC.

Reconfigure the LB by adjusting parameters and boxes.

Press “Download”.

Press the reset button on the Lane Brain.

Press “OK” on Set Up program.

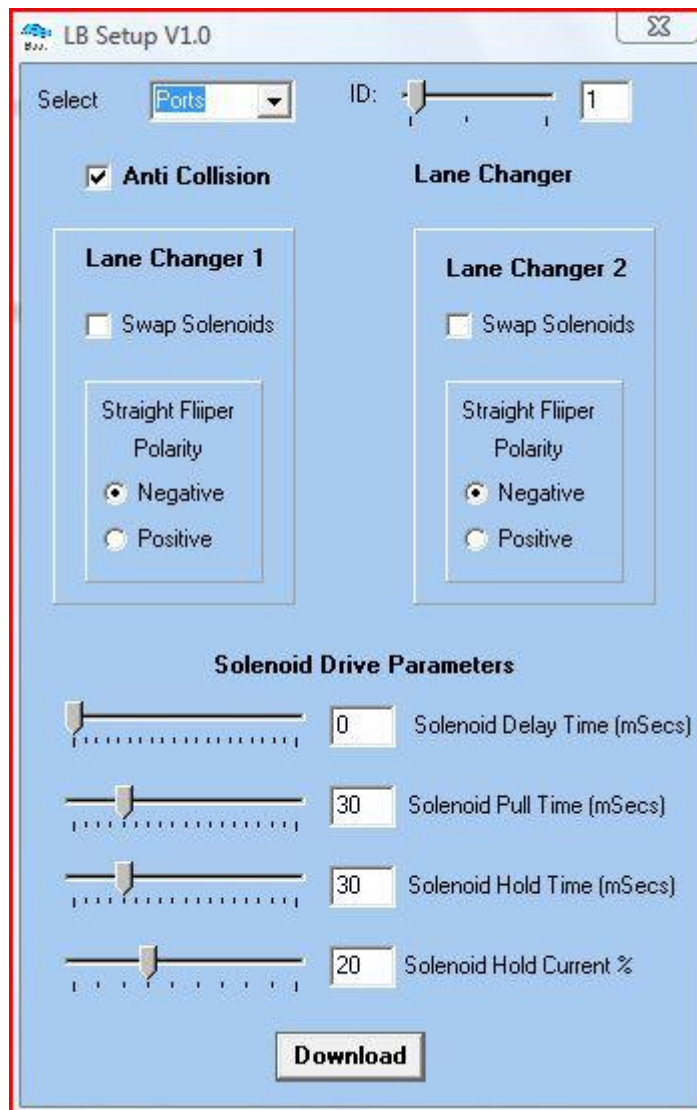
Flippers will now operate every 5 seconds, this confirms the Lane Brain has been reconfigured.

Switch off system for 5 seconds, turn system back on.

Lane Brain is now reconfigured and ready to use.

Changing parameters on the Lane Brain Set Up program

Setting parameters before sending to Lane Brain:



The Lane Brain Set Up program

Com Port select

Reconfigure communication port.

Press “Download” and follow the prompts.

Set Lane Brain ID

Set Lane Brain ID number from 0 to 24

Use slider to set ID

Set Lane Brain to ID 0 for lapcounting.

Set each Lane Changer and set the corresponding Lane Brain to the same ID.

Set Lane Brain IDs in numerical sequence starting at number 1 being the first LC after the start, 2 being the second LC, etc

Press “Download” and follow the prompts.

Anti Collision

Tick box to enable Anti Collision

Untick to disable.

Press "Download" and follow the prompts.

Swap Solenoids

Incorrectly wired solenoids can be reversed by ticking the box and reconfiguring.

Press "Download" and follow the prompts.

Swap Polarity

Swap polarity of live flipper if required

Press "Download" and follow the prompts.

Change solenoid drive parameters

Adjust the following:

Solenoid delay time

Used in situation where flipper opens and closes before car arrives at flipper

Solenoid pull time

The pull time is the time that full track voltage is applied to the solenoid.

Solenoid hold time

Hold time is the time that reduced voltage is applied sufficient to keep the solenoid in position.

Solenoid hold current %

Percentage of full current, eg 20% of 12V is 2.4V.

So at 20% the voltage applied to the solenoid is 2.4V.

Press "Download" and follow the prompts.

Sending new parameters to LB

Once you have chosen your new parameters press "Download" on the LB Set UP program.

Press reset button on LB.

Press OK on LB Set Up program

Flippers will operate every 5 seconds.

Turn system off for 5 seconds.

Turn system back on.

Lane Brain is now reconfigured.