

Scorpius User Manual

Version 3.0

Part 1: Controller

Part 2: Car Decoder

Part 3: Lane Brain

**Part 4: WAM (Wireless
Analogue Module)**

Part 5: Dongle

Part 1: Controller





Sensitivity 0-9

SENSITIVITY

MENU

BRAKE

Brake 0-100%

Menu

Knobs

1)Sensitivity

Scroll to choose 1 of 10 preset or customised throttle curves.

2)Menu

Scroll to various menus. To get into the menu press the menu button for 2 seconds.

3)Brake

Scroll to choose 0-100% in 1% increments for braking levels.

Buttons

1) Brake

Pressing button applies 100% brakes immediately. Also can be used in various RMS functions to trigger events.

2) Menu

Press for 2 seconds to activate menu. Press again to escape.

3) Lane Change

Press to change lanes . For digital racing only.

Batteries

Use good quality AAA batteries. Observe correct polarity on installation.

Batteries last around 3 months. When LCD display starts to fade replace batteries.

The Homepage

The homepage shows Driver name, Driver ID 1-24, Sensitivity setting 0-9, Brake setting 0-100%

David	1	S5
Brake = 100%		

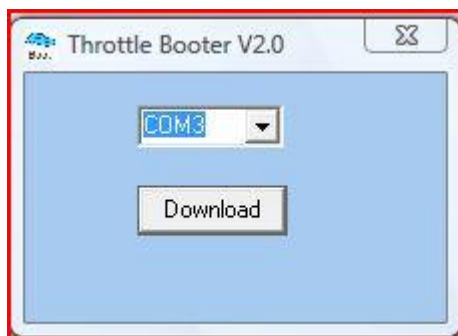
Typical homepage display

NOTE:When reflashing or reconfiguring any device ensure only one dongle is inserted into the PC or laptop.

Menu screens:

1) Reflash from PC

Displays as follows:



Scorpius Throttle Booter

Reflashing updates the controller with the latest software.

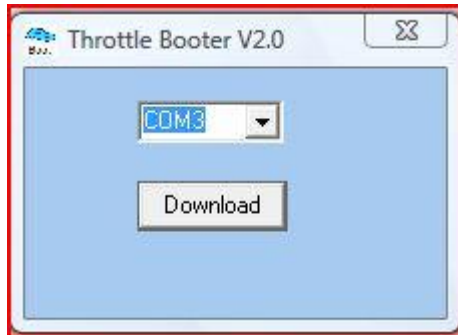
To reflash controller:

- i) Click on Scorpius Throttle Booter program on PC.
- ii) Press Menu button for 2 seconds to activate menu on controller.
- iii) Use Menu knob to scroll to "Reflash from PC"

Menu

ReFlash from PC

iv) On PC press "Download" to prompt

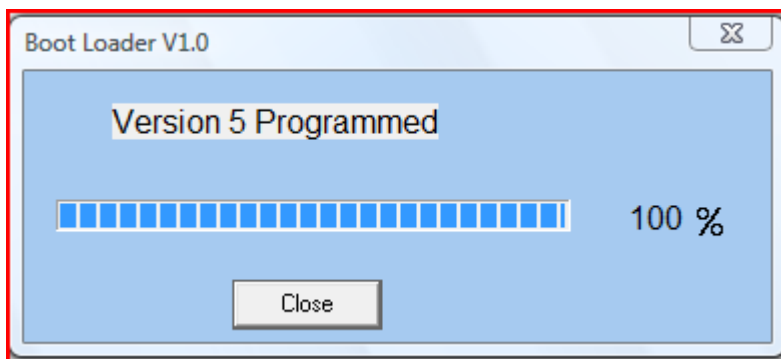


v) On the controller press LC button to start download.

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.

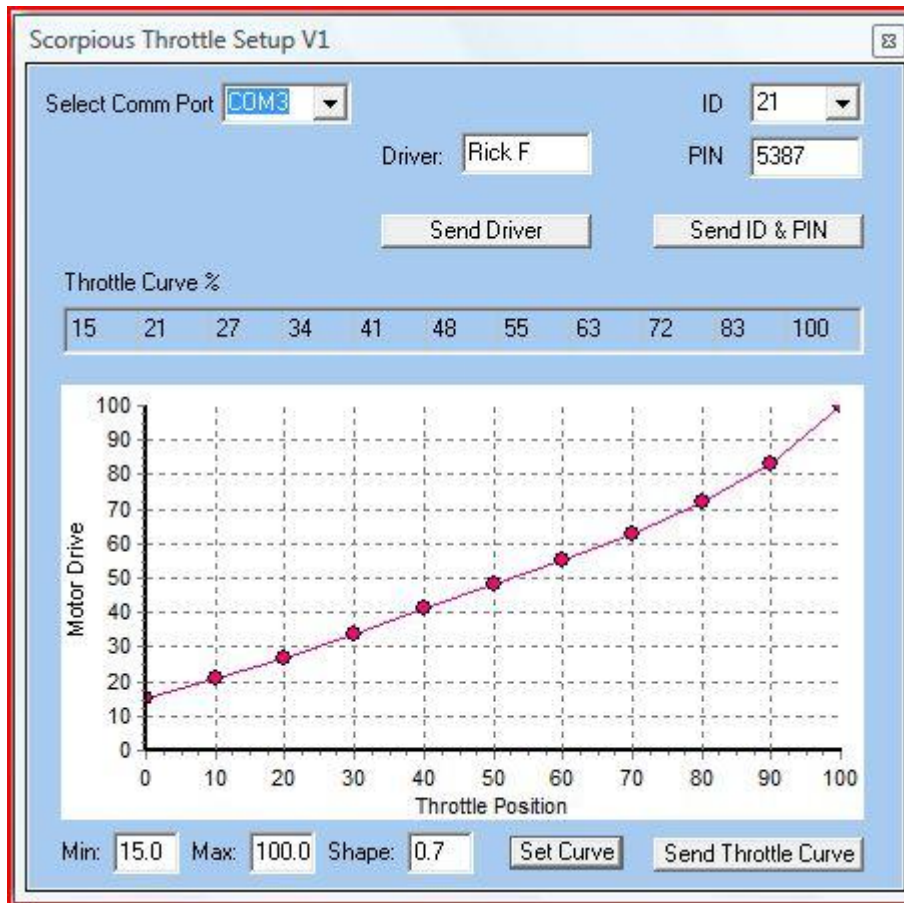
After 5 seconds controller screen will return to the home page.

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.

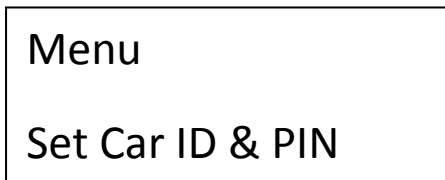
Press Menu button on controller for 2 seconds.

Use Menu knob to select "Config from PC".

Menu

Config from PC

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



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

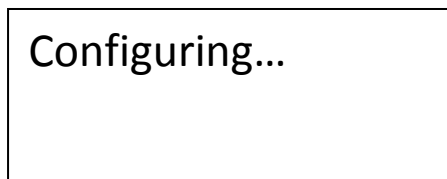
Go to Scorpius Throttle Setup program on PC

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.



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"

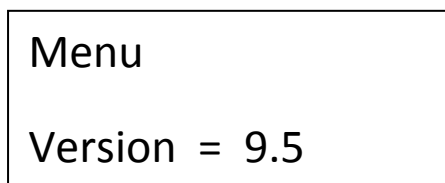
Select "Reconfig from PC" on controller menu.

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



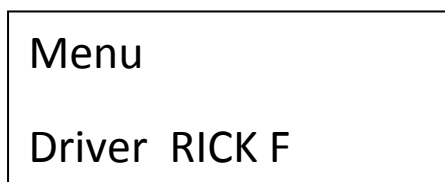
Shows the software version number for reference.

4) Driver name

To reconfigure from controller:

Press Menu button for 2 seconds to activate menu on controller.

Use Menu knob to scroll to Driver Name page.



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 menu twice to escape.

5) PIN

To reconfigure from controller:

Press Menu button for 2 seconds to activate menu on controller.

Use menu knob to scroll to PIN page.

Menu
PIN = 1234

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

Press menu button twice to return to homepage.

6) Throttle power curve edit

To reconfigure from controller:

Press menu button for 2 seconds to activate menu on controller.

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

Menu
Edit Curve

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

Edit Curve
Point 5 = 50%

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

Press menu button twice to return to homepage.

7) Learner mode setting

To reconfigure from controller:

Press Menu button for 2 seconds to activate menu on controller.

Use menu knob to scroll to "Learn"

Menu
Learn Max = 70%

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

Press menu button twice to return to homepage.

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.

If "on" is selected the percentage setting in "Set Learner Mode" will be applied, ie 70%

Press menu button once to return to homepage.

9) PEARL mode

PEARL is an acronym for Programmable Electronically Activated Race Line.

Program your car to race a pre-determined race line and eliminate pressing the LC button at relevant lane changers.

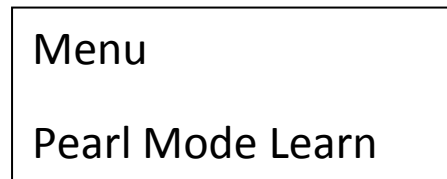
Press menu button for 2 seconds.

Menu
Pearl Mode Off

Default is Off as shown. Pearl may be turned on or off as required. Each controller has in individuality in this regard.

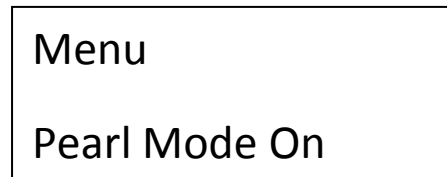
Press LC button to select either “Pearl Off”, “Pearl On” or “Pearl Learn”

To program your car: Select “Pearl Learn”



Drive around the digital track and select your preferred line as you go by pressing the lane changer button at each lane changer. Do not enter pit lane.

Stop the car and select “Pearl On”



The car now memorises it's own preferred race line.

The data is stored within the car decoder itself.

Each car may be programmed independently of any other car.

Each driver may select to use or not use Pearl independently of other drivers

Press menu button for 2 seconds to return to homepage.

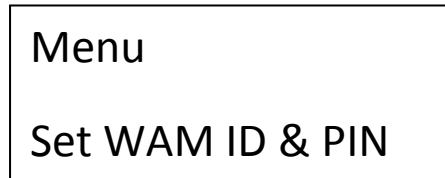
Entering pit lane should always be done manually.

PEARL is now ready to use.

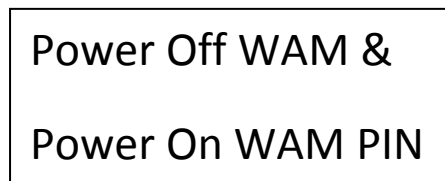
10) SET WAM ID & PIN

Press menu button for 2 seconds

Use menu knob to scroll to "Set WAM ID & PIN"



Press LC button



Ensure no other WAMS are connected anywhere nearby.

Disconnect WAM power for 3 seconds then reconnect power. This puts WAM in boot mode.

Press LC button to transfer the ID of the controller to the WAM. The WAM and controller are now paired.

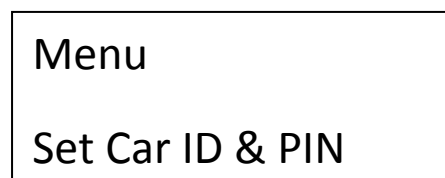
Press menu button once to return to homepage.

11) Set Car ID & PIN

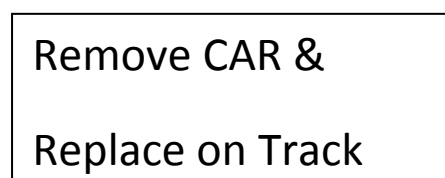
To transfer throttle ID and PIN to car from controller:

Press Menu button for 2 seconds to activate menu on controller.

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



Press LC button. Controller prompt on screen reads :



Press LC button to return to menu.

Press Menu 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.

12) Controller ID

To change ID of the controller from 1-24:

Press Menu button for 2 seconds to activate menu on controller.

Use Menu knob to scroll to ID page.

Menu ID = 9

Press LC button

Use menu knob to choose desired ID

Edit ID = 10

Press Menu button once to return to homepage.

Note. Controller ID must be set before car ID or WAM IDs can be set as controller ID is transferred to car and WAM to be paired.

Part 2: Car Decoder

Reflashing Car decoder

Select Scorpius Booter program. Press “download” button.

Lift car from rails for 5 seconds and replace.

Click “OK”

The Scorpius car decoder now has the latest firmware.

NOTE:When reflashing or reconfiguring any device ensure only one dongle is inserted into the PC or laptop.

Changing Car ID

See under Controller section, part 9

Part 3: Lane Brain

Reflashing 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.

NOTE:When reflashing or reconfiguring any device ensure only one dongle is inserted into the PC or laptop.

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.

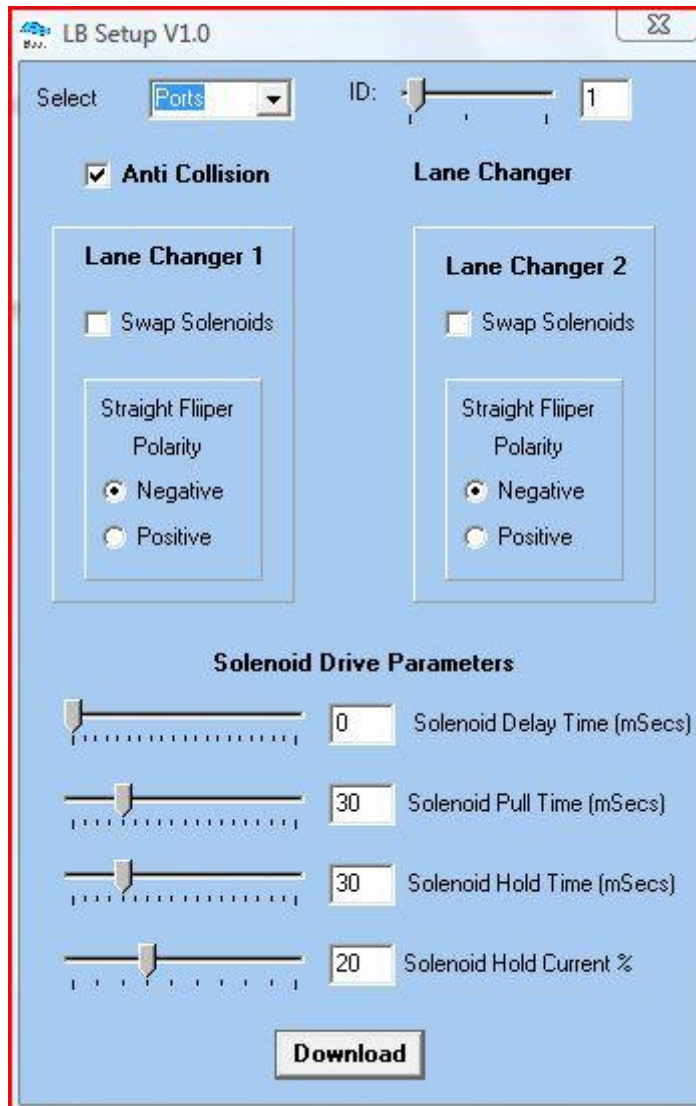
Flippers will now operate every 5 seconds, this confirms the Lane Brain has been reconfigured.

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.

Spring Flipper

Tick this box if you are using Carrera, Ninco or any custom made flipper assembly where one solenoid is used in conjunction with spring or mechanical return mechanism.

Swap Solenoids

Incorrectly wired solenoids, example gate shuts when it should open and vice versa, can be reversed by ticking the box and reconfiguring.

Press "Download" and follow the prompt.

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. Increase value in 10 mSec increments until suitable.

Solenoid pull time

The pull time is the time that power is applied to the solenoid.

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.

Part 4: WAM (Wireless Analogue Module)

Function= Run analogue car on analogue track using Scorpius Wireless Digital controller

Wiring International

White: Power supply positive

Red: Power Supply negative (common negative with track negative)

Black : Track positive

Wiring Australia

Blue: Power supply positive

Green: Power Supply negative (common negative with track negative)

Brown : Track positive

Update controller firmware to version 9.5 before proceeding.

See link here: <http://www.scorpiuswireless.com/downloads.php5>

NOTE:When reflashing or reconfiguring any device ensure only one dongle is inserted into the PC or laptop.

To set ID 1-24 firstly set controller ID:

First set controller ID

Press menu button for 2 seconds

Use menu button to scroll to Set Car ID

Press LC button

Use menu knob to scroll to correct ID

Press LC button

Press Menu button to return to homepage.

To transfer controller ID to WAM:

Connect WAM to driver station. WAM is now "on"

Press Menu button on controller

Use menu knob to scroll to "Set WAM ID and PIN"

Press LC button

"Power off WAM & Power on WAM PIN" , ie, turn WAM off for 5 seconds then back on. This puts the WAM into boot mode.

Press LC button on controller. ID is now matched.

Press menu button to return to homepage.

To reflash WAM with any firmware updates:

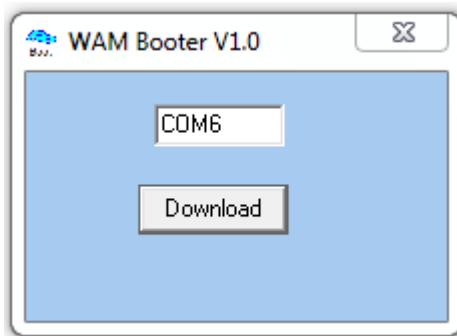
Note: You will need the Scorpius dongle and install dongle driver program.

Download latest firmware to PC

Unzip files and save to desktop

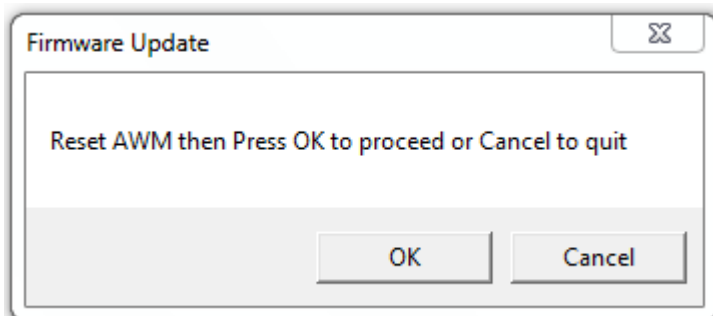
Open the file and select WAM.exe

This will appear on the PC:



Click "Download"

This will appear on the PC:



Press red button on WAM then click OK

The progress bar will load up.

Close programs.

Turn WAM off for 5 seconds

Turn WAM on.

WAM now has latest firmware.

Part 4: Dongle

The dongle is used to:

- a)Reflash Car Decoder, Lane Brain, WAM and Controller to latest firmware updates.
- b)Reconfigure Lane Brain and Controller using the PC
- c)Collect information for the Scorpius Race Management System.

To use simply plug into any USB port.

The Programs will automatically find the dongle port.

Download the Dongle Installer program from the Scorpius website.

The dongle is now ready to use.

NOTE: When reflashing or reconfiguring any device ensure only one dongle is inserted into the PC or laptop.

END OF DOCUMENT