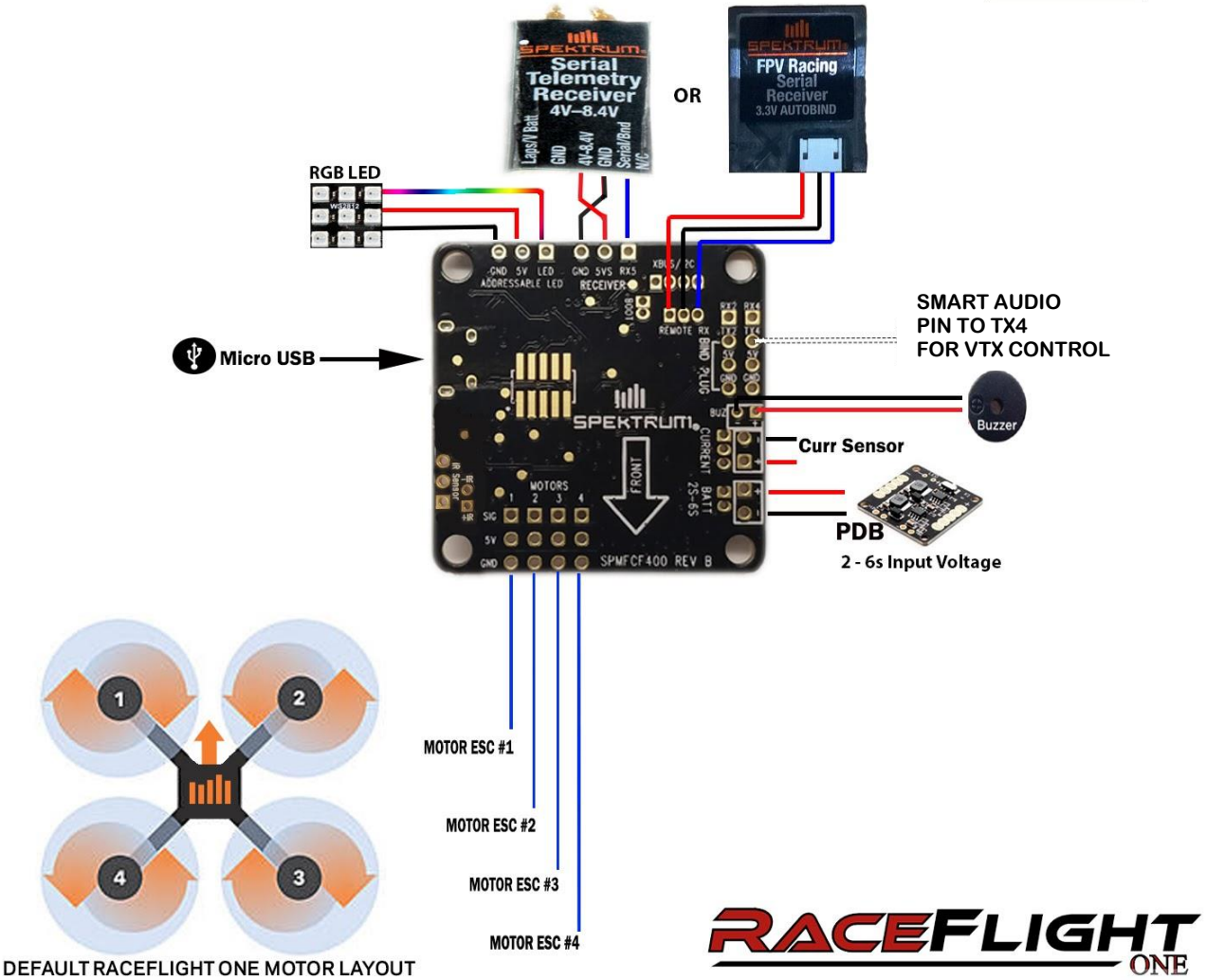
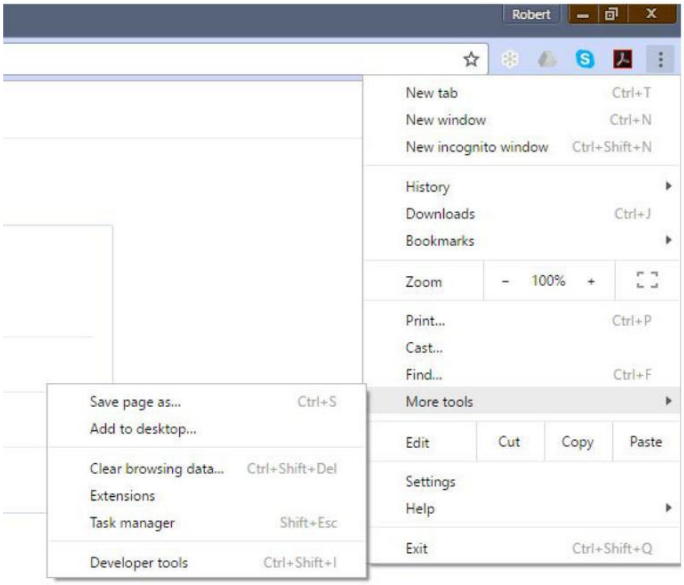
F400 RACEFLIGHT FC WIRING DIAGRAM

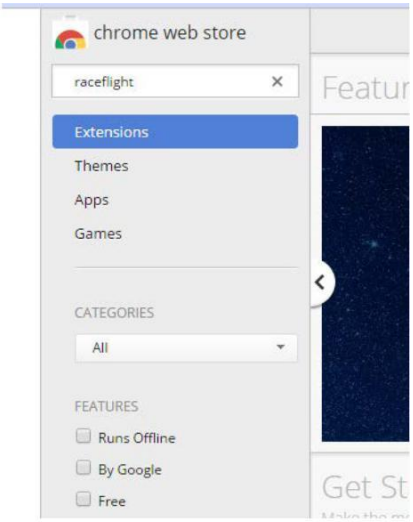


Flashing from BBxxx(bb427) to RaceFlight One

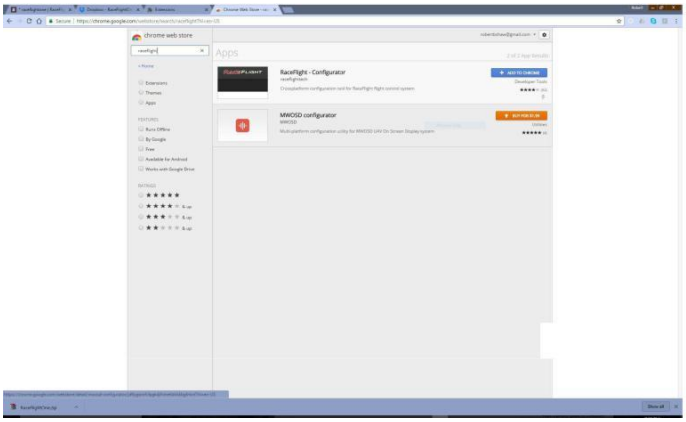
Go to Chrome Extensions



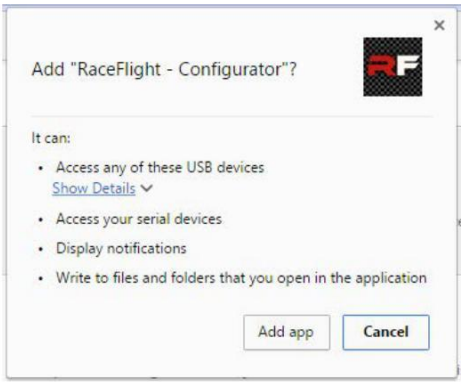
Search for raceflight



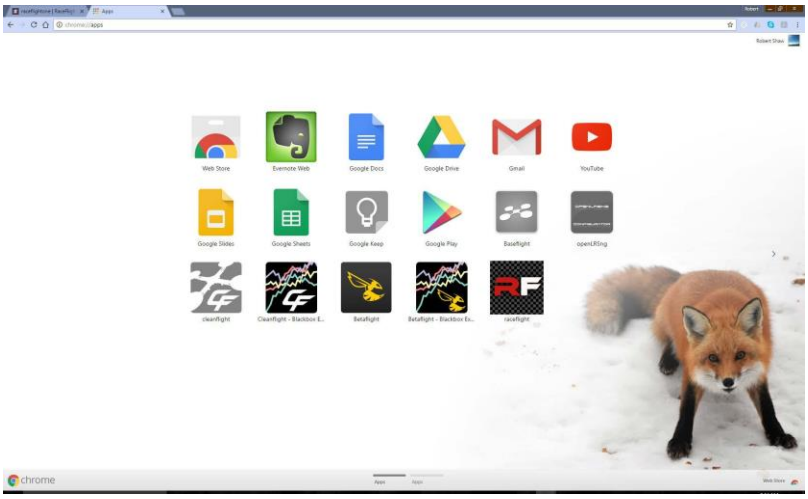
Click "add to chrome"



Click "Add App"



Now that the old Raceflight Configurator has been installed go ahead and launch Raceflight



Downloading Files

Visit this link to find our most stable firmware release

Spektrum F400 Manuals and Support

-OR-

Go here for the most up to date firmware (note these are Beta and may have bugs present)

http://www.raceflight.net/rf1beta/

Download the firmware and the Configurator for your OS

(Windows Client is 32bit)

To find out if your computer is running a 32-bit or 64-bit version of Windows in Windows 7 or Windows Vista, do the following:

Open System by clicking the Start button, right-clicking Computer, and then clicking Properties.

Under System, you can view the system type.

Windows 10

To do so, open the Settings app from your Start menu, select System, and select About. Look to the right of “System type.” If you see “32-bit operating system or 64-bit operating system"

To Launch RF1 Configurator in Linux

On ubuntu do the following. For Fedora change plugdev to dialout
add a file /etc/udev/rules.d/46-revolt-permissions.rules containing

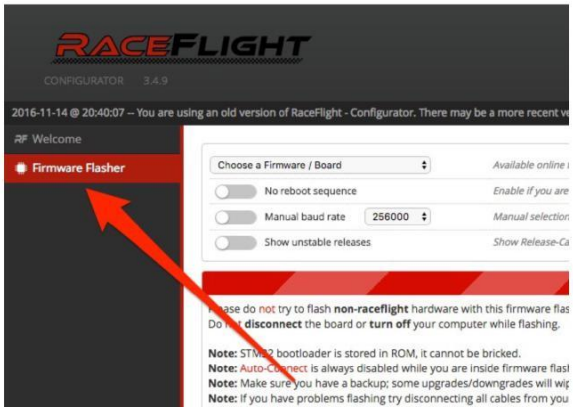
```
# raceflight revolt hid bb
    SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5741", MODE="0666", GROUP="plugdev"
    KERNEL=="hidraw*", SUBSYSTEM=="hidraw", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5741",
    MODE="0664", GROUP="plugdev"

# raceflight revolt hid rf1
    SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5742", MODE="0666", GROUP="plugdev"
    KERNEL=="hidraw*", SUBSYSTEM=="hidraw", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="5742",
    MODE="0664", GROUP="plugdev"

# DFU (Internal bootloader for STM32 MCUs)
    SUBSYSTEM=="usb", ATTRS{idVendor}=="0483", ATTRS{idProduct}=="df11", MODE="0664", GROUP="plugdev"
```

Then:
sudo udevadm control --reload sudo
adduser yourusername plugdev

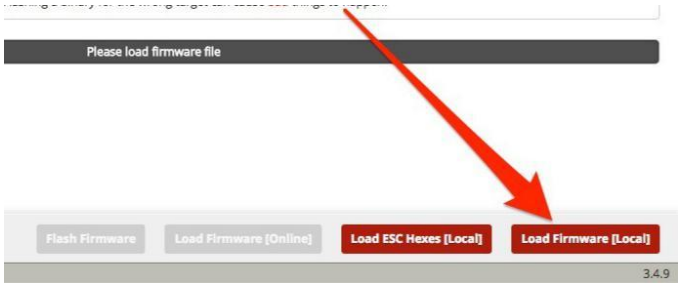
While shorting the boot pins, plug in the F400. Once plugged, in the tweezers can be removed. You should see a lightly lit solid orange LED.

Next go to RFC and check the top right to make sure it says the board is in DFU Mode.

Once you can confirm this, click the Firmware Flasher tab on the left.



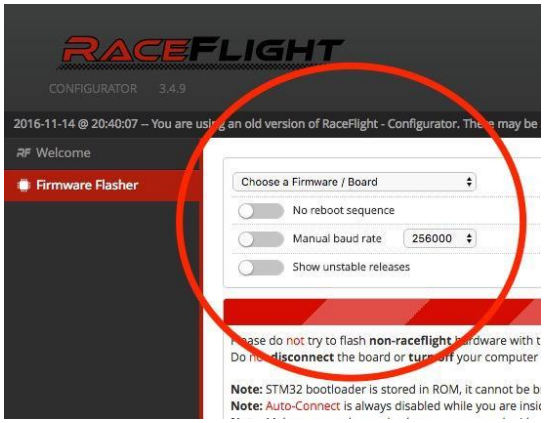
Click the Load Firmware [Local] on the bottom right.



Navigate to the Bin file. (once you downloaded and extracted the files from the Pinned Section)

Make sure all three check marks are DESELECTED. (No Reboot Sequence, Manual Baud Rate, Show Stable Releases)

Click Flash Firmware button on bottom which is now red.



It will erase and then flash your F400. Once finished it will say Programming: SUCCESSFUL.

Unplug your F400, then plug back in.

Congratulations! RaceFlight One is now installed on your Spektrum F400!

Launching the RaceFlight One Configurator
Open the downloaded ZIP file and extract to a destination of your choice

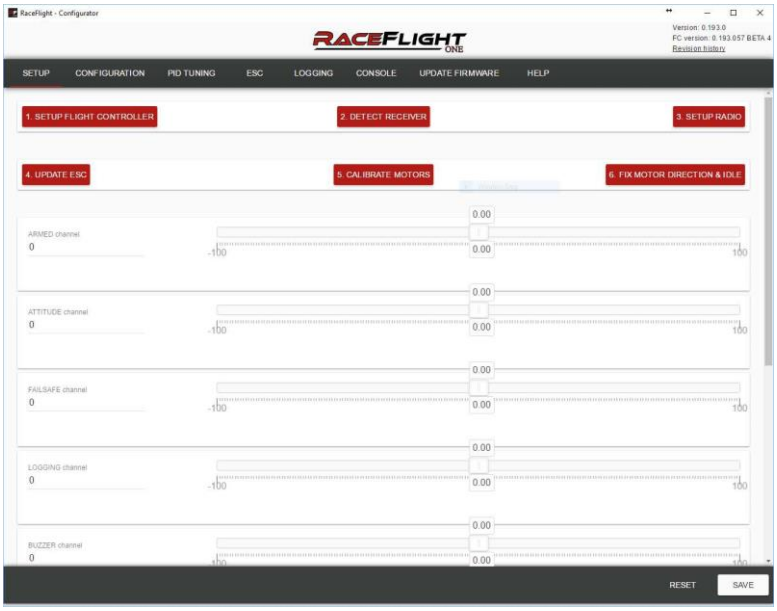
To Flash the latest firmware

1. **This applies to updating to newer versions of RF1 once you have RF1 Flashed ex. going from RF1 238 to 257**
2. **Download newest Raceflight Configurator**
3. **Download newest Firmware:**
4. **Open RaceFlightOne Configurator**

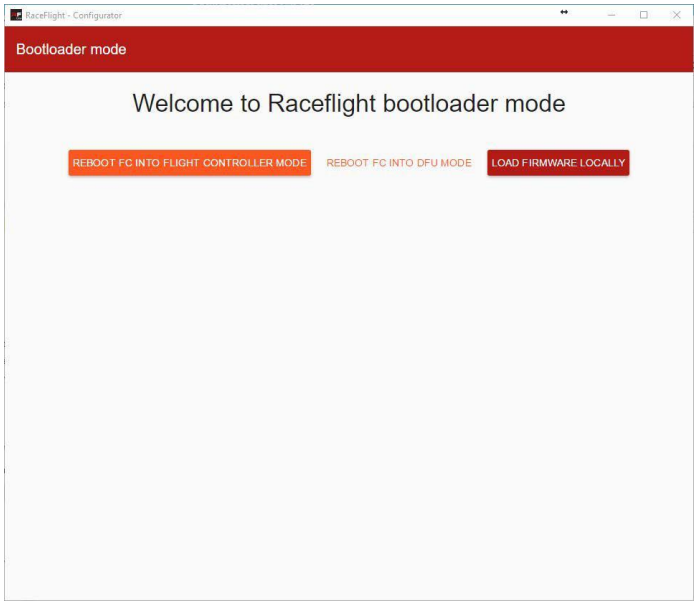
Launch rf_configurator.exe

Name	Date modified	Type	Size
locales	2/18/2017 11:19 PM	File folder	
credits.html	2/18/2017 11:19 PM	Chrome HTML Do...	1,793 KB
d3dcompiler_47.dll	2/18/2017 11:19 PM	Application extens...	4,367 KB
ffmpeg.dll	2/18/2017 11:19 PM	Application extens...	982 KB
icudtl.dat	2/18/2017 11:19 PM	DAT File	9,892 KB
libEGL.dll	2/18/2017 11:19 PM	Application extens...	93 KB
libGLESv2.dll	2/18/2017 11:19 PM	Application extens...	2,425 KB
natives_blob.bin	2/18/2017 11:19 PM	BIN_File	332 KB
node.dll	2/18/2017 11:19 PM	Application extens...	5,716 KB
nw.dll	2/18/2017 11:19 PM	Application extens...	87,986 KB
nw_100_percent.pak	2/18/2017 11:19 PM	PAK File	488 KB
nw_200_percent.pak	2/18/2017 11:19 PM	PAK File	745 KB
nw_elf.dll	2/18/2017 11:19 PM	Application extens...	526 KB
resources.pak	2/18/2017 11:19 PM	PAK File	7,109 KB
rf_configurator.exe	2/18/2017 11:19 PM	Application	64,890 KB
snapshot_blob.bin	2/18/2017 11:19 PM	BIN_File	813 KB

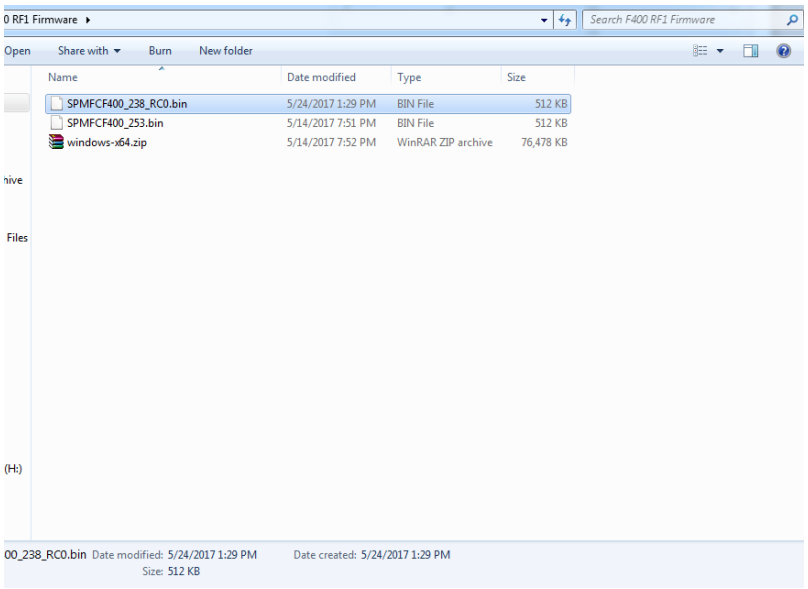
Click on Update Firmware tab



Click on Load Firmware Locally



Choose the Firmware

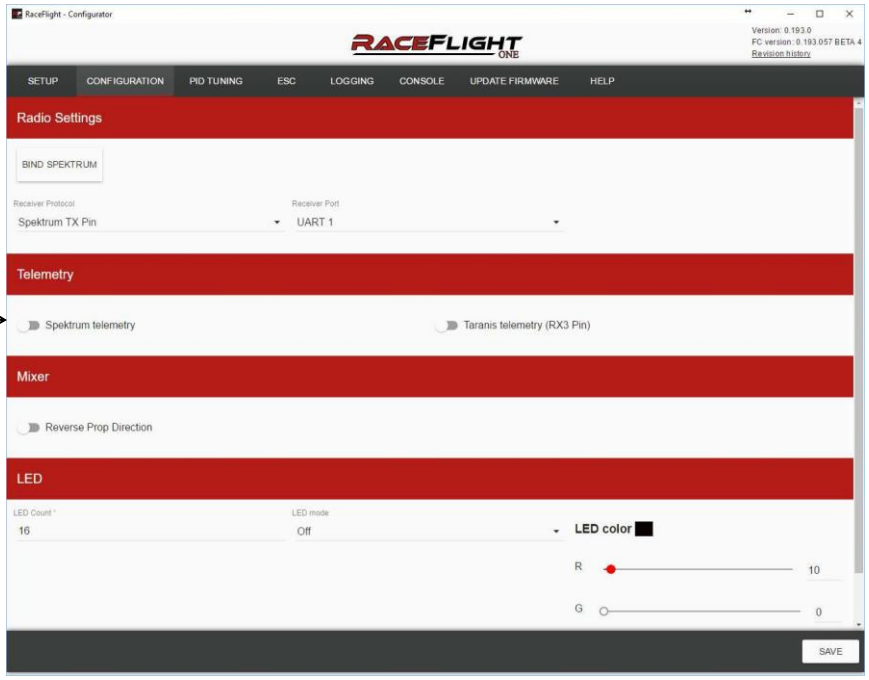


Note Every time you update the firmware you will need to repeat a few steps. These include Setup Flight Controller, Detect Receiver, Setup Radio, Setup modes if you are using them. And if using telemetry receiver, flip that slider, as well as choosing the appropriate UART for Smart Audio, if used.

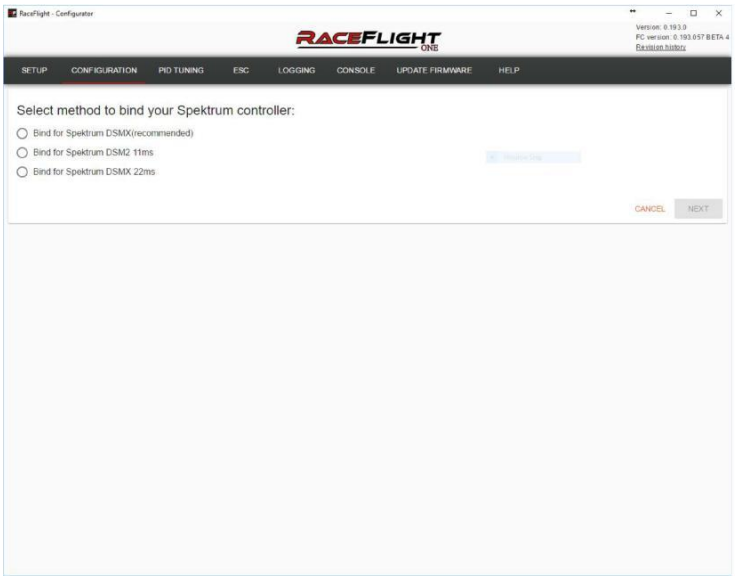
Binding Spektrum Receivers

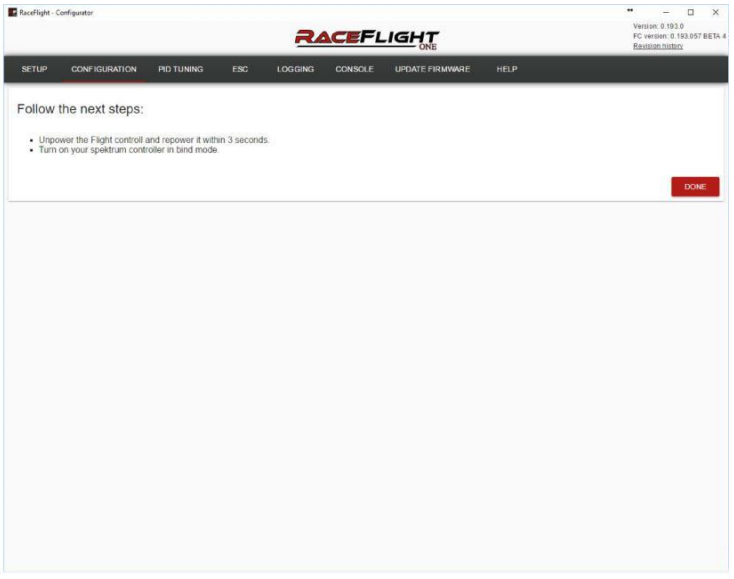
Click on the Bind Spektrum

NOTE - If using SPM4649T Telemetry RX, Click this Slider BEFORE binding



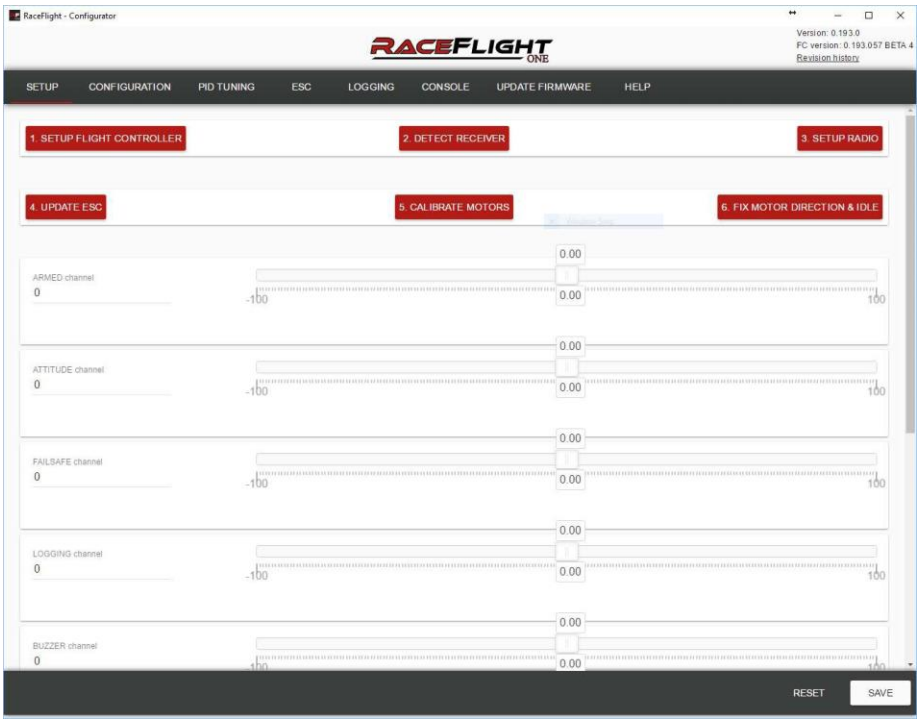
Follow the prompts until your receiver is bound



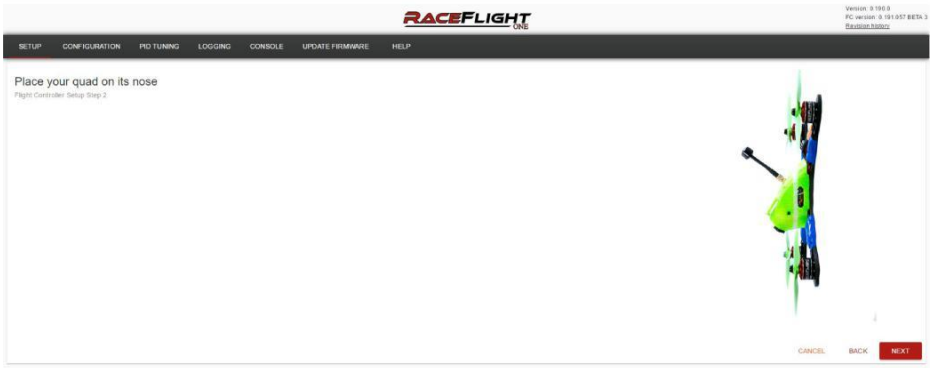


STEP 1: Setup Flight Controller

Click on Setup Flight Controller

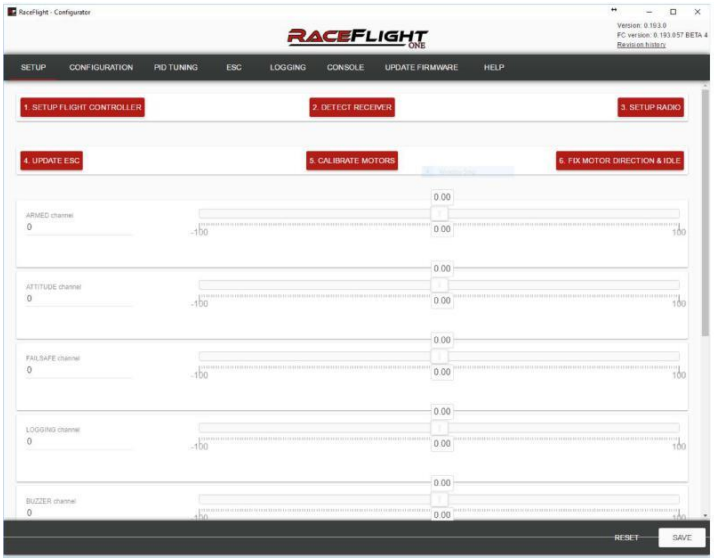


Follow the steps and orientation of the Quadcopter

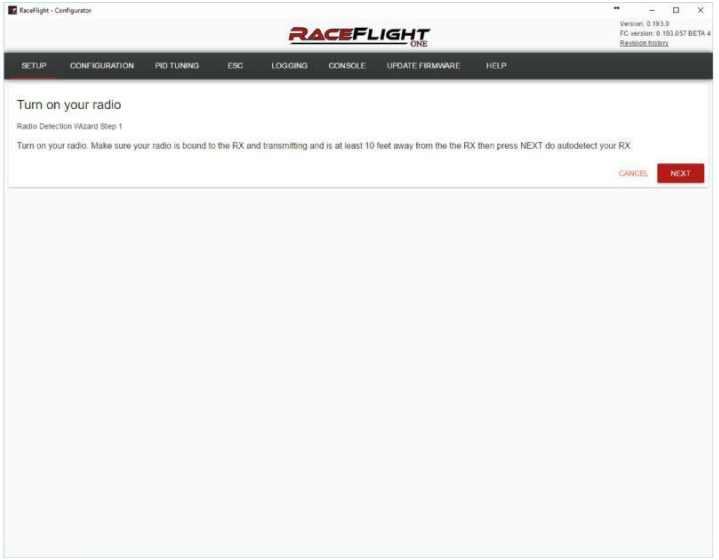


STEP 2: Detect Receiver

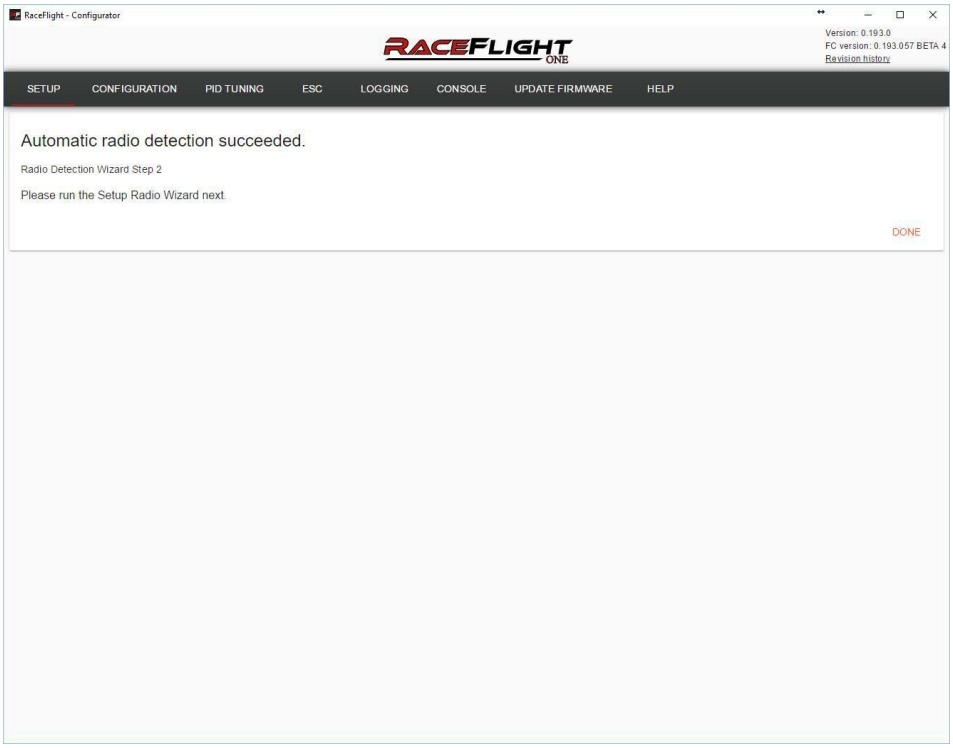
Click on Detect Receiver



Turn your Radio on



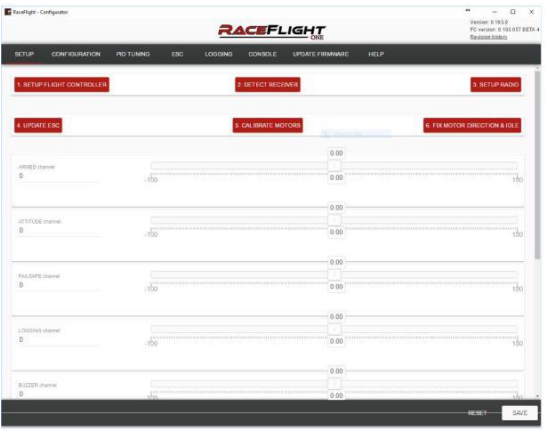
Successful Detection



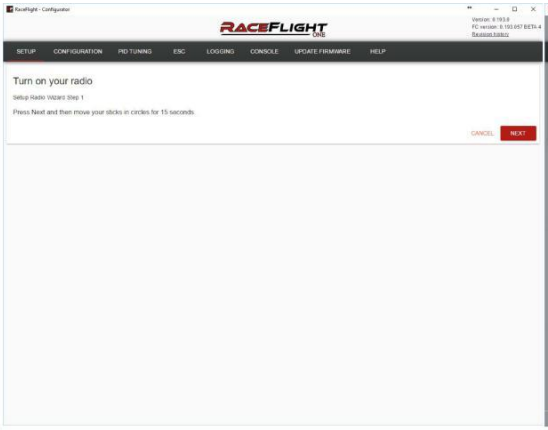
STEP 3: Setup Radio

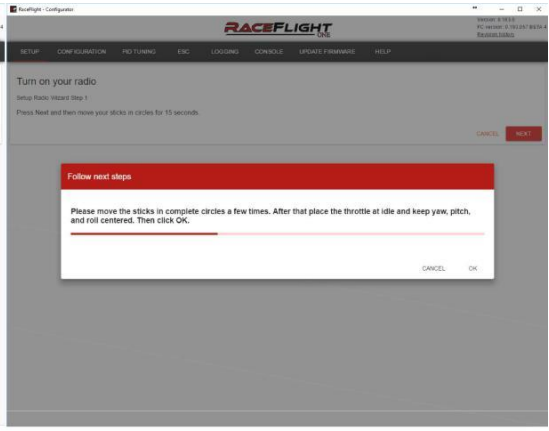
Note – NO changes to travel or reversing is needed for RaceFlight One

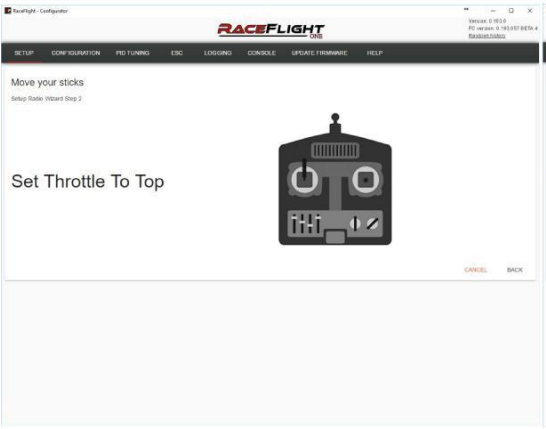
Click on Setup Radio

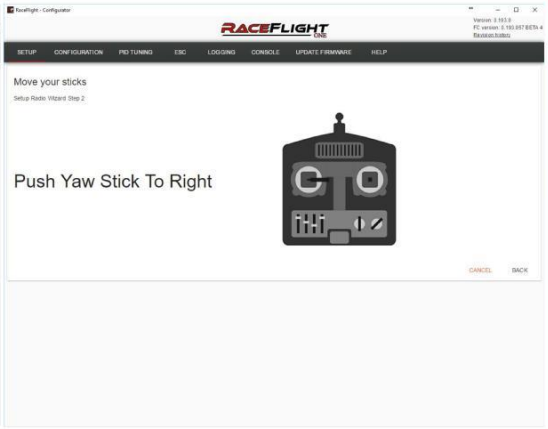


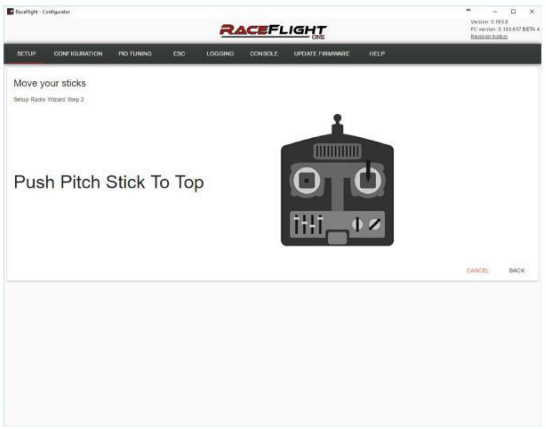
Follow the prompts until setup is complete

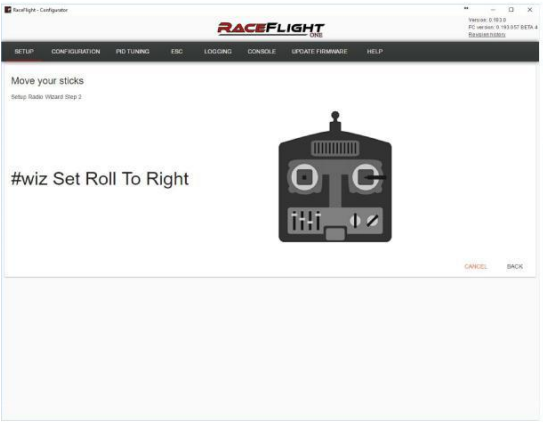


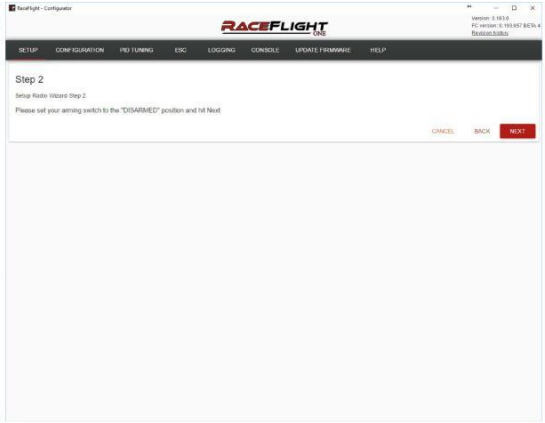


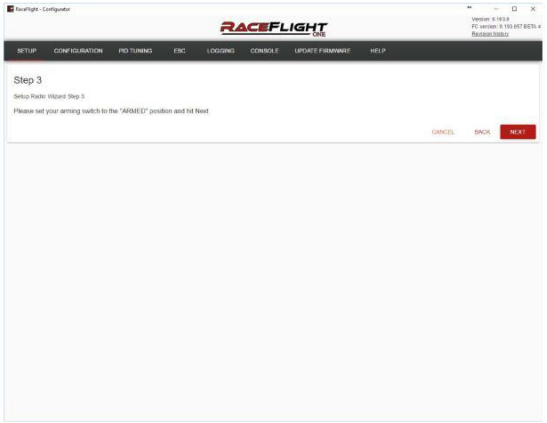


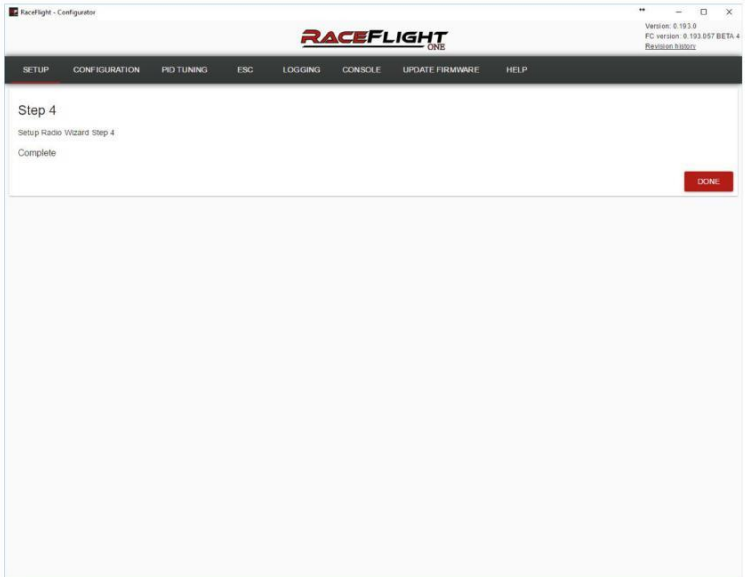












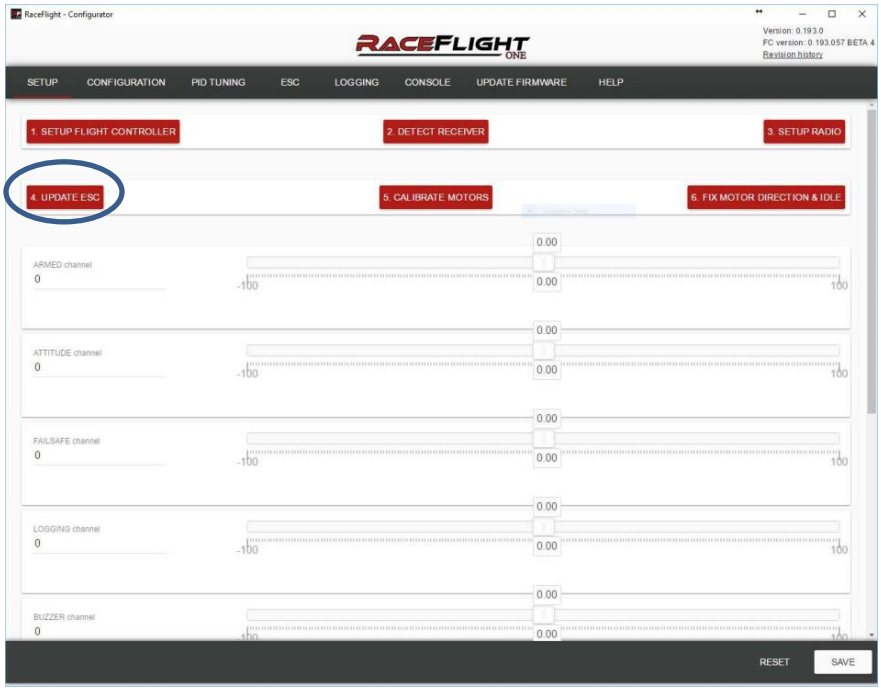
Once Flashed follow each of the following steps

REMOVE PROPS **Step 4. Update ESC** REMOVE PROPS

DANGER

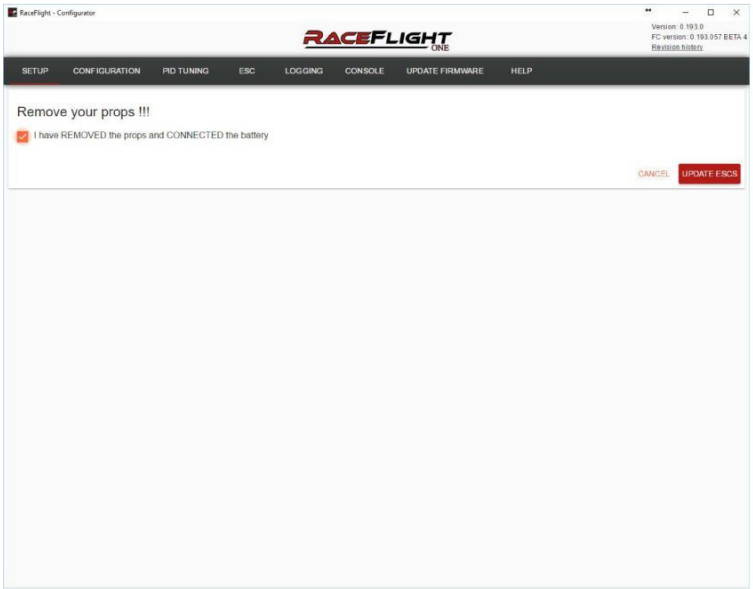
For this step you will need your battery handy

Click on Update ESC

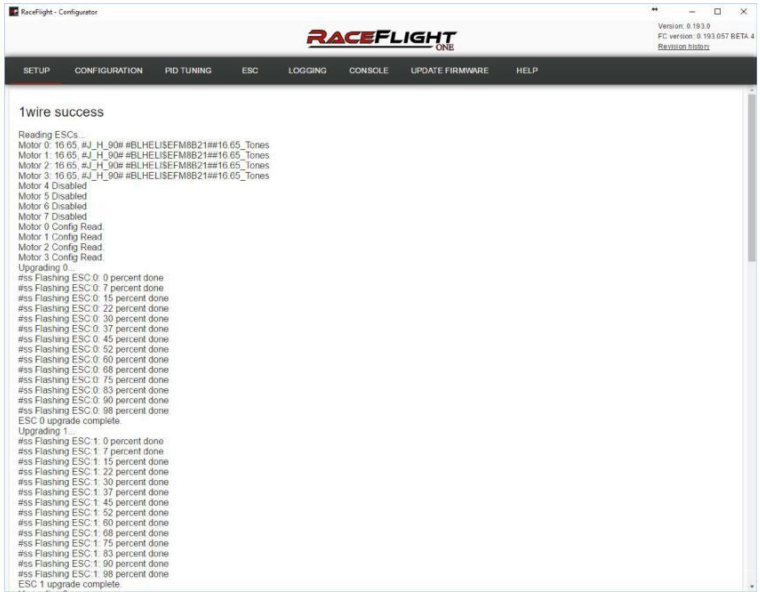


Plug your battery in at this Point

And Click Update ESC



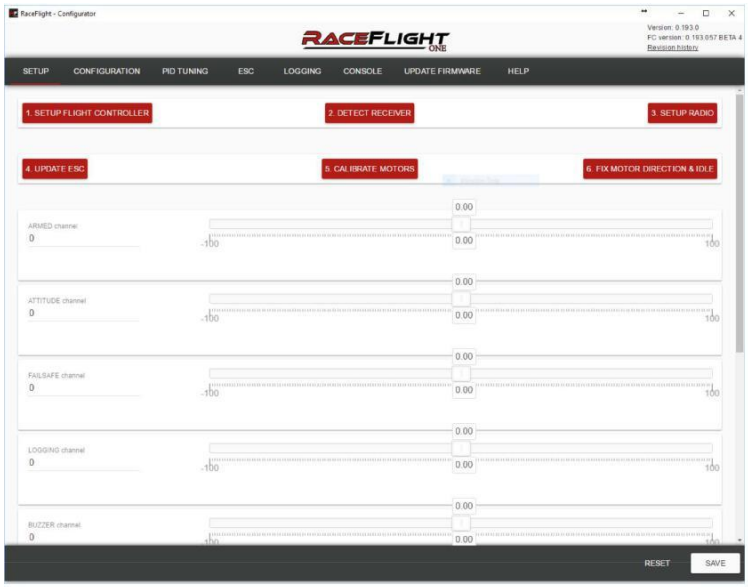
Once Complete , you should get 1wire success

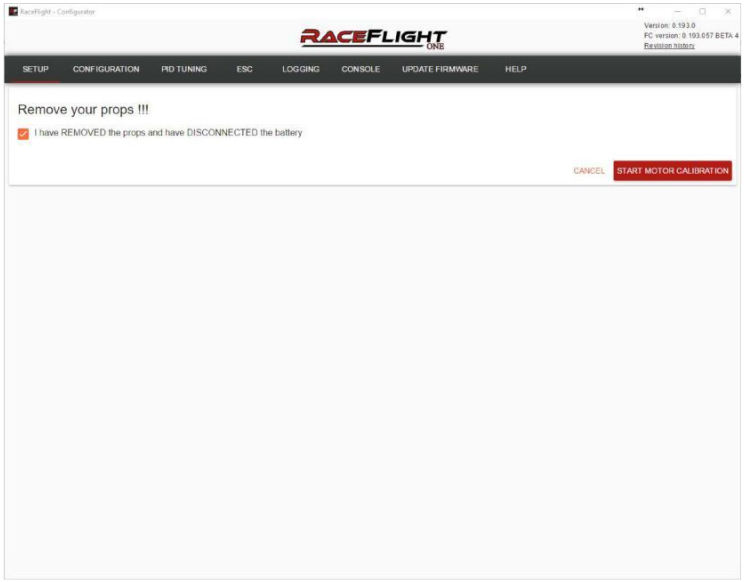


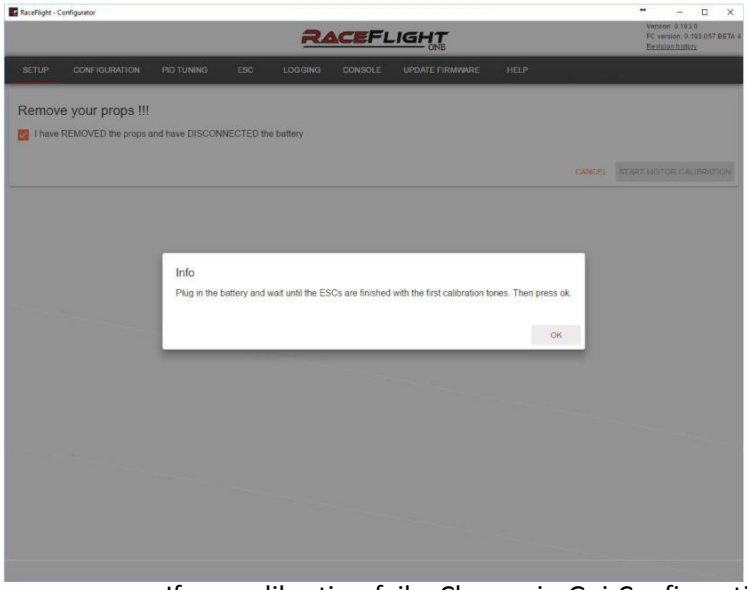
STEP 5: ESC Calibration

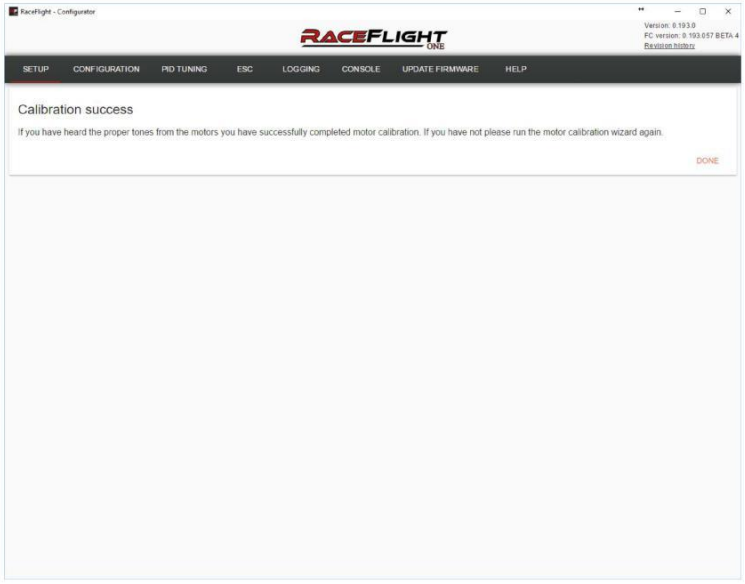
For this step you will need a battery. Plug in the battery when the prompt tells you to do so.

1. Click on Calibrate Motors
2. Follow the prompts until ESC Calibration is complete









If esc calibration fails: Change in Gui Configuration TAB or Go to console and type the following "esc_frequency = 8000" without quotes. Once they Calibrate change back to "esc_frequency = 32000"

Motor Test Commands

idle 0

idle 1

idle 2

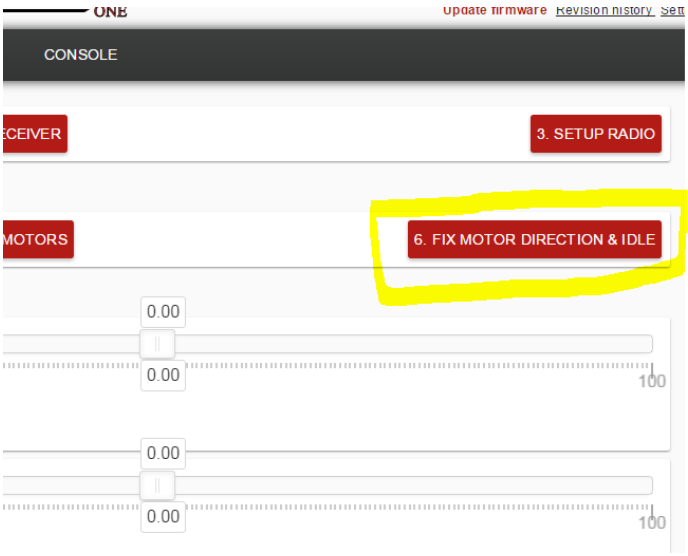
idle 3

idlestop = Stops all motors

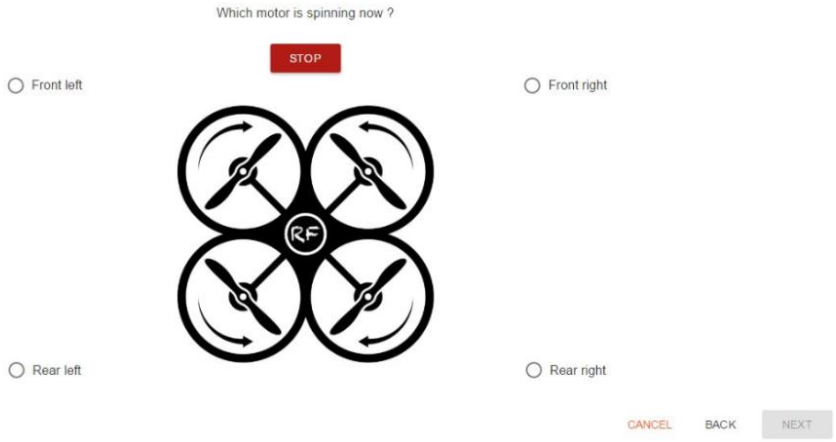
Setting Motor Idle, Mixer Type and Direction

Choose Option 6.
FIX MOTOR DIRECTION & IDLE

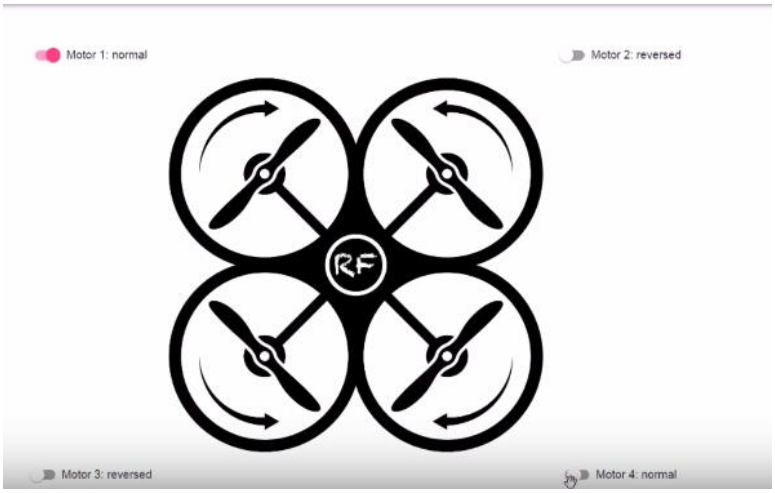
You will be asked to remove props and connect battery.
The motors will then attempt to run at a low idle,
Simply follow the on screen prompts



The next step will spin one of the motors,
At this point choose that motor and hit next.
Follow the prompts until this setup is complete.



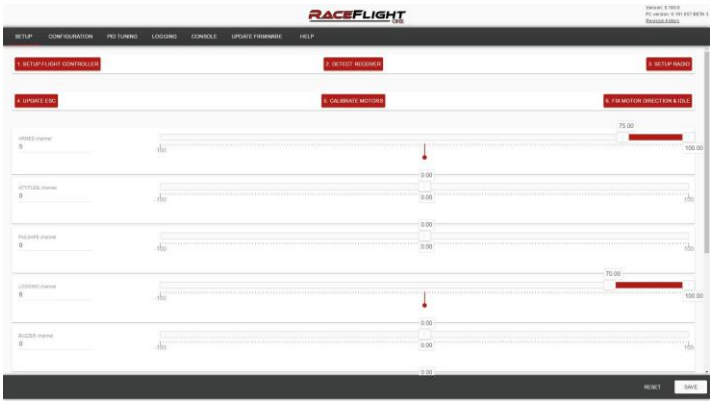
The last step will be setting motor direction. Click the start motors button.
Observe motor direction and click the reverse slider, where appropriate, to match the diagram.
Then hit save.



Hover Test

Now that you have flashed RF1 and gone through all the steps, it's now time to Hover Test

1. Make sure that your Armed is setup. It gets setup during Setup Radio
2. The 1st time you arm. It will be a double arm, after that it's a single arm
3. Arm the Quad in a safe area. Hover(30sec hover) then land. Feel the motors and make sure they are not hot.
4. If they are not hot you are good to go.
5. If motors are hot, then you will need to change some settings. Seek help in the raceflightone channel on Slack



Added Double-Double arm method and made it default is: set arm_method=1
Double-Single arm method is: set arm_method=0

https://raceflight.slack.com

Now go FLY!!!

Acknowledgements – Thank you to the Raceflight Crew and Destro for allowing us to use their manual and content to produce this setup document. Also, big thanks to the FPV community for supporting our new RF1 Firmware release! Any and all feedback is appreciated