

Synerduino Shield , Surface Vehicles, FlywiiGUI

QUICK START GUIDE

Arduino Board Preparation

Ensure insulation from the Arduino board add tape on these areas



2560 MEGA



UNO 328

Firmware/sketch must be uploaded at this point before connecting the Arduino to the shield

Download and unzip the Xloader and Synerduino Fiemware

[XLoader for Hex files upload to Arduino board*](#)

XLoader [Download](#)

Synerduino Firmware-Multirotor [Download](#)

Unzip the Xloader and open Xloader.exe

Name	Date modified	Type	Size
avrduke.conf	18/03/2012 4:49 PM	CONF File	408 KB
avrduke.exe	18/03/2012 4:49 PM	Application	1,878 KB
devices.txt	18/03/2012 4:50 PM	Text Document	1 KB
libusb0.dll	18/03/2012 4:49 PM	Application extens...	43 KB
license.txt	18/03/2012 5:03 PM	Text Document	1 KB
X XLoader.exe	18/03/2012 4:44 PM	Application	271 KB

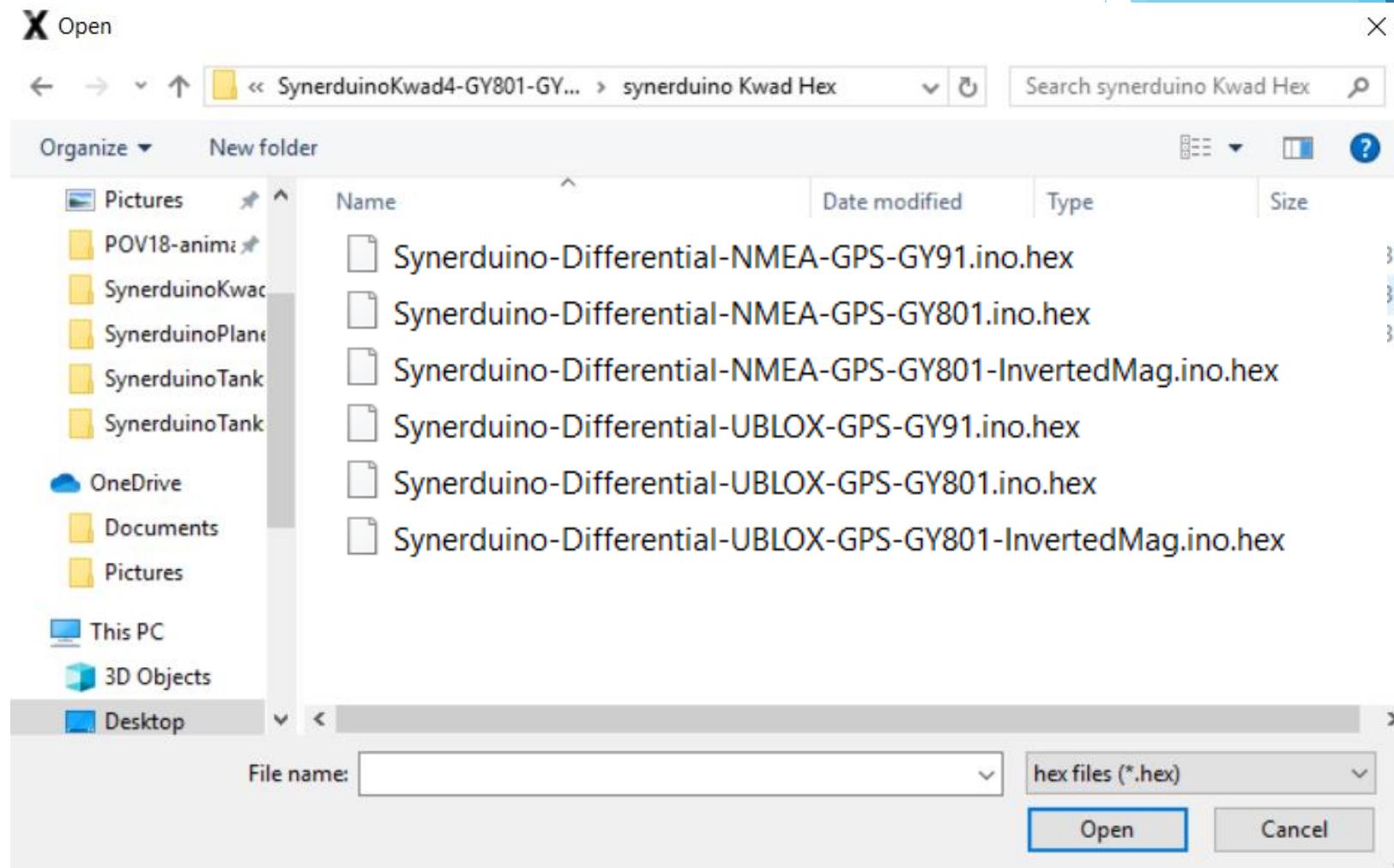
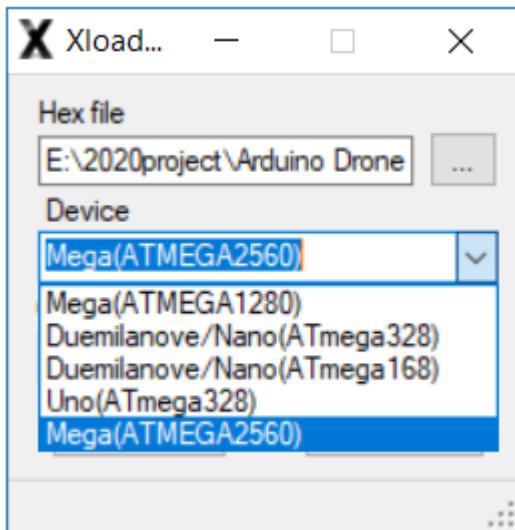
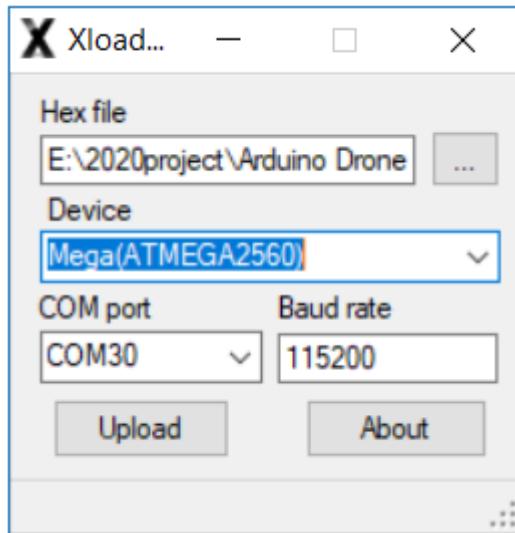
Unzip the Synerduino Firmware files Differential drive and steering drive

-  Differential drive
-  Steering drive
-  Firmware Read.txt

Each folder corresponding to your Board model and your GPS used inside which constrain vehicle types

-  Synerduino-Differential-NMEA-GPS-GY91.ino.hex
-  Synerduino-Differential-NMEA-GPS-GY801.ino.hex
-  Synerduino-Differential-NMEA-GPS-GY801-InvertedMag.ino.hex
-  Synerduino-Differential-UBLOX-GPS-GY91.ino.hex
-  Synerduino-Differential-UBLOX-GPS-GY801.ino.hex
-  Synerduino-Differential-UBLOX-GPS-GY801-InvertedMag.ino.hex

Select the matching Model Hexfile and the Arduino device to load the firmware to.



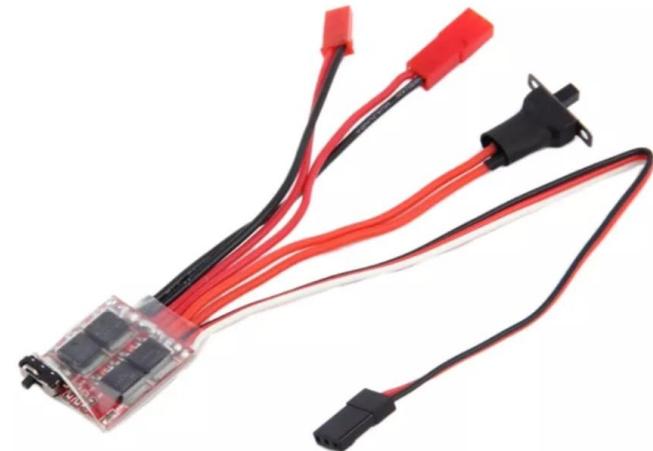
To tell that you loaded the correct Hex file when the FlywiiGUI Graphs and Dashboard shows correct orientation on all instruments and sensors after calibration

Wheel and Geared motor



Car/Tank 2pcs

ESCs with Bi-Directional function



2 Pcs of each

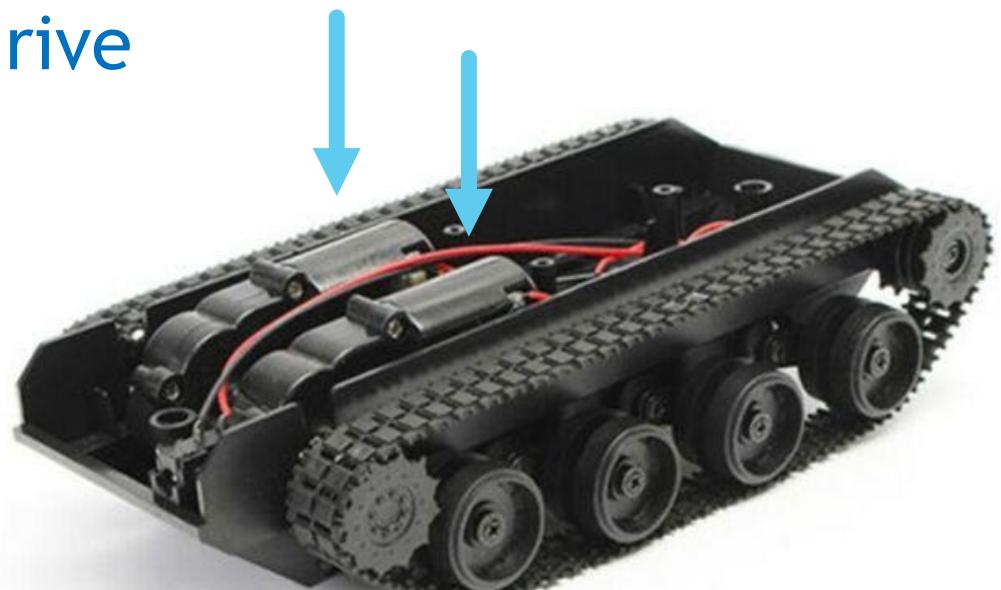
Boat Propeller with Waterproof motor Pods



Boat 2pcs

Brushed or Brushless the BLDC motor should match your Electronic Speed controller

2pcs Motor Differential
drive



2pcs Motor Differential
drive

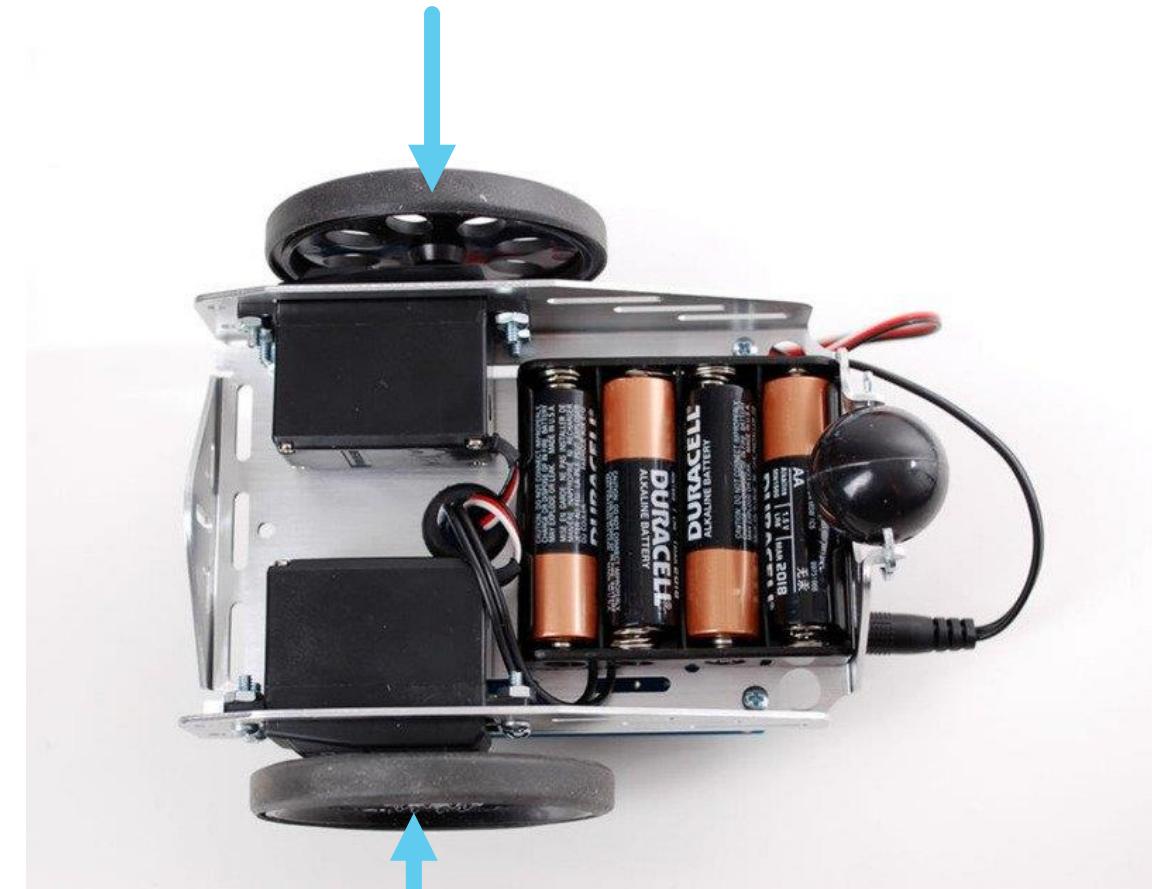
Motor & Steering Servo



Motor & Rudder Servo

Differential Drive with CR Servos

Continues Rotational Servo



Servos Design to rotate 360Degrees with proportional speed and directional control



Continues Rotational Servo

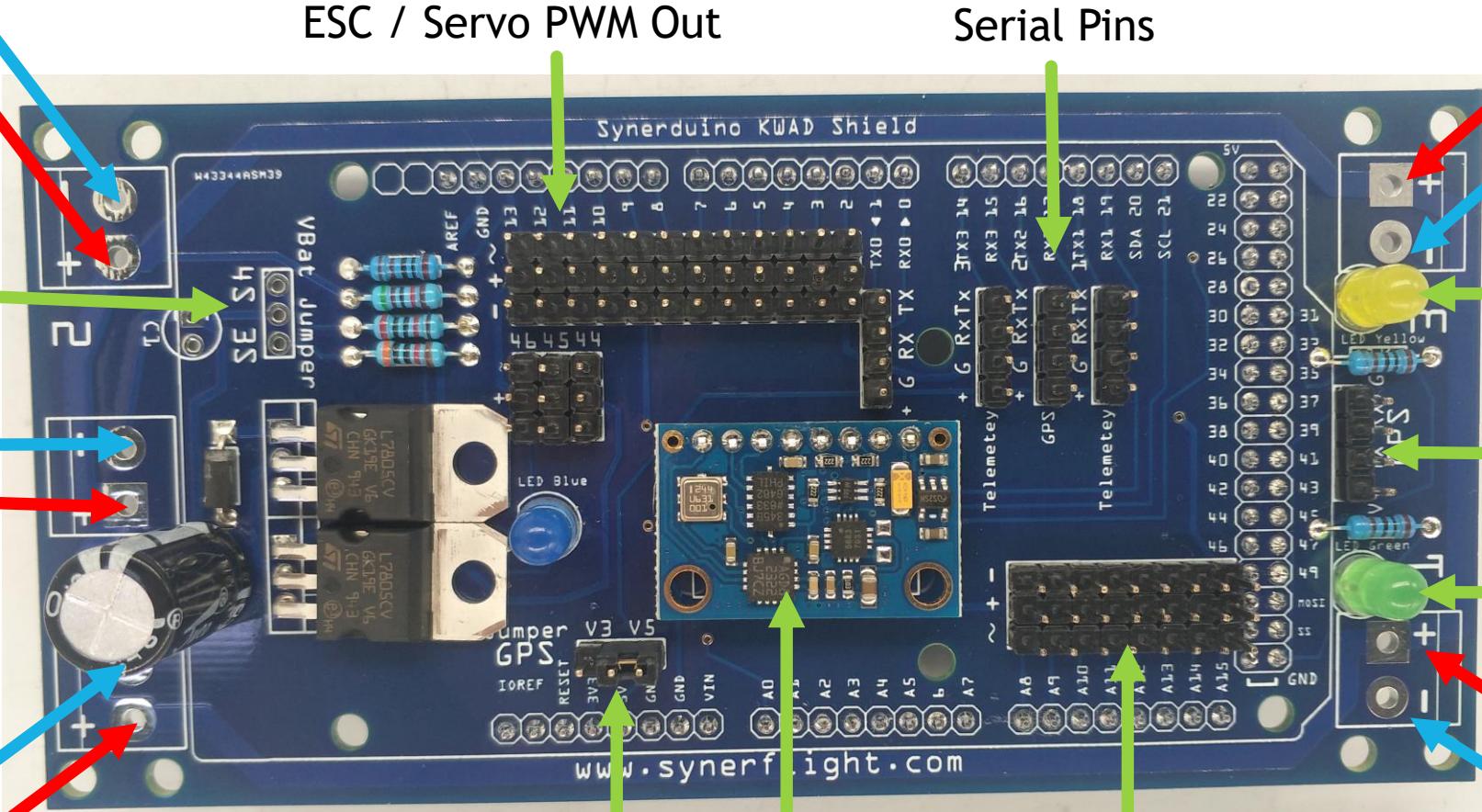
For 4wD configuration pair up two servos with a Servo Y splitter

1000ms Reverse - 1500ms Neutral - 2000ms Forward

Synerduino Kwad Shield

ESC is
Solder on
Top side
only

Note : surface mount your solder ESC wire make sure it doesn't penetrate to the bottom of the board



Set jumper to
the Battery Cell
count (Soldered)

Power
input
3s 11.1V

ESC is
Solder on
Top side
only

ESC / Servo PWM Out

Serial Pins

GPS Voltage Jumper

RC PWM in

ESC is
Solder on
Top side
only

GPS LED

GPS Serial Pins

Status LED

ESC is
Solder on
Top side
only

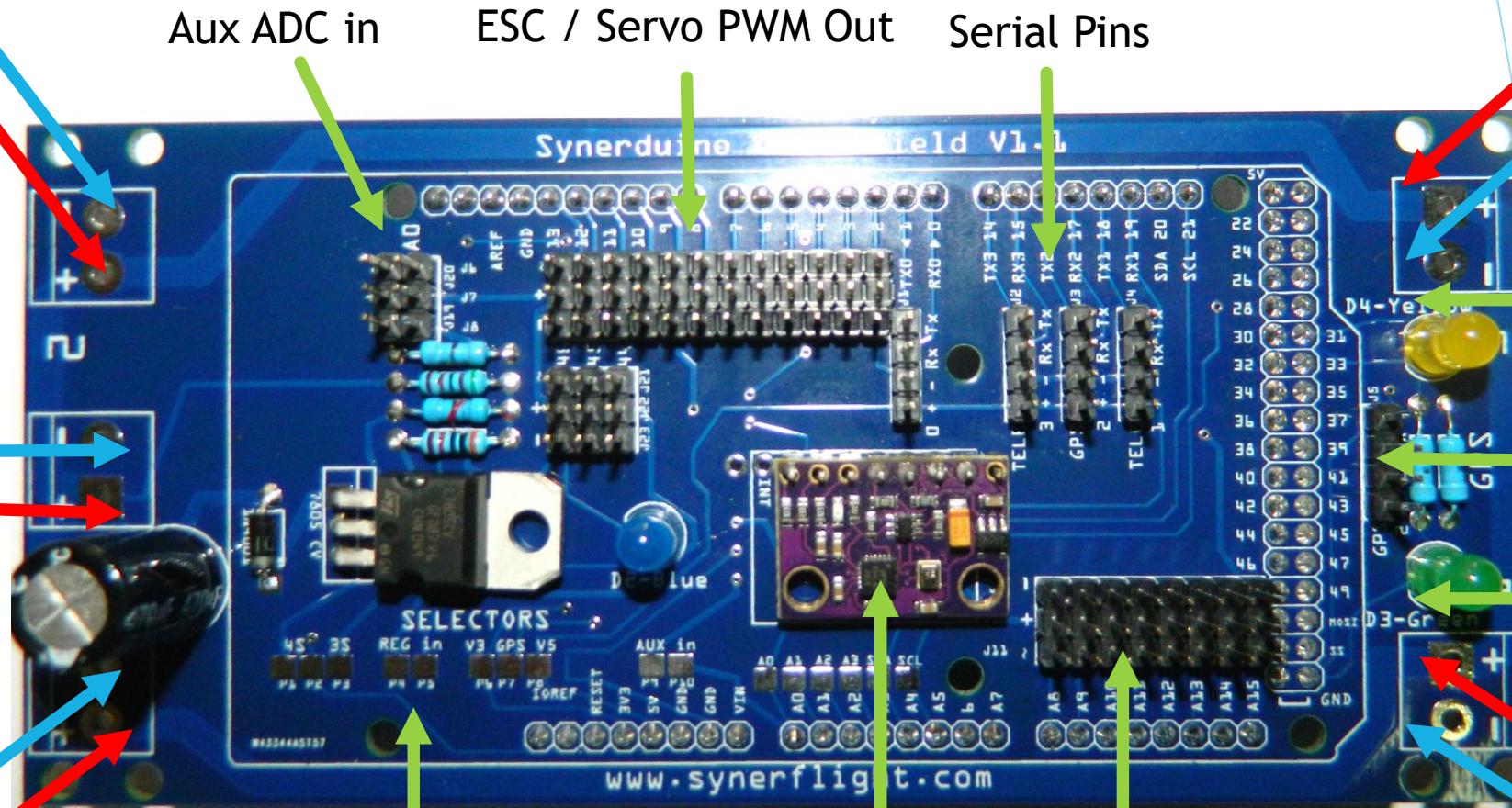
For improve performance IMU must be protected from the Environment

IMU : L3G4200D Gyro / ADXL345 Accelerometer / BMP180 - 85 Baro / MMC5883 Mag

Synerduino Kwad Shield V1.1 GY91

ESC is
Solder on
Top side
only

Note : surface mount your solder ESC wire make sure it doesn't penetrate to the bottom of the board



Power
input
3s 11.1V

ESC is
Solder on
Top side
only

ESC is
Solder on
Top side
only

GPS LED

GPS Serial Pins

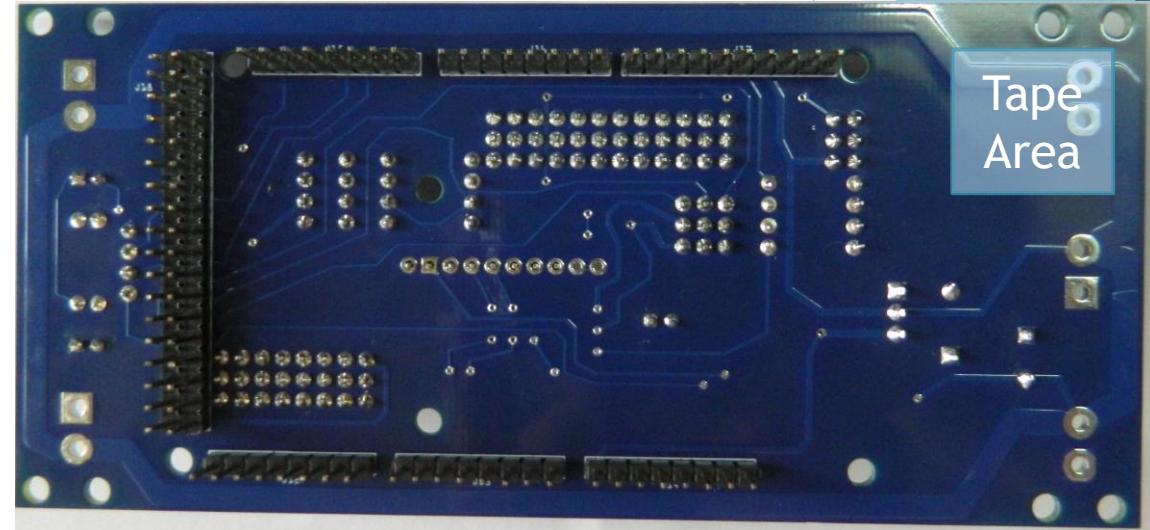
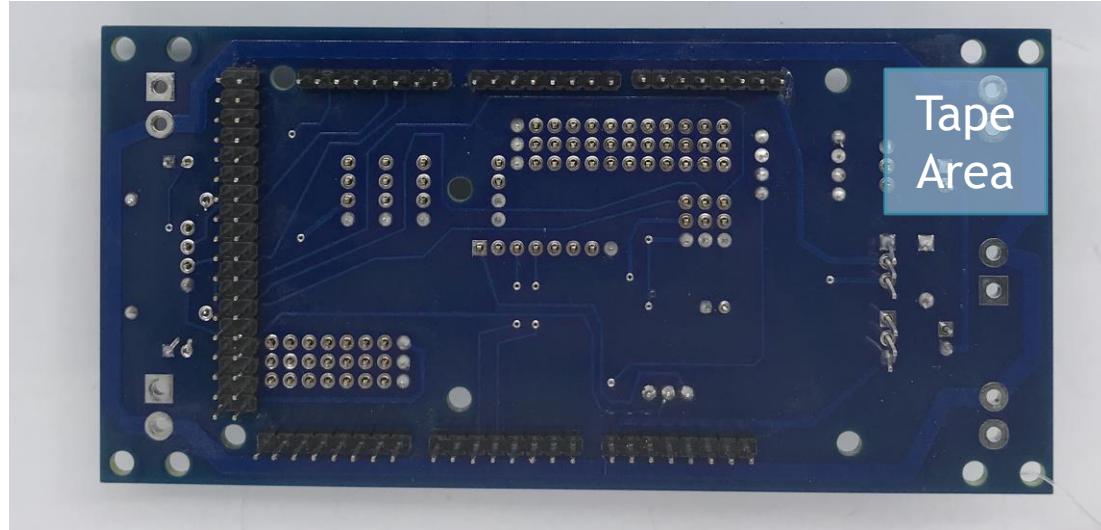
Status LED

ESC is
Solder on
Top side
only

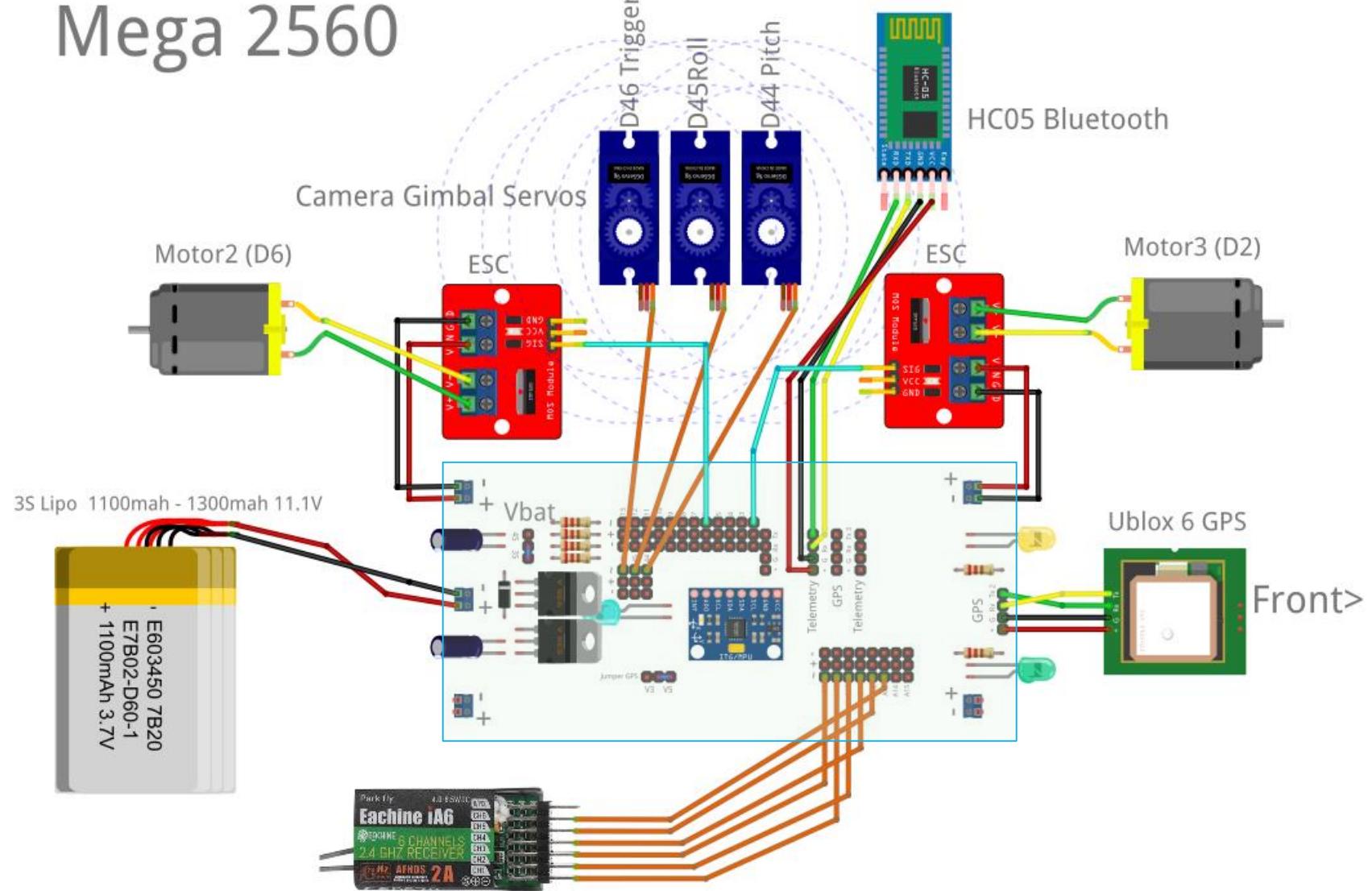
Synerduino Kwad Shield Preparation

Ensure insulation from the Arduino board add tape on these areas

BETA GY801 & V1.1 GY91



Mega 2560

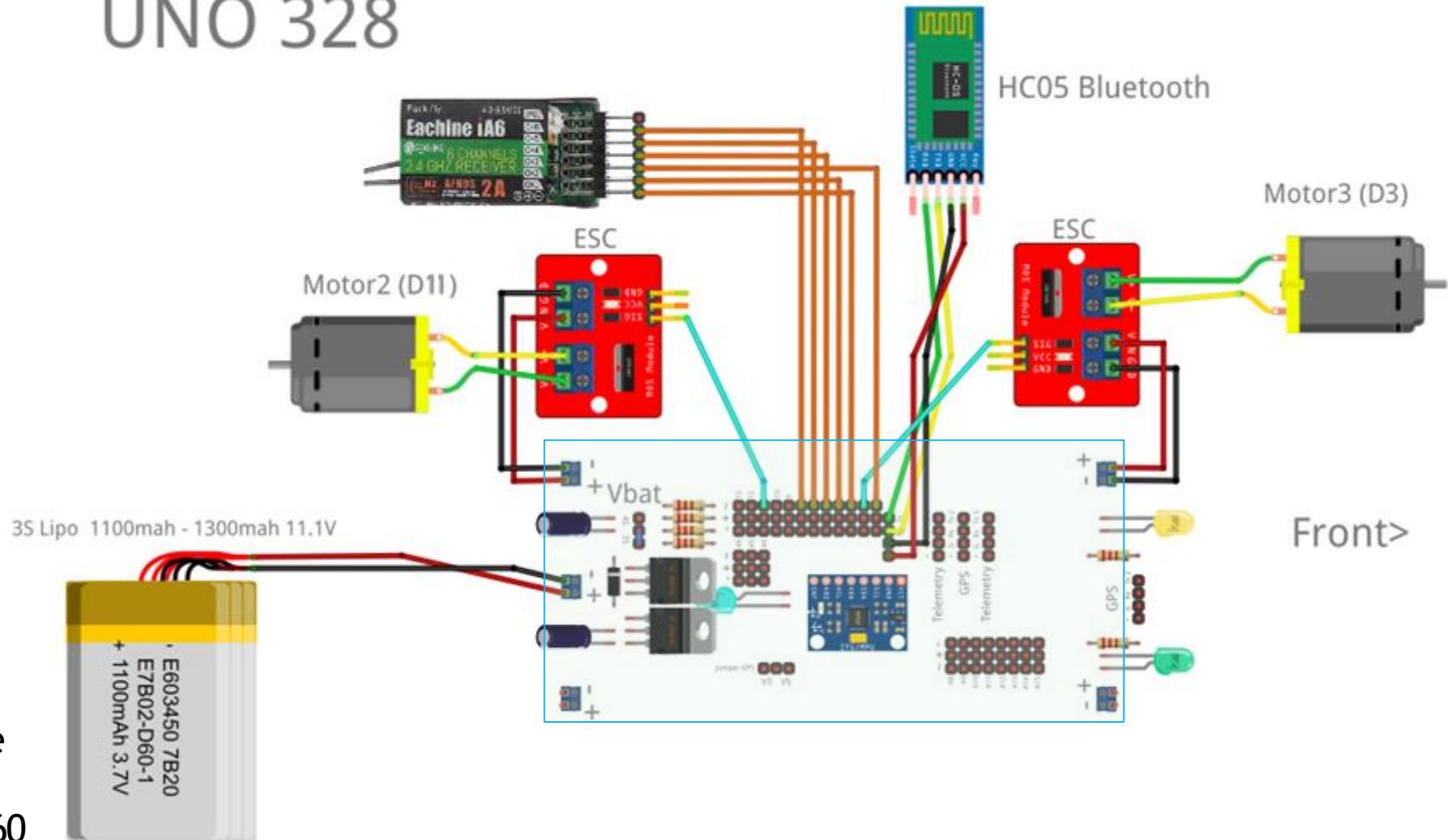


Differential Drive

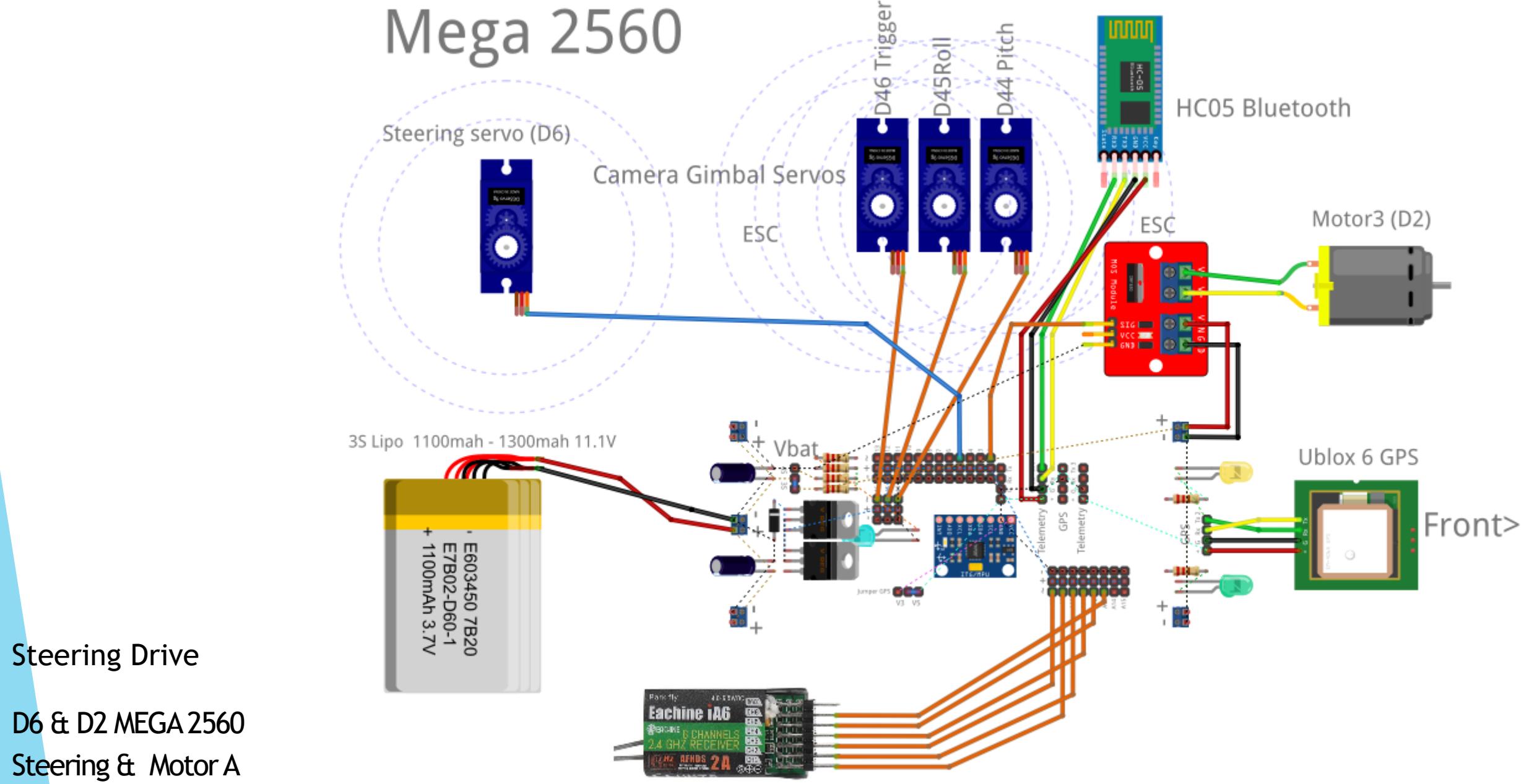
D6 & D2 MEGA 2560

Motor A & Motor B

UNO 328



Mega 2560



Steering Drive

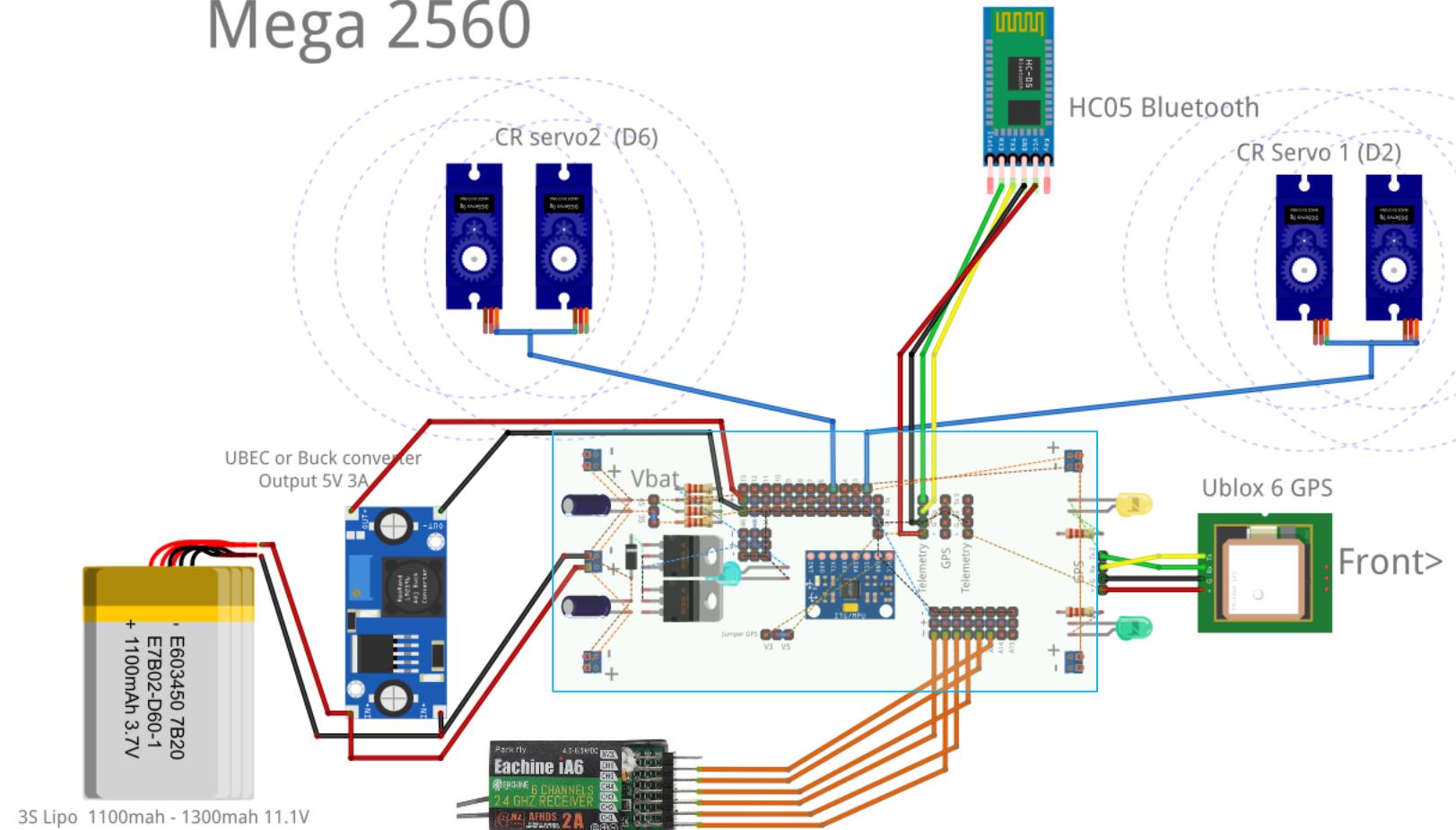
D6 & D2 MEGA 2560

Steering & Motor A

Conventional Differential Drive - using Continuous Rotation Servos



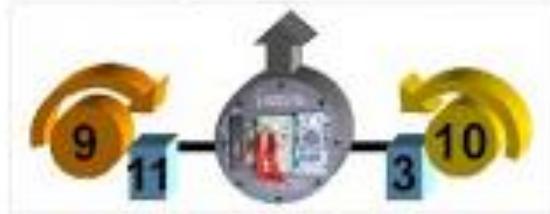
Mega 2560



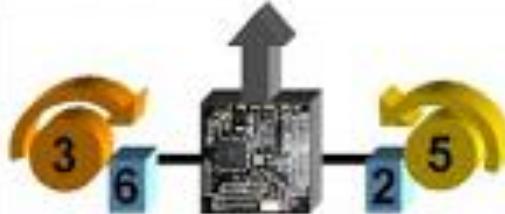
For 4wD configuration pair up two servos with a Servo Y splitter

BICOPTER avatar style

for Arduino 328p:



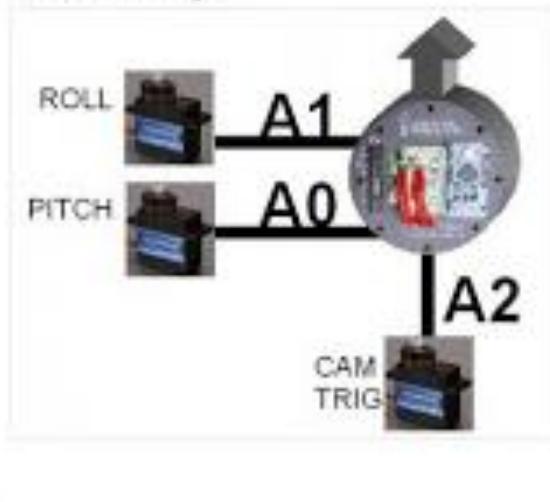
for arduino mega:



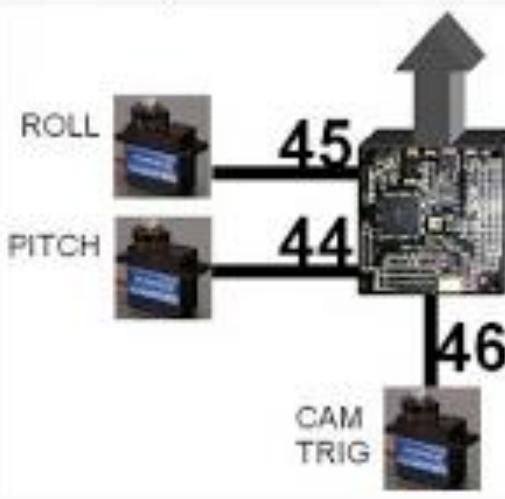
Pure stabilized gimbal system

For this setup, you need a GYRO + ACC setup (not possible with a gyro only setup)
A RC system is optional for this setup.

for Arduino 328p:

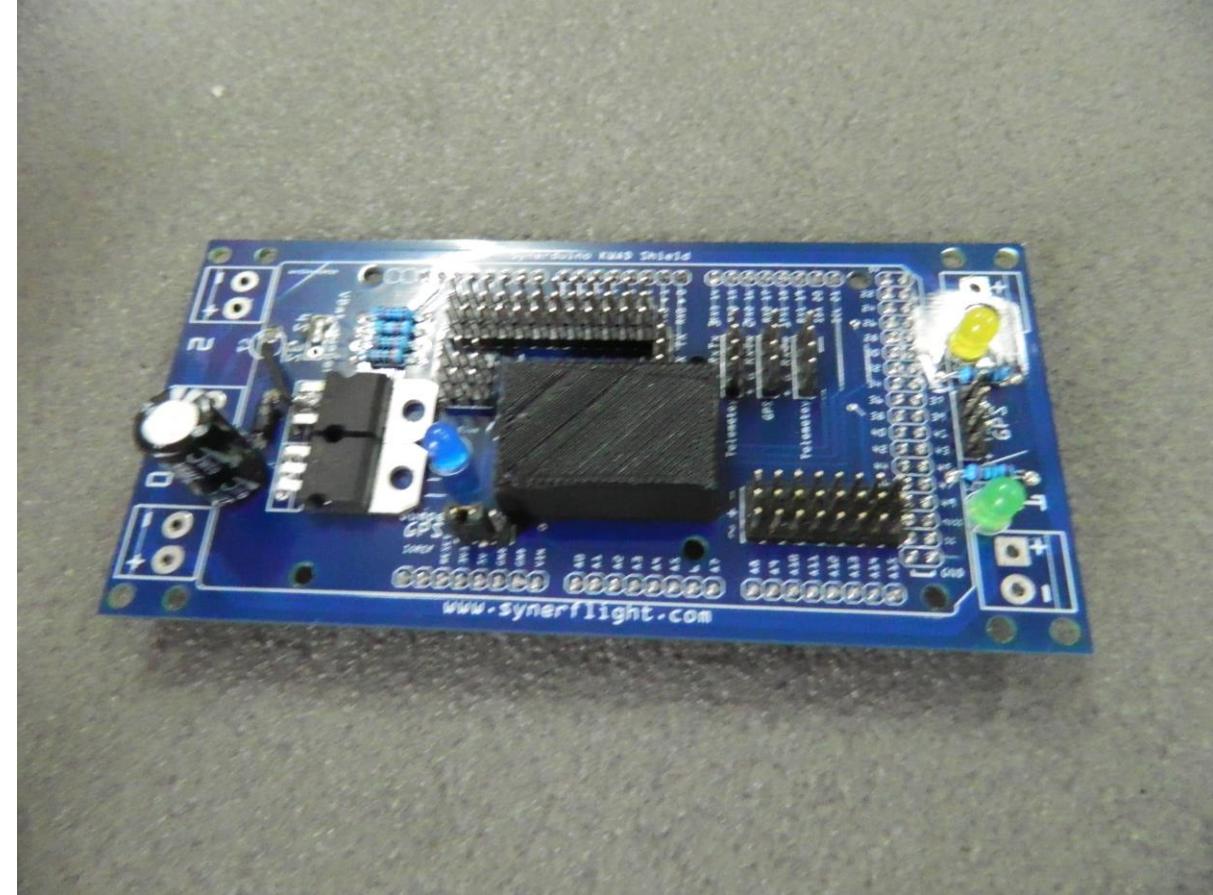
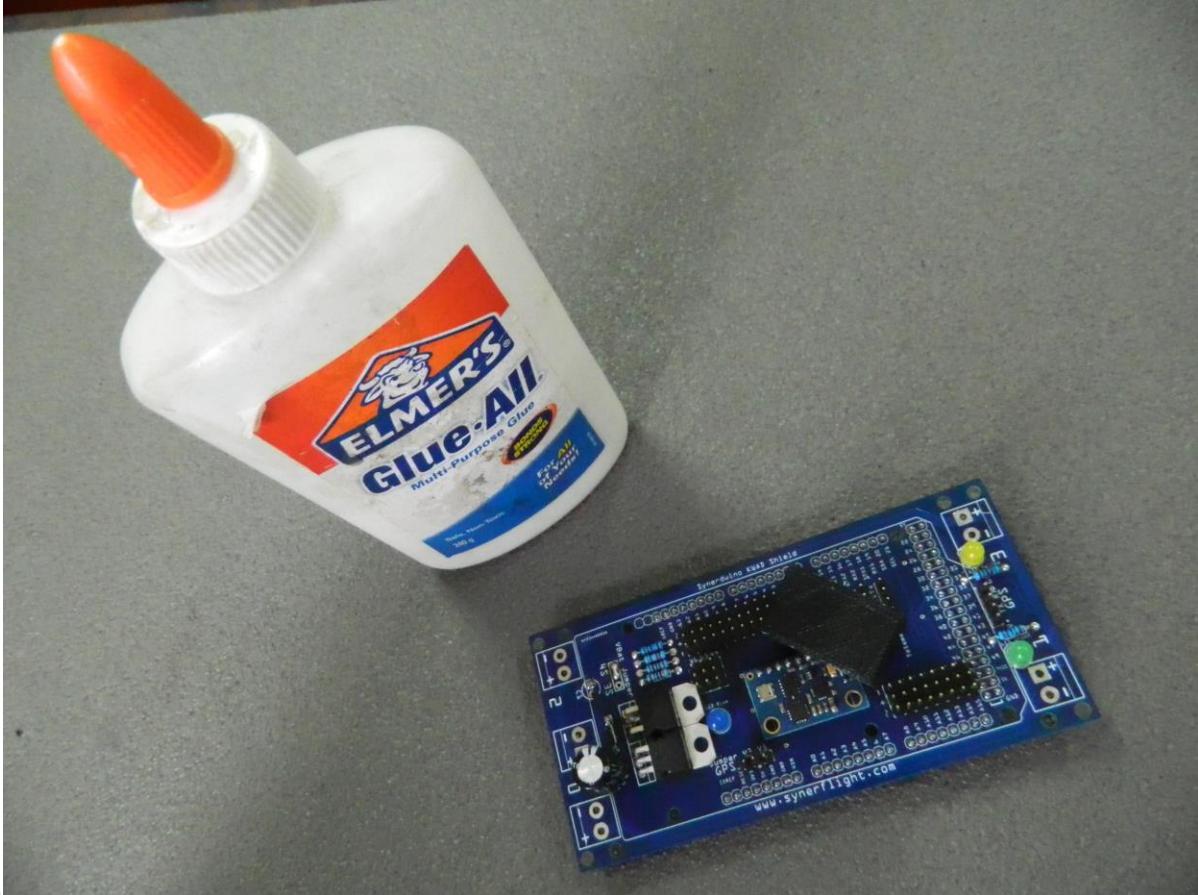


for arduino mega:



Synerduino Kwad Shield Preparation

Seal the cover on to the sensor using PVA glue and let it dry



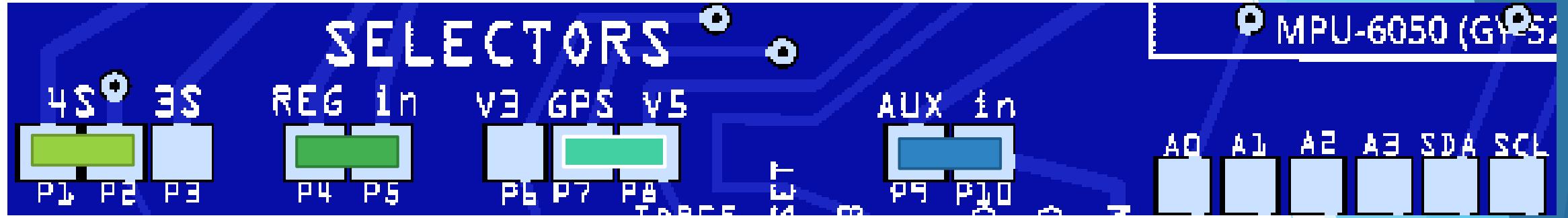
Same time Use small amount of PVA white Glue to Thread Lock the bolt in place Preventing it from going loose

Synerduino Kwad Shield V1.1 (GY91)

Added the Selector Jumper Pads to the main board

Require you only put a small blob of solder to join the selected Pads





Battery cell
monitoring
4s or 3s

5V Regulator
from battery

GPS Pins V+
voltage in
front of the
board

AUX in

A0 A1 A2 A3 SDA SCL

Analog 0-3 & I2C
external sensors

To use onboard battery monitoring with Aux in Set to 3s if your running 1s-3s battery / set to 4s if your running 4s battery / **Leave it open** when using Aux in as External sensors or using 5s to 6s

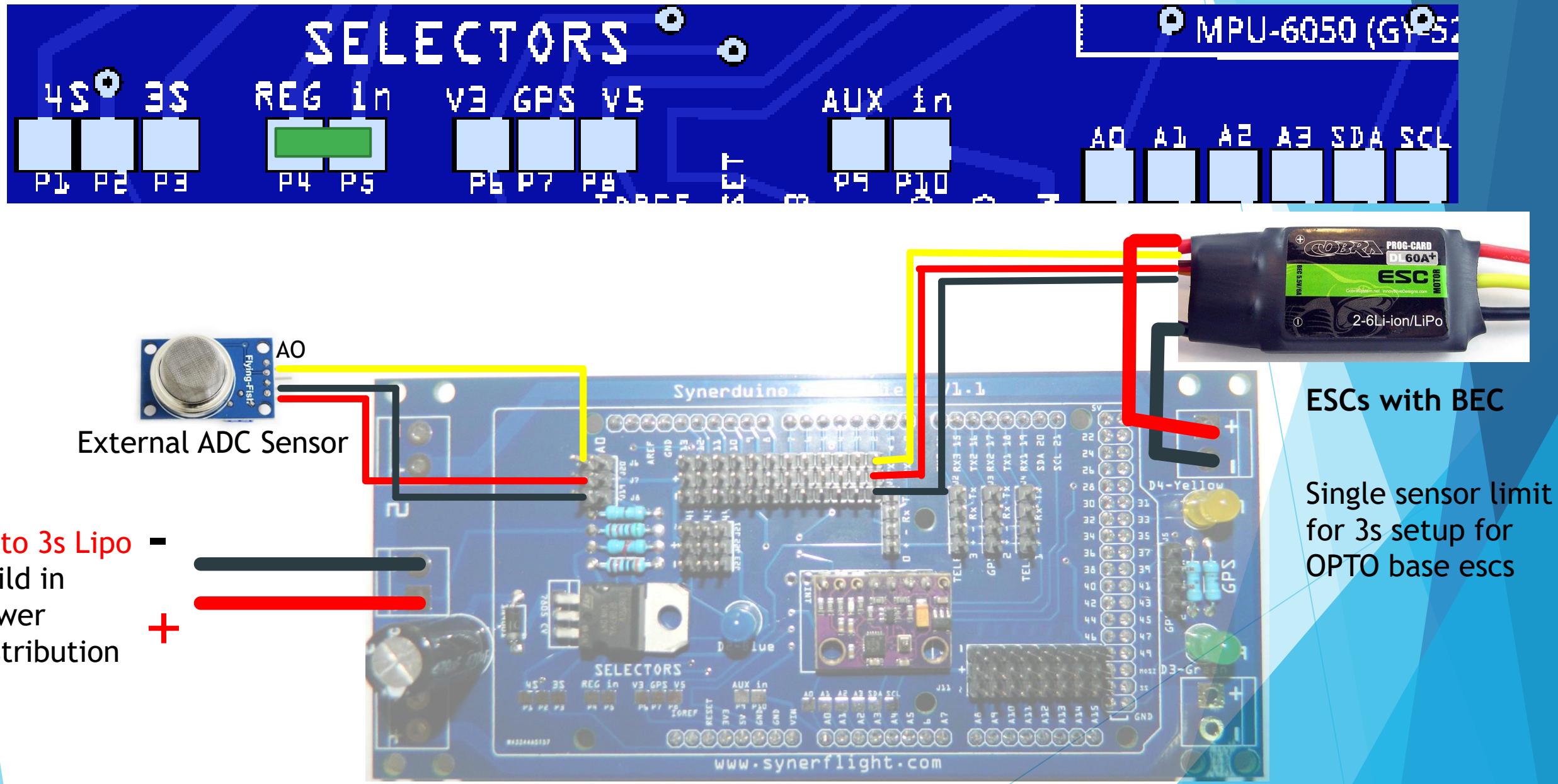
Reg In - short the Pads for using regulator to power and build in power distributor the synerduino and Arduino board

2nd GPS pin with voltage selector 5V for Regular GPS / 3V for external I2c sensor such as Magnetometer

Aux in- **leave it open** for utilizing the A0 Pins for External ADC sensors / Short the Pads to use build in battery monitoring . Cell Selector must be set to 4s or 3s

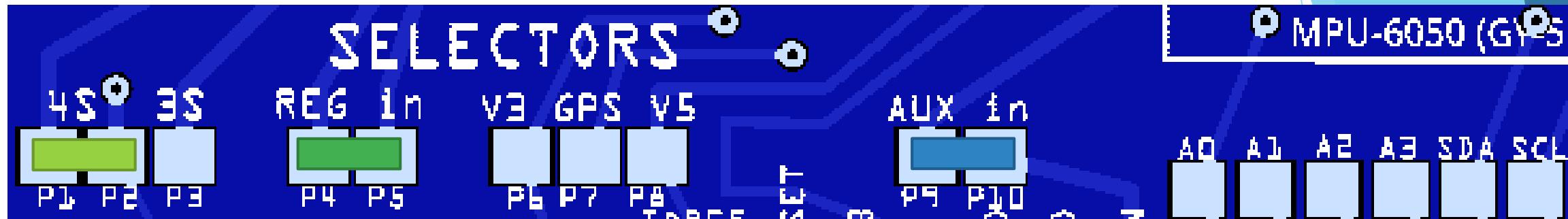
SDA SLC - I2C input for external sensors such as GPS with build in Magnetometer

Reg in only - A0 External ADC sensor , ESC BEC or OPTO applied to the 5V PWM pins

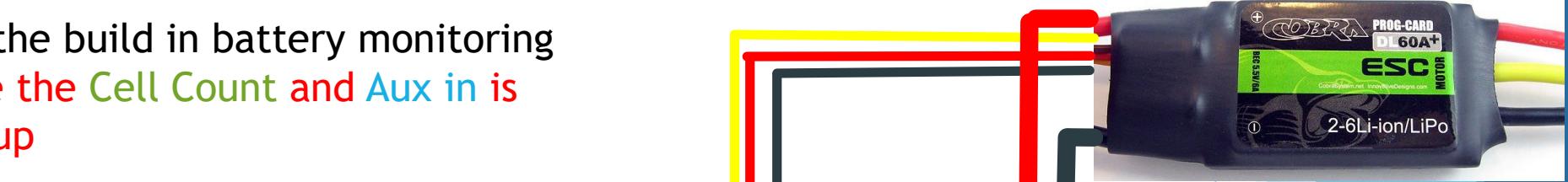


Recommended setup for beginner

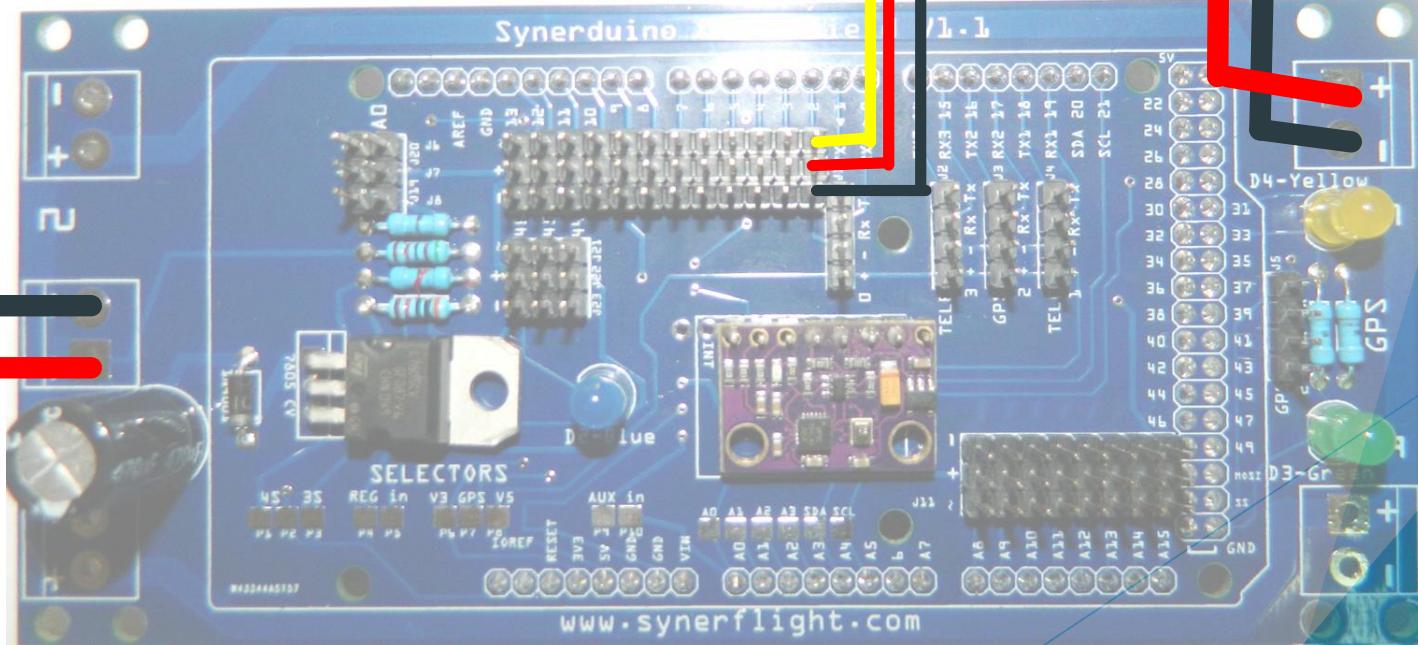
Reg & Vbat - A0 as Battery voltage monitor , ESC BEC or OPTO applied to the 5V PWM pins



For those who would use the build in battery monitoring circuit upto 4s lipo ensure the Cell Count and Aux in is jumped before powering up



2s to 4s Lipo
Build in
Power
distribution

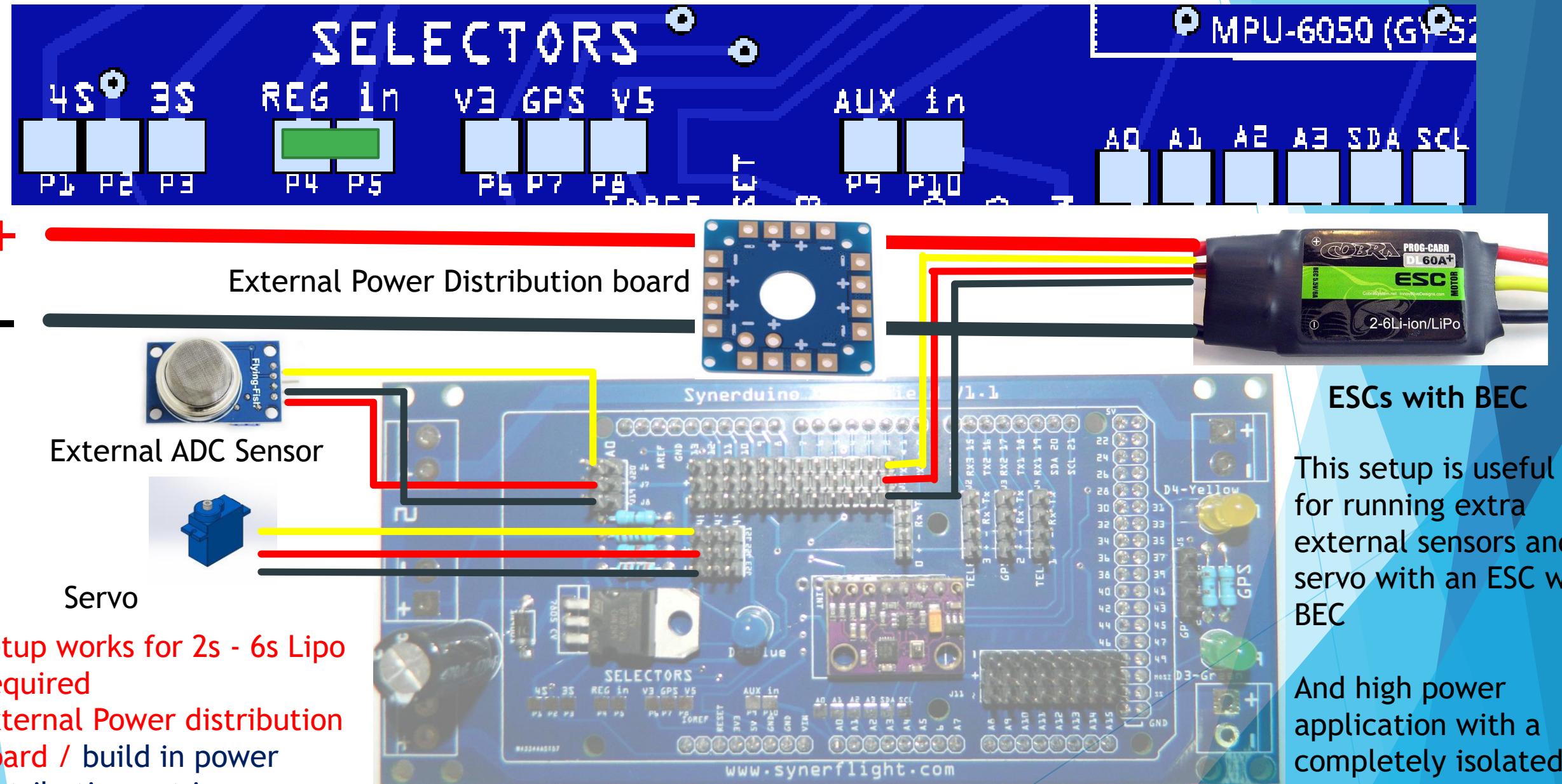


ESCs with BEC or
Opto

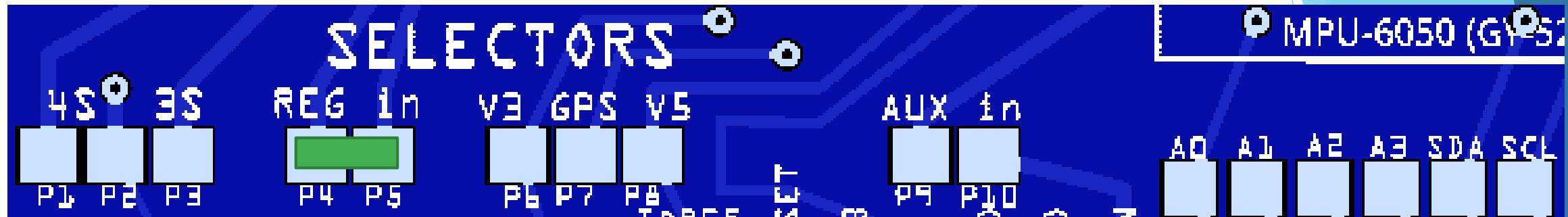
This option is
possible if your
not hooking
anything else to
the board apart
from GPS and
bluetooth

Recommended setup for beginner

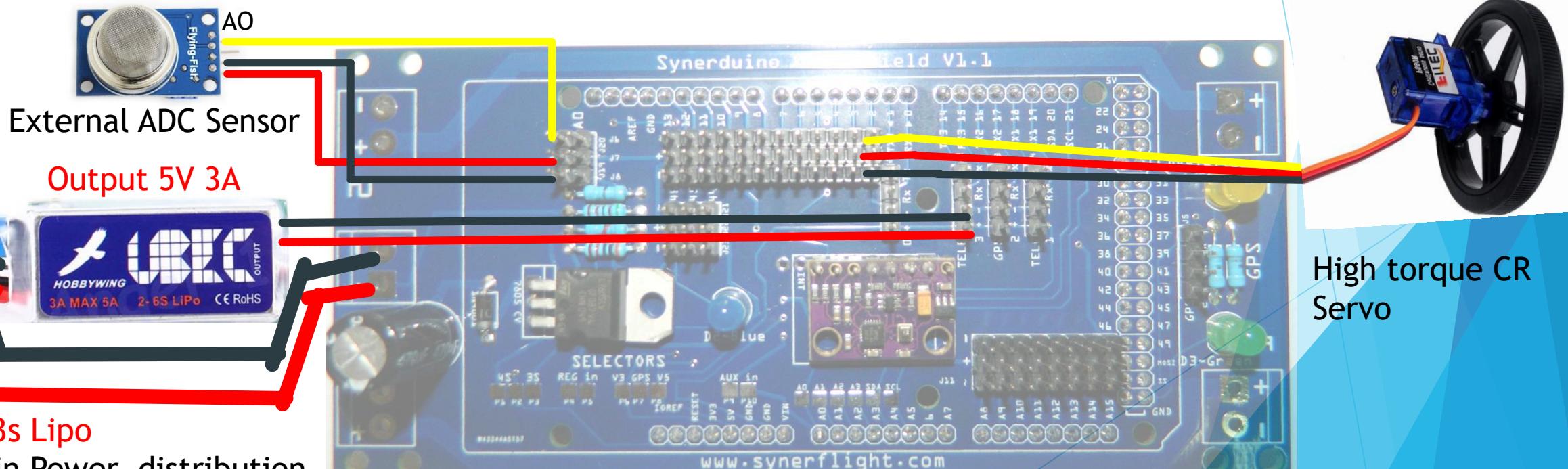
Reg in only - A0 External ADC sensor , Require ESC with UBEC applied to the 5V PWM pins



ISOLATED - A0 External ADC sensor , ESC BEC or OPTO applied to the 5V PWM pins



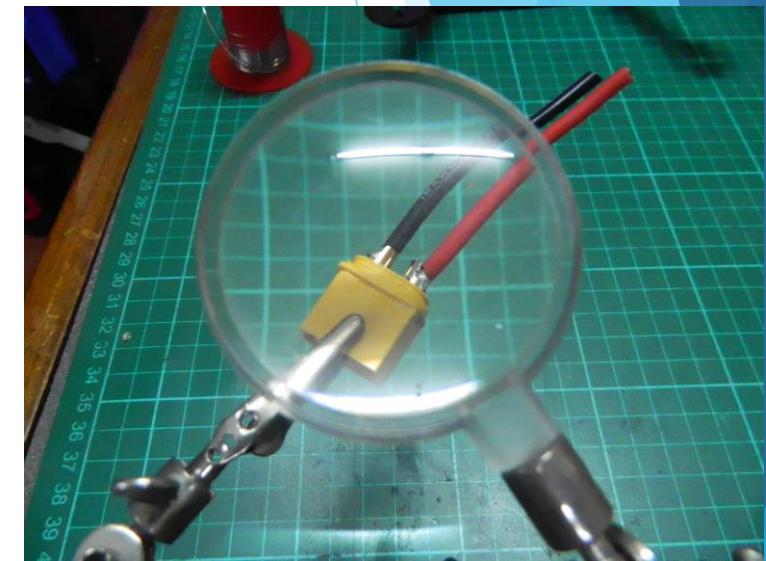
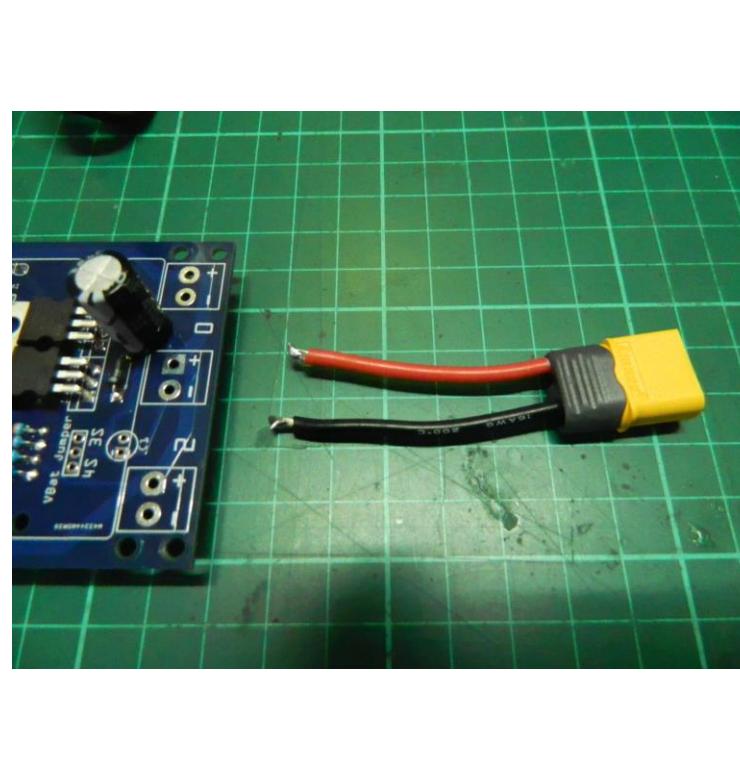
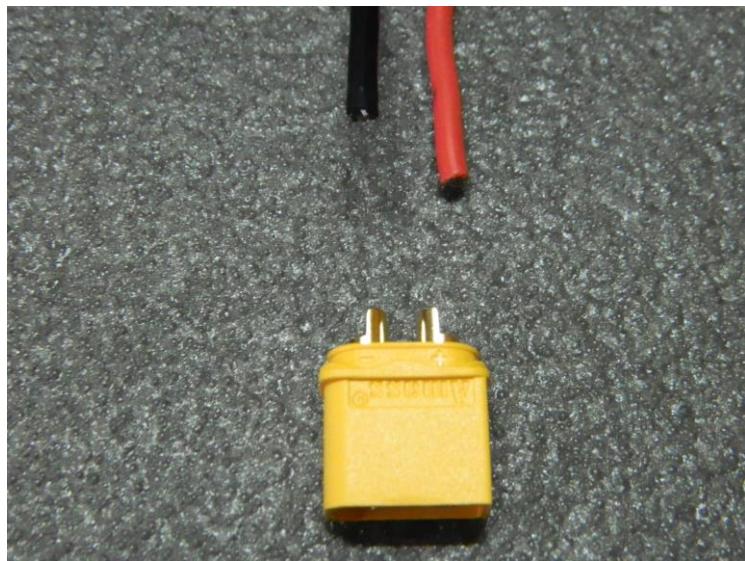
This setup is ideal for Servo or Sensor Intensive application that requires higher current driven across the power rails
Application such as Continues Rotational Servos and several ADC sensors

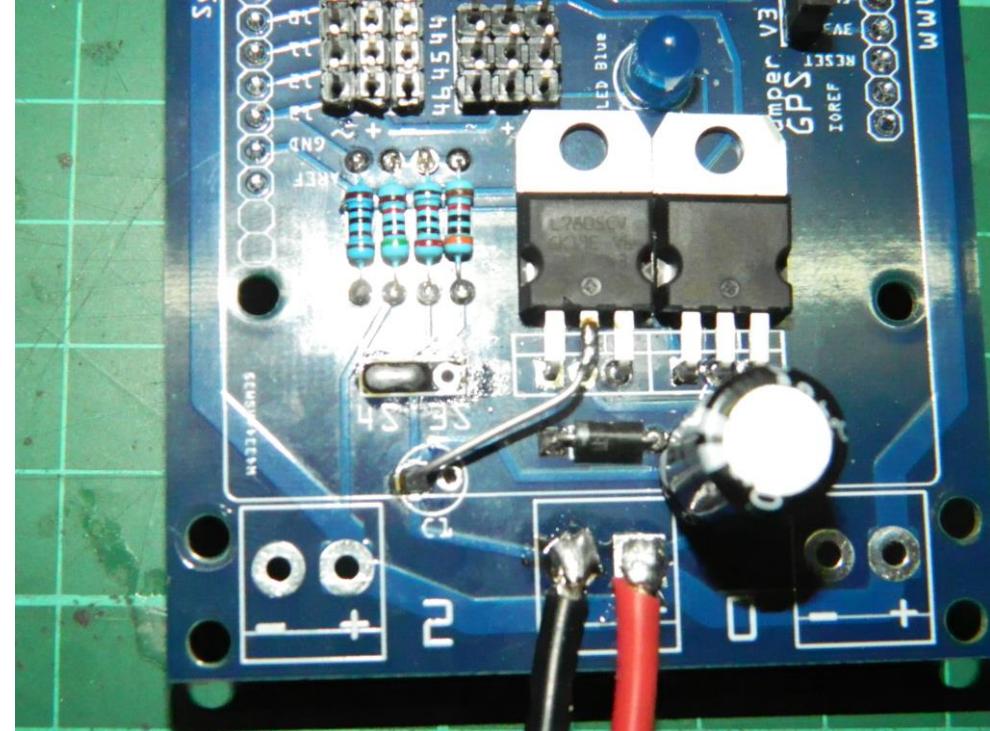
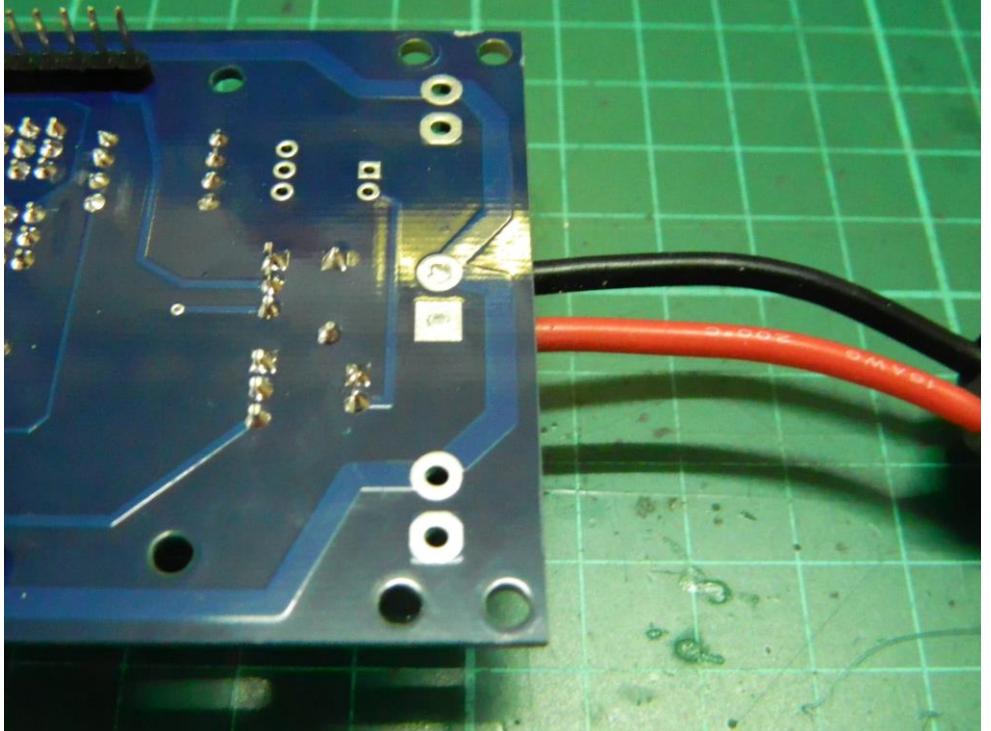


2s to 3s Lipo

Build in Power distribution

Recommended setup for beginner

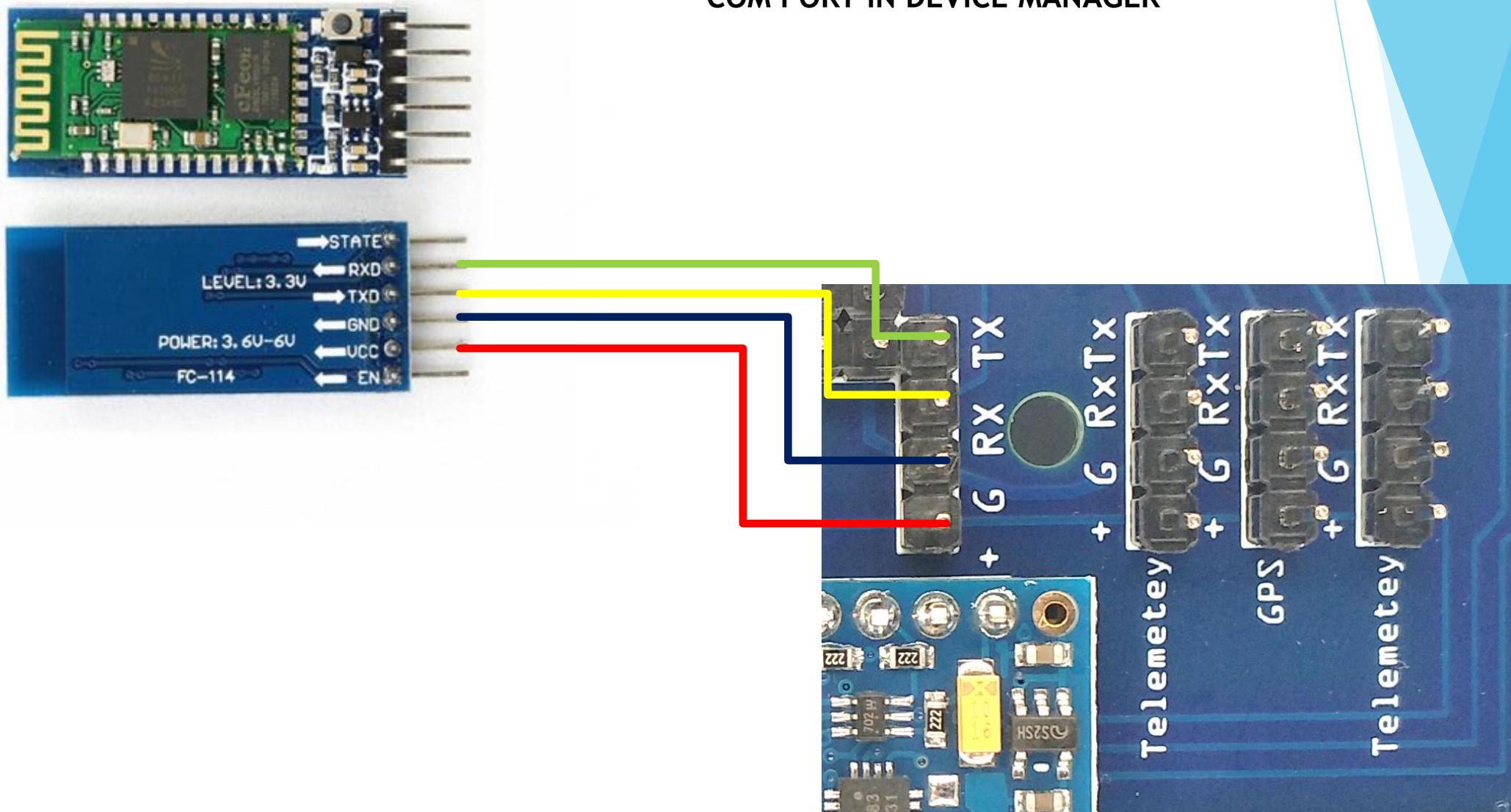




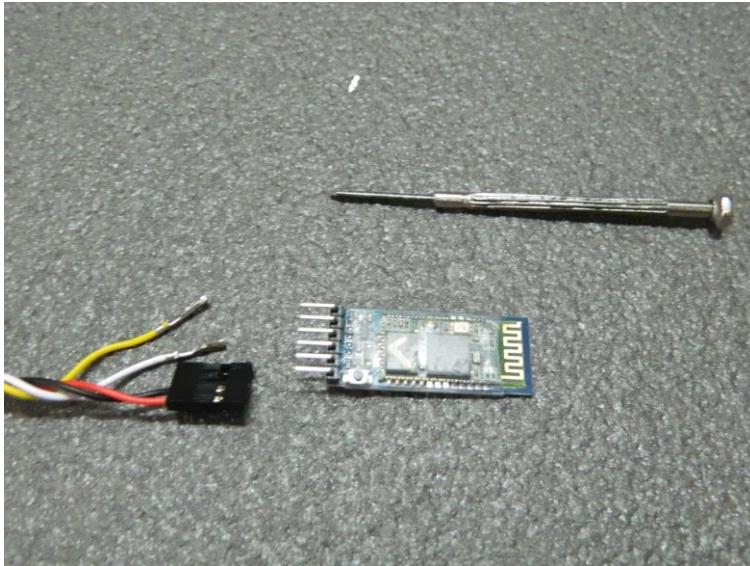
ONLY SURFACE MOUNT THE SOLDER WIRE
MUST NOT PROTRUDE THE HOLE

Bluetooth

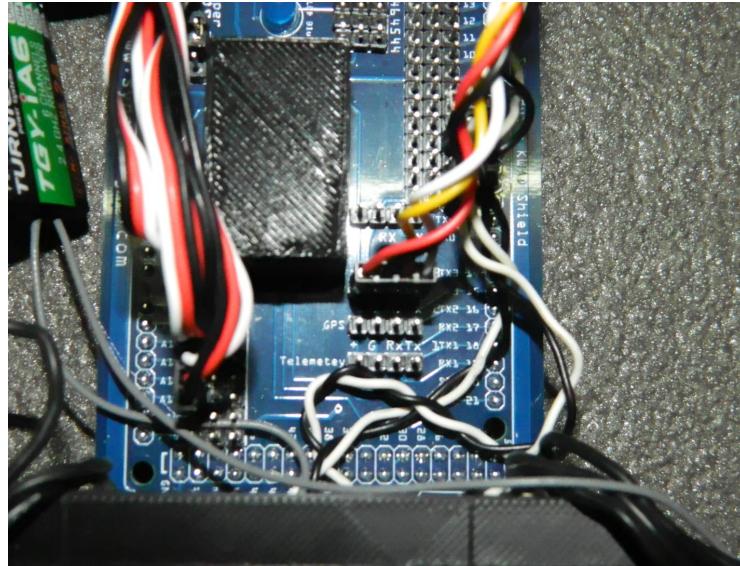
NOTE: USING 0 AT BAUD115200 APPLICABLE BOTH UNO AND MEGA BOARDS REQUIRES THE BLUETOOTH ONLY TO BE PLUG IN AFTER THE SKETCH/FIRMWARE HAS BEEN UPLOADED TO THE BOARD . AND PAIRING USING THE BLUETOOTH CONNECTED COM PORT IN DEVICE MANAGER



Bluetooth



**BLUETOOTH PLUG INTO SERIAL 1
OR SERIAL 3
115200 FOR BLUETOOTH HC-05**



ATTENTION:

YOU MAY NEED TO REARRANGE THE HEADERS
TO CONNECT THE BLUETOOTH MODULE TO THE
SHIELD BOARD ACCORDINGLY

VCC >> +

GND >> G

TX >> RX

RX >> TX

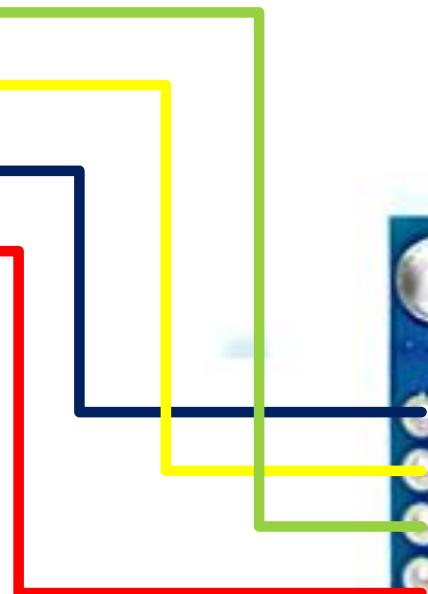
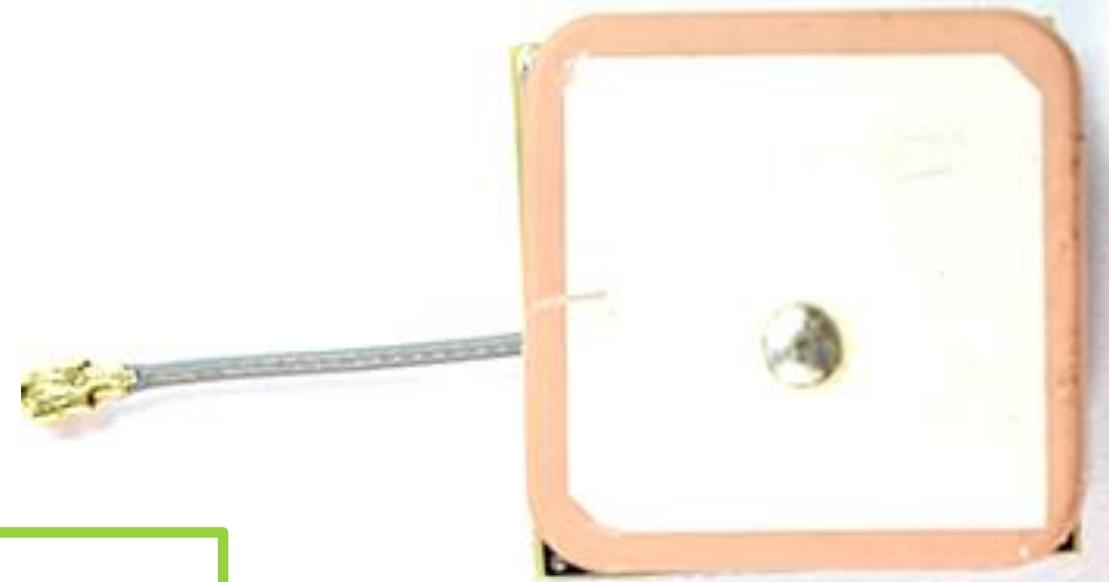
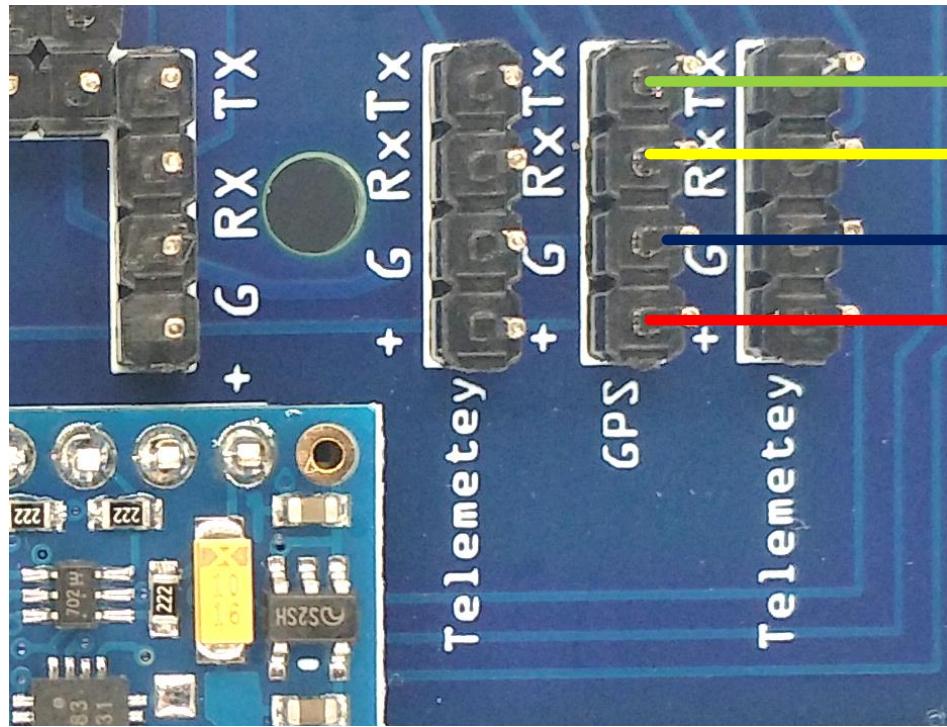


SEE TO IT THE WIRES COLOR CODE MATCHES
THE MARKINGS

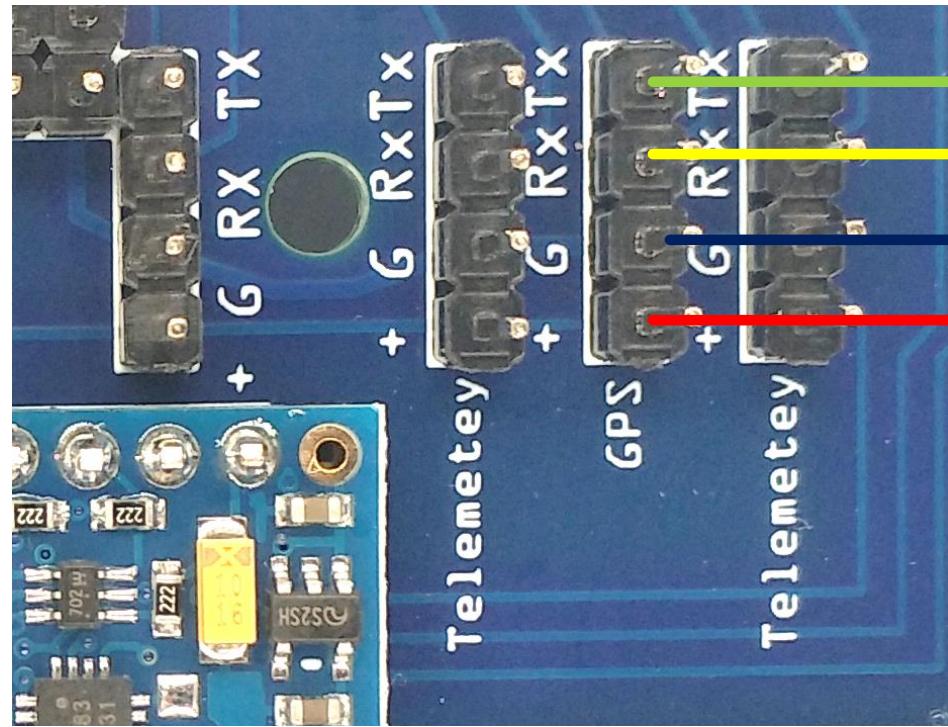
IMPROPER INSTALLATION MAY CAUSE DAMAGE
TO THE ARDUINO BOARD AND SHIELD DUE TO
REVERSE POLARITY

NOTE: WE PRESET THE BLUETOOTH FOR YOUR
CONVENIENCE TO THE PROPER SETUP BUT
SHOULD YOU WISH TO CHANGE THE SETTING
ON YOUR DIGRESSION

GPS NEO6



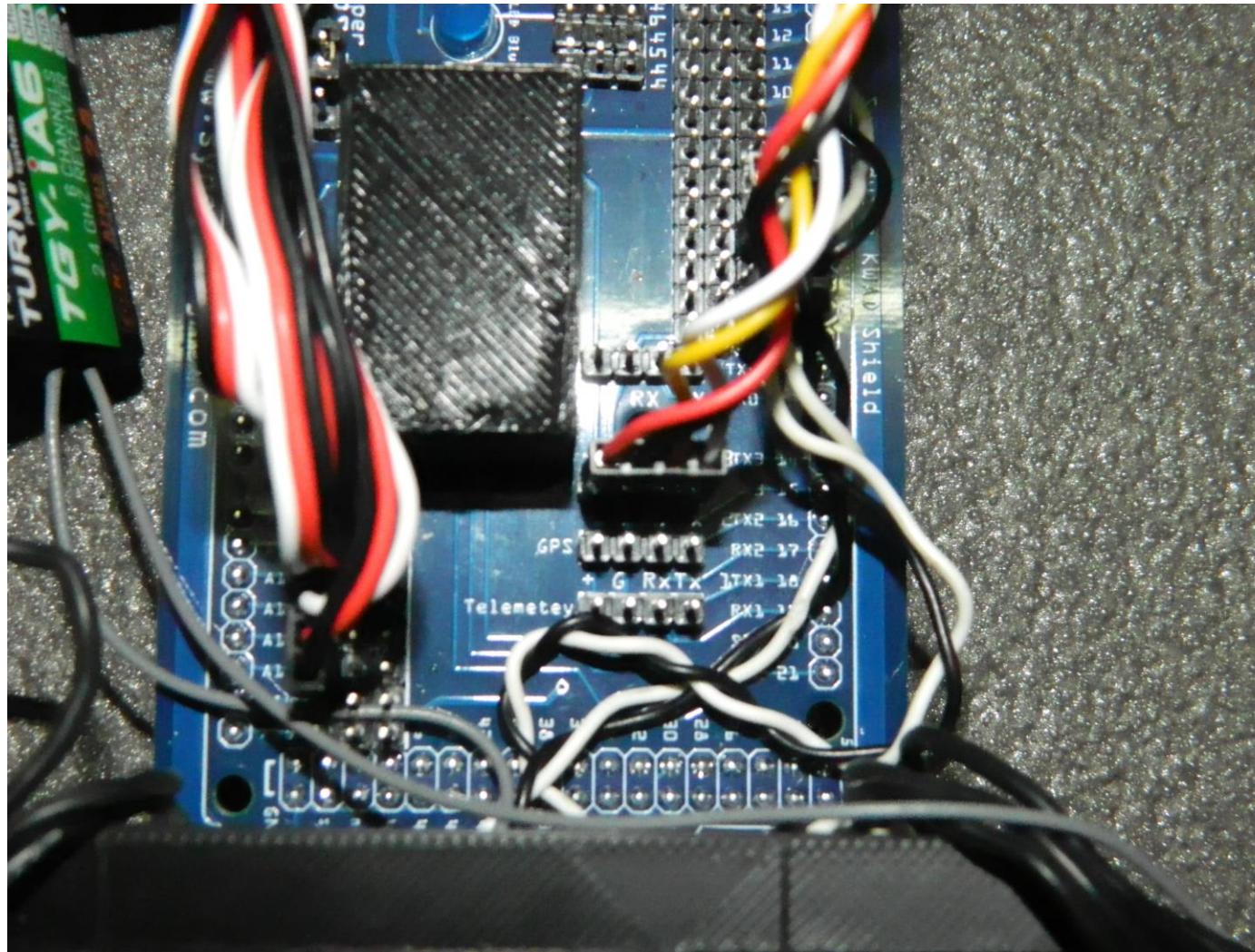
GPS BEITIAN



4.VCC
3.RX
2.TX
1.GND

PIN	PIN Name	I/O	Description
1	GND	G	Ground
2	TX	O	Serial Data Output.
3	RX	I	Serial Data Input.
4	VCC	I	DC 3.0V - 5.5V supply input,Typical: 5.0V





ATTENTION:

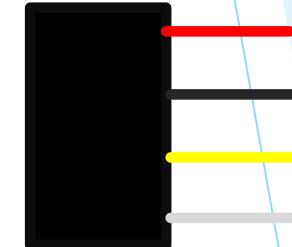
YOU MAY NEED TO REARRANGE THE HEADERS TO CONNECT THE BLUETOOTH MODULE TO THE SHIELD BOARD ACCORDINGLY

VCC >> +

GND >> G

TX >> RX

RX >> TX



SEE TO IT THE WIRES COLOR CODE MATCHES THE MARKINGS

IMPROPER INSTALLATION MAY CAUSE DAMAGE TO THE ARDUINO BOARD AND SHIELD DUE TO REVERSE POLARITY

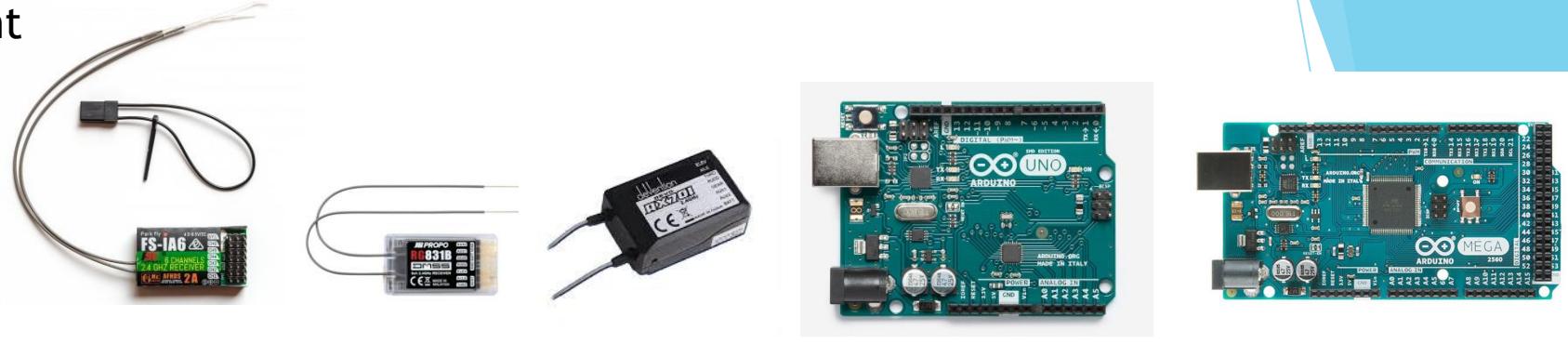
NOTE: WE PRESET THE BLUETOOTH AND GPS FOR YOUR CONVENIENCE

SHOULD YOU WISH TO CHANGE THE SETTING ON YOUR DIGRESSION SEE: SYNERDUINO BASIC

BLUETOOTH ON THE TELEMETRY PIN SERIAL1
GPS IN THE GPS PIN SERIAL2

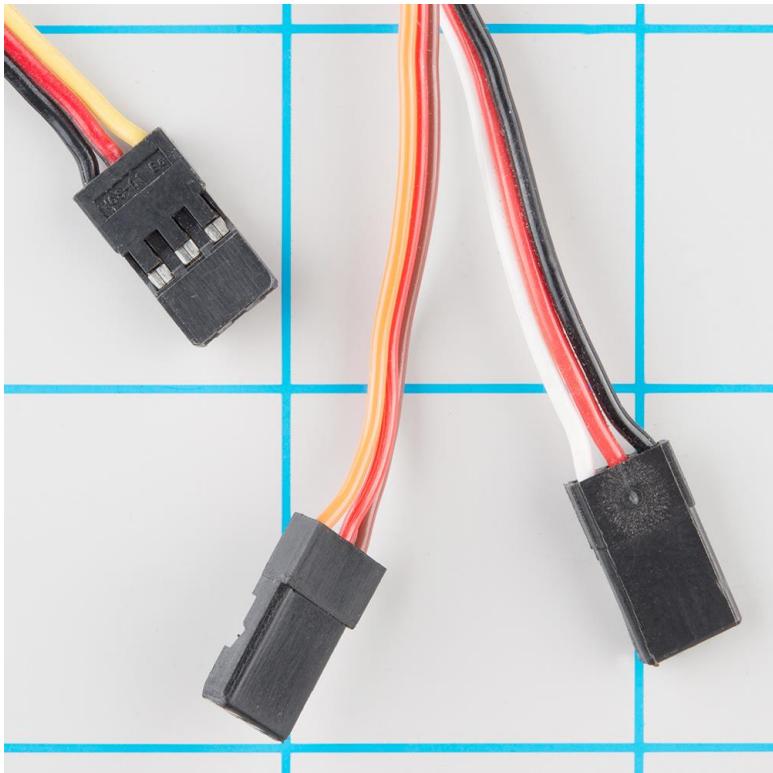
PWM INPUT Assignment

Pls Check the output pin from your Radio Rx manual



RX > Arduino / PWM in	Futaba Format	JR Format	Walkera Format	UNO 328 Input	Mega 2560 Input
Throttle	Ch3	Ch1	Ch3	D2	A8
Aileron	Ch1	Ch2	Ch2	D4	A9
Elevator	Ch2	Ch3	Ch1	D5	A10
Rudder	Ch4	Ch4	Ch4	D6	A11
Aux1	Ch5	Ch5	Ch5	D7	A12
Aux2	Ch6	Ch6	Ch6	D8	A13
Aux3	Ch7	Ch7	Ch7	N/A	A14
Aux4	Ch8	Ch8	Ch8	N/A	A15

SERVO HEADER



~ + -

End view

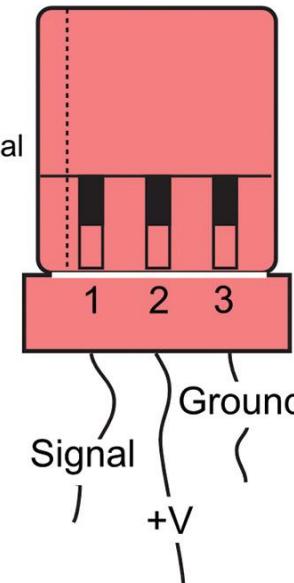


J-type (Futaba)



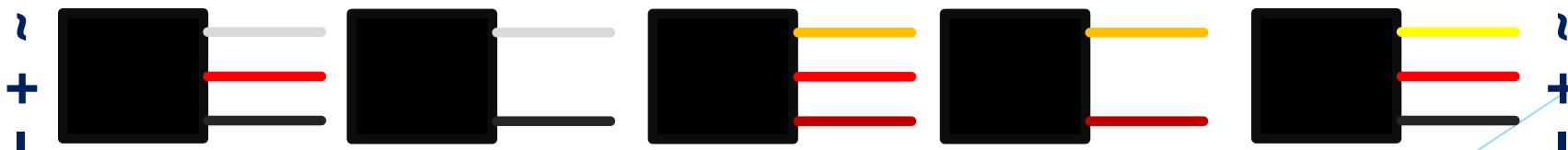
S-type (Hitec, JR)

Keyway =
signal terminal



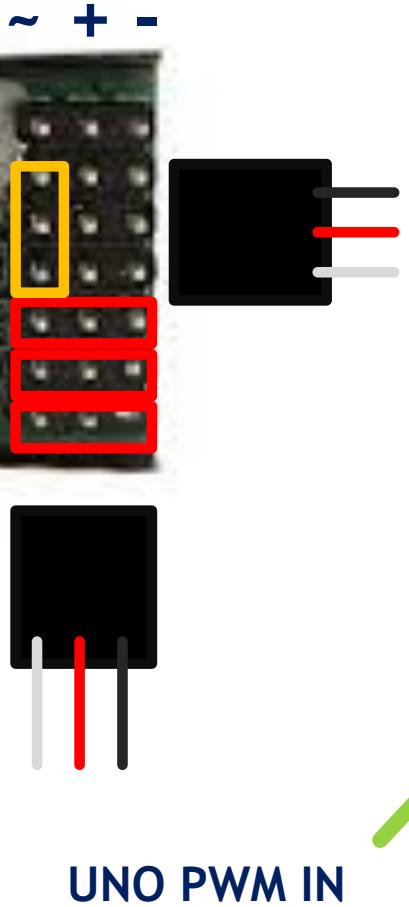
They may come with
different coded wire but
layout are always same

OPTO Wires may only have
Signal and Negative Wires o



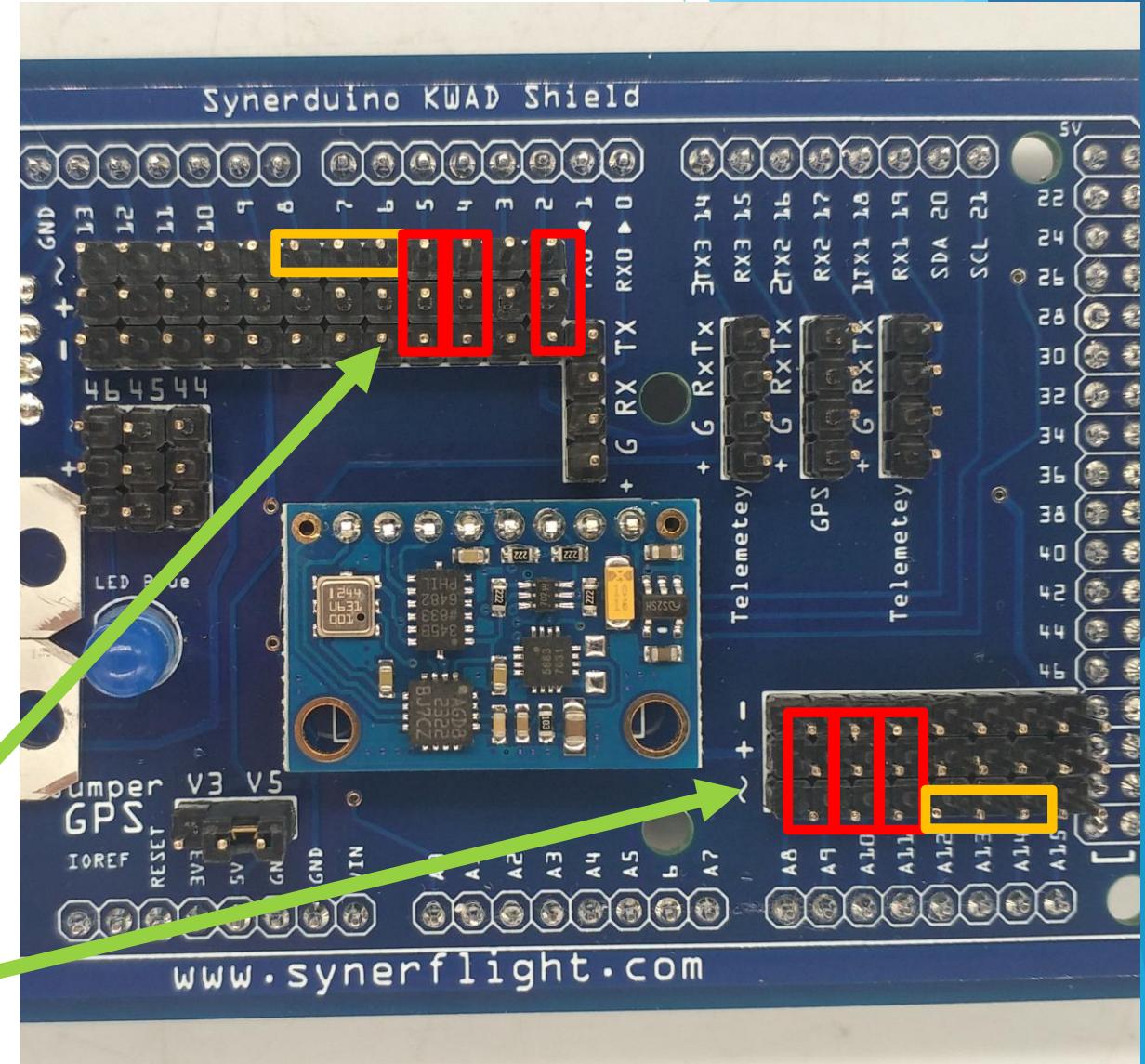


INCASE YOU'D ASK WHY THE SERVO CONNECTORS WERE DONE THIS WAY , ITS SIMPLY YOU DON'T NEED TO PLUG ALL THE PWM POWER RAILS ON ALL CHANNELS YOU JUST NEED THE PWM SIGNAL PIN ALONE
MOSTLY RUDDER AUX1 AND AUX2



MEGA PWM IN

UNO PWM IN



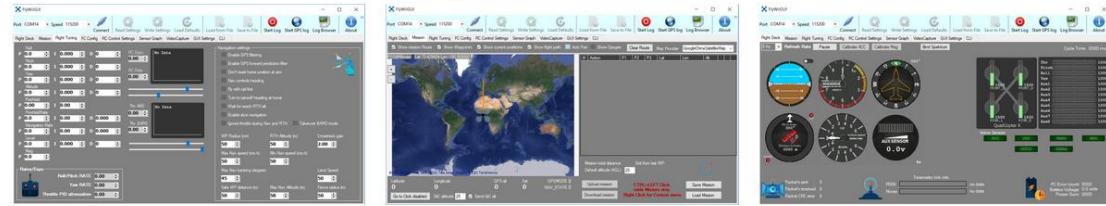
www.synerflight.com

Download the FlyWiiGUI groundstation and open FlywiiGUI.exe

Name	Date modified	Type	Size
210130-0301	30/04/2021 3:01 PM	File	3 KB
210814-0408	14/09/2021 4:08 PM	File	3 KB
212812-0428	12/06/2021 4:28 PM	File	3 KB
214012-0340	12/06/2021 3:40 PM	File	3 KB
AForge.Controls.dll	25/01/2015 1:15 PM	Application extens...	44 KB
AForge.dll	25/01/2015 1:15 PM	Application extens...	17 KB
AForge.Imaging.dll	25/01/2015 1:15 PM	Application extens...	248 KB
AForge.Math.dll	25/01/2015 1:15 PM	Application extens...	67 KB
AForge.Video.DirectShow.dll	25/01/2015 1:15 PM	Application extens...	52 KB
AForge.Video.dll	25/01/2015 1:15 PM	Application extens...	19 KB
AForge.Video.FFMPEG.dll	25/01/2015 1:15 PM	Application extens...	60 KB
avcodec-53.dll	25/01/2015 1:15 PM	Application extens...	13,181 KB
avdevice-53.dll	25/01/2015 1:15 PM	Application extens...	342 KB
avfilter-2.dll	25/01/2015 1:15 PM	Application extens...	870 KB
avformat-53.dll	25/01/2015 1:15 PM	Application extens...	2,405 KB
avutil-51.dll	25/01/2015 1:15 PM	Application extens...	135 KB
FlyWiiGUI.exe	30/10/2021 11:41 ...	Application	6,945 KB
FlyWiiGUI.exe.config	28/02/2017 5:31 PM	CONFIG File	1 KB
FlyWiiGUI.exe.manifest	30/10/2021 11:41 ...	MANIFEST File	30 KB

The FlyWii GUI is a free updated version of the MultiWii WinGUI. It serves as the ground control station for the MultiWii 2.4 controller software.

FlyWii GUI is currently only supported for Windows 7/8/10



[Download](#)

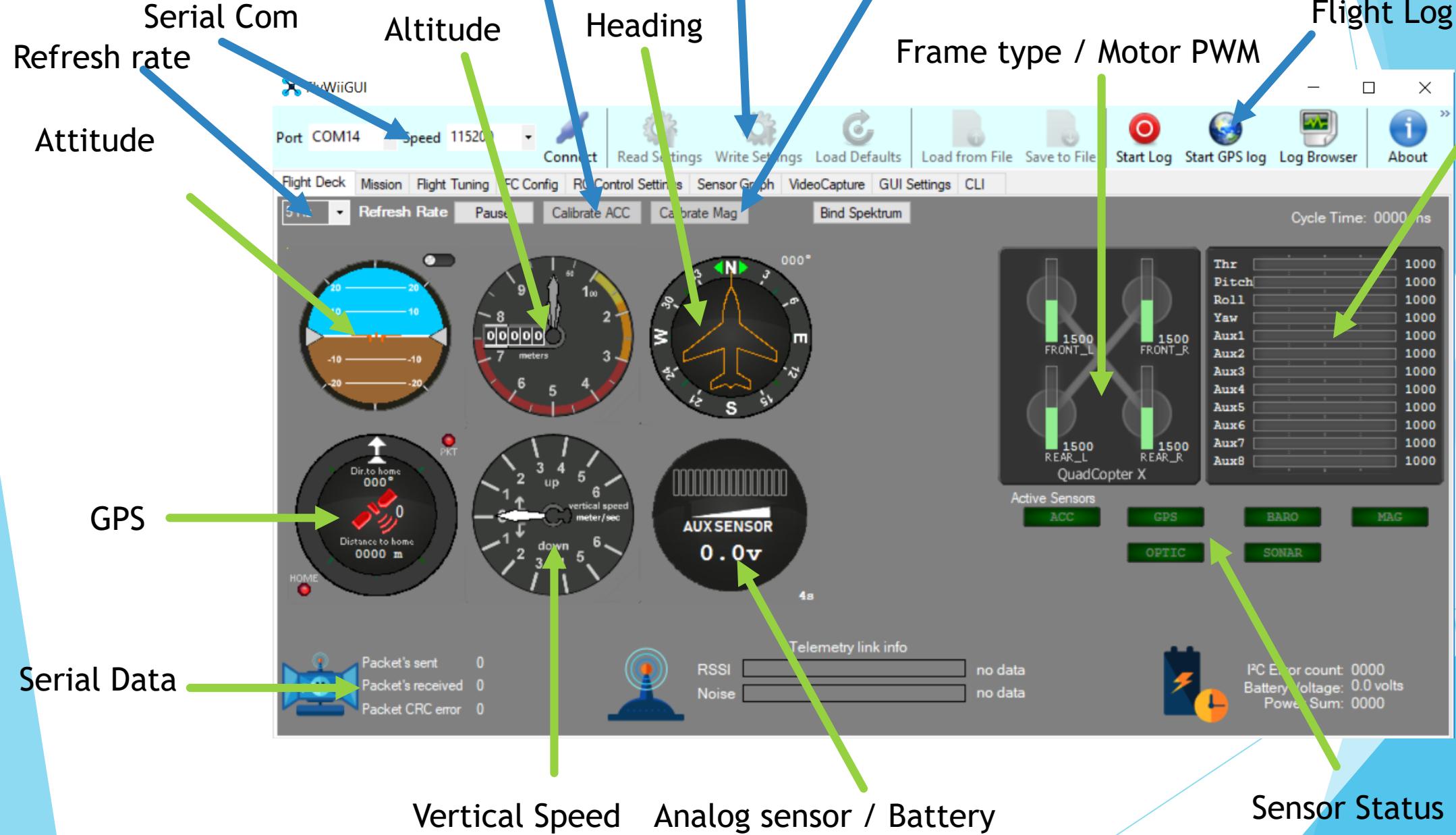
FlyWii GUI Ground Station Software .EXE

Ground Station FlyGUI19

[Download](#)

Calibration Acc - Drone must be on level surface

Write settings after changes made in any of the parameters



Battery



Lipo Charger 5A - to recharge select Battery type Lipo >> Balance Voltage 11.1V 3s - 1.3Ah charge current

For Storage - select Battery type Lipo >> Storage at 1Ah , this would charge/Drain battery to 3.80V per cell

Plug the JST balance connector and the XT60 plug to the charger

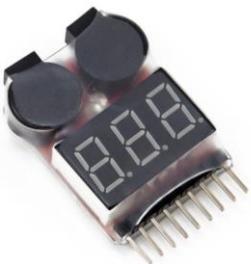


Lipo Battery 3s 11.1V 1300mah To 1500mah

Fully Charge is 12.4V or 4.20V per cell

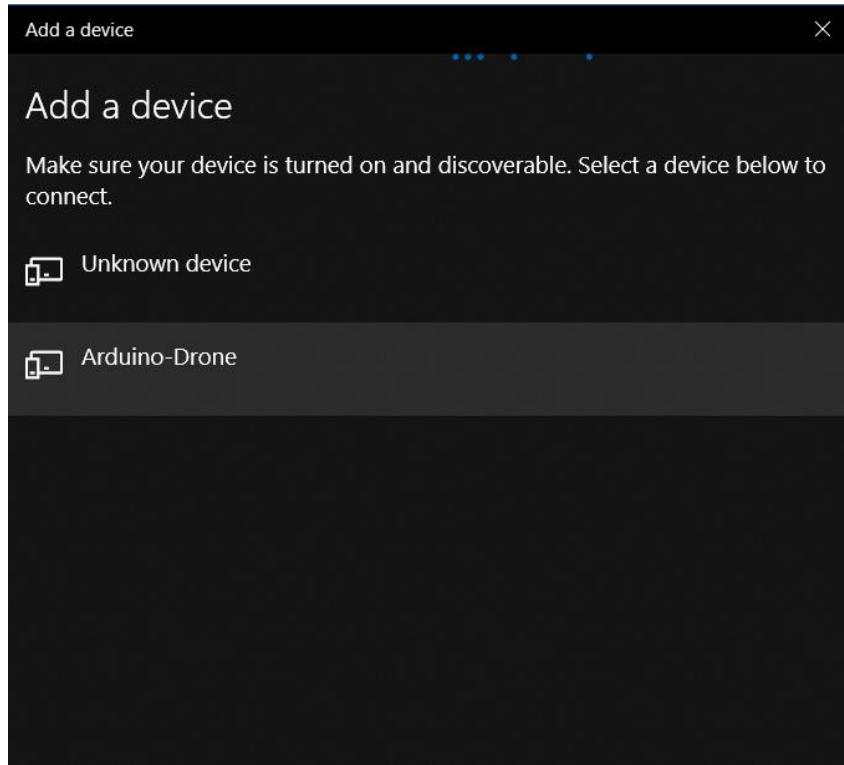
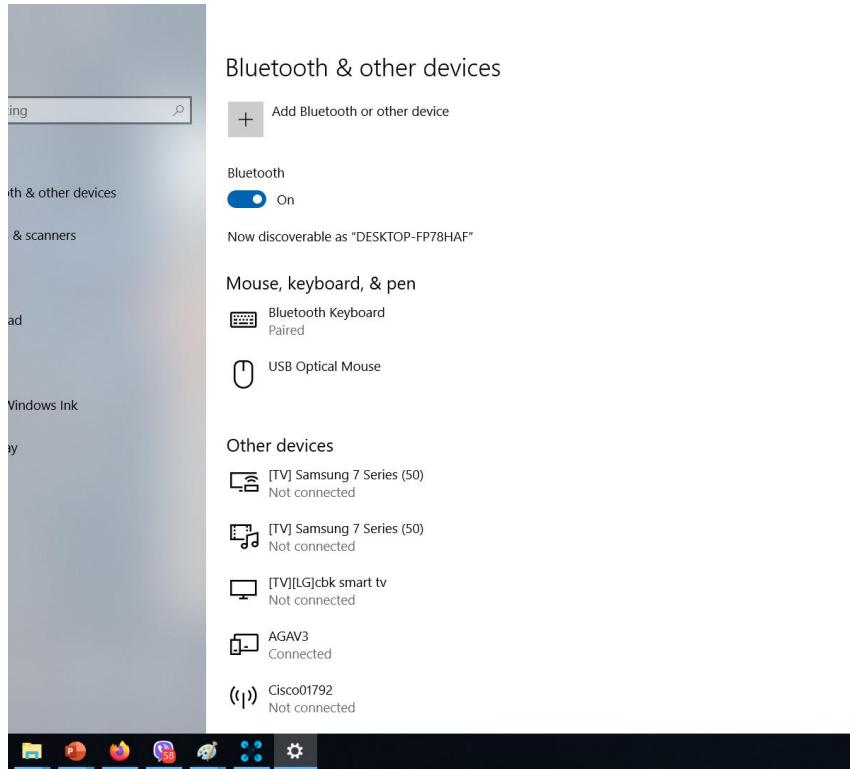
Storage is 11.1V or 3.80V per cell - battery when not in use for a long time

Do not drain the battery pass 3.3V Per cell

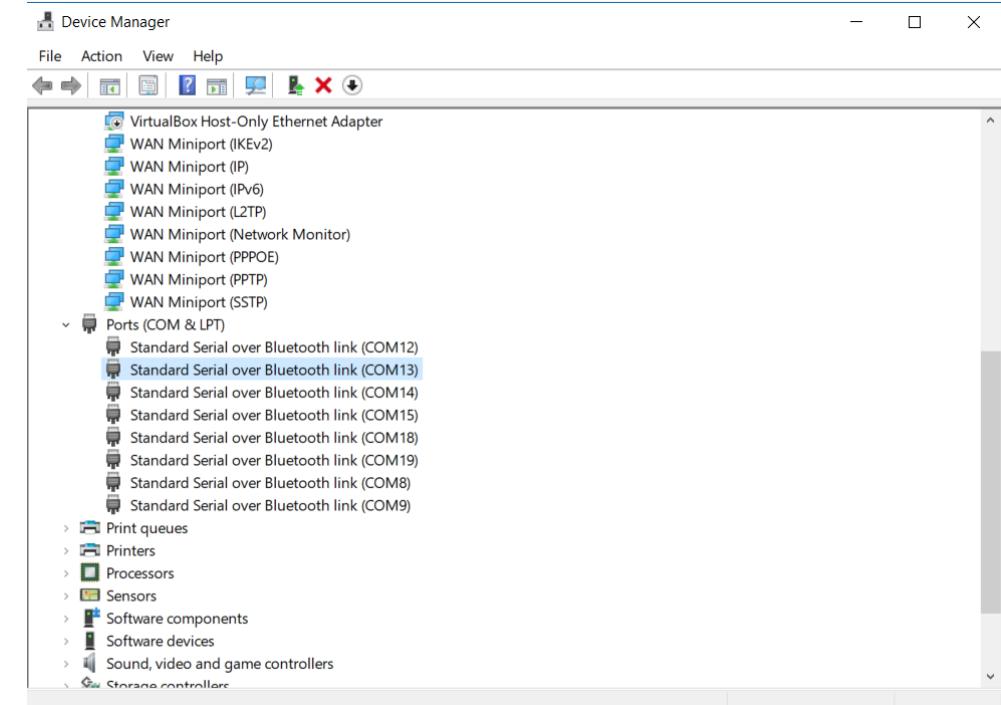
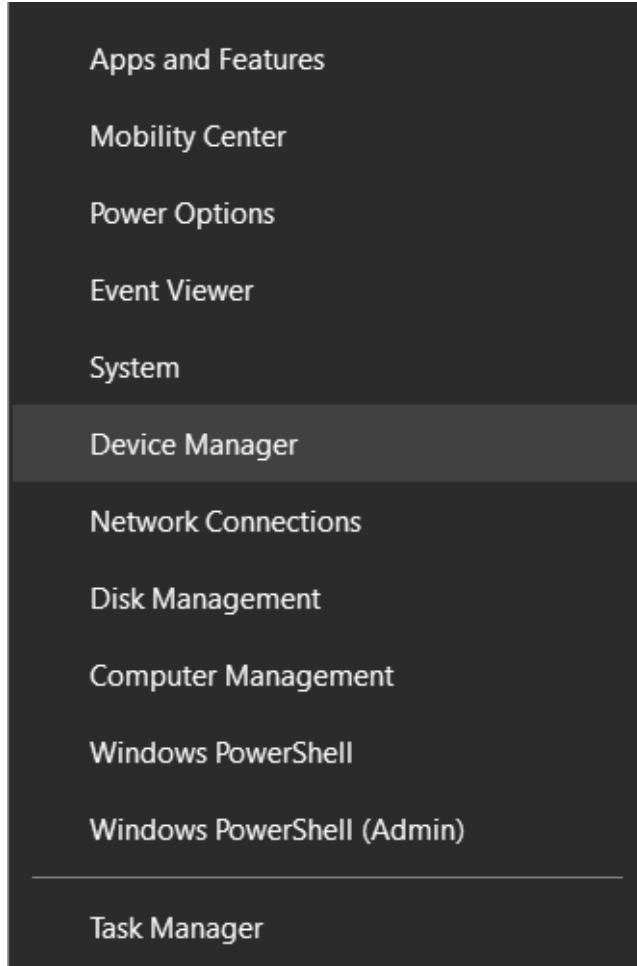


Voltage alarm Button on top sets the Alarm Voltage and it can be attach to the drone while in flight given its secure to the frame

Set voltage to 3.6V under load



Adding Bluetooth on Windows Device Manager look for Arduino-
Drone BT device
Take note on which Serial Com port its added to in Device Manager



in Device Manager Located in COM & LPT

Select the com port your Bluetooth is connected to .

At this point Disconnect your Physical USB and your drone should be running on batteries using only the Bluetooth to communicate

Connect to the Drone with the associated COM port and Baud as found in your device manager



Download the Preset PIDs from

250mm Version 2 (3d printed kwad frame)

PID Parameters

tank PID

[Download](#)

tank PID 2

[Download](#)

boat PID

[Download](#)

boat PID 2

[Download](#)

Name

Date modified

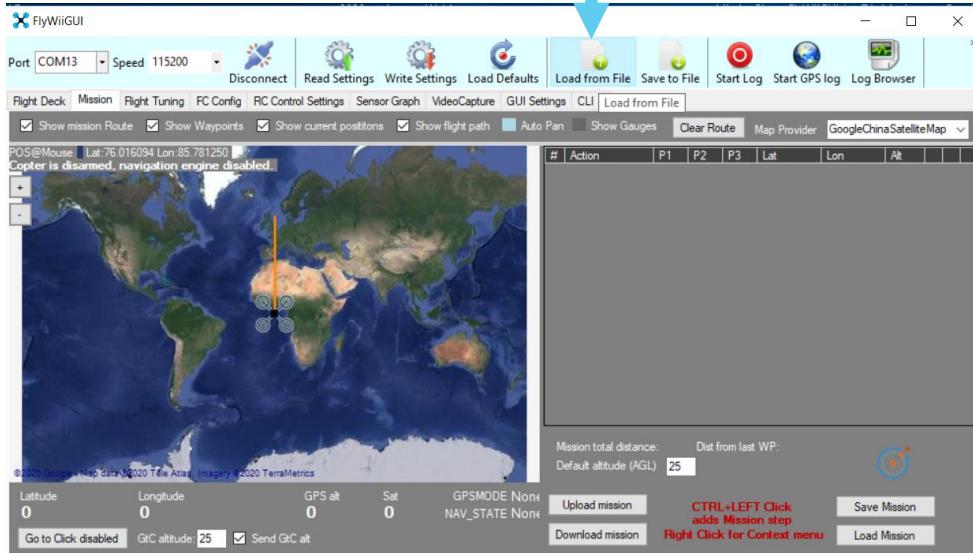
Type

^
Size

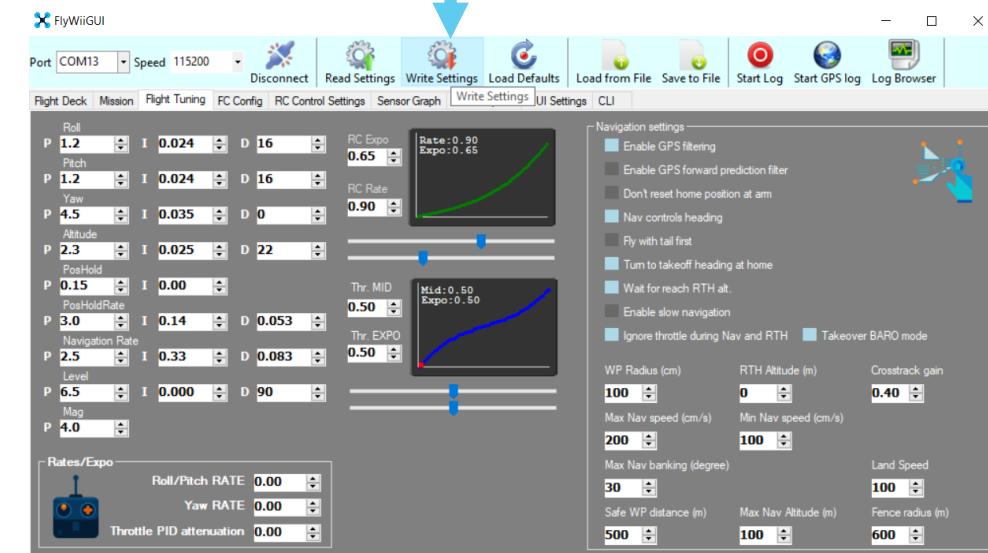
 boat pid 2021 2.mws	14/09/2021 4:10 PM	MWS File	3 KB
 boat pid 2021.mws	10/06/2021 9:21 PM	MWS File	3 KB
 tank pid 2021 2.mws	14/09/2021 4:09 PM	MWS File	3 KB
 tank pid 2021-13-6.mws	12/06/2021 9:55 PM	MWS File	3 KB

Load the PID file and Write settings after changes made in any of the parameters

Load the PID file



Write PID Parameter to drone



Aux Switches



Flight modes allows for additional access functions to your drone's capabilities

And can be setup using the Aux switch

ARM
Baro
Altitude
GPS Hold
Mag
GPS Home
Mission
Trigger
Land



PWM 1000 1500 2000

FS or TYG i6 remote example for Assigning Aux switch

Press OK for 1 sec

Enter Function setup

Choose Aux Channels

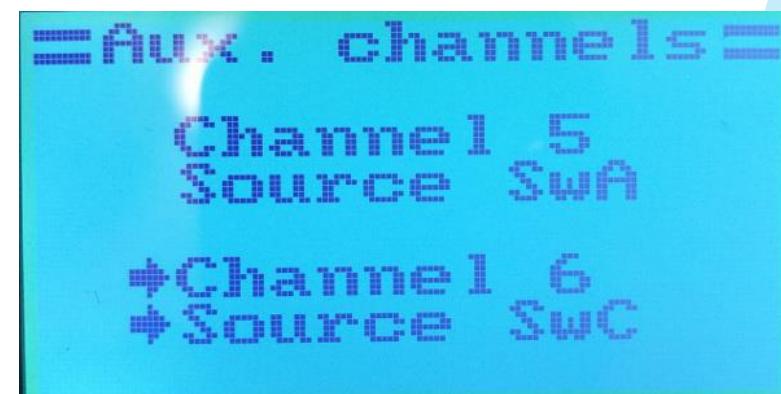
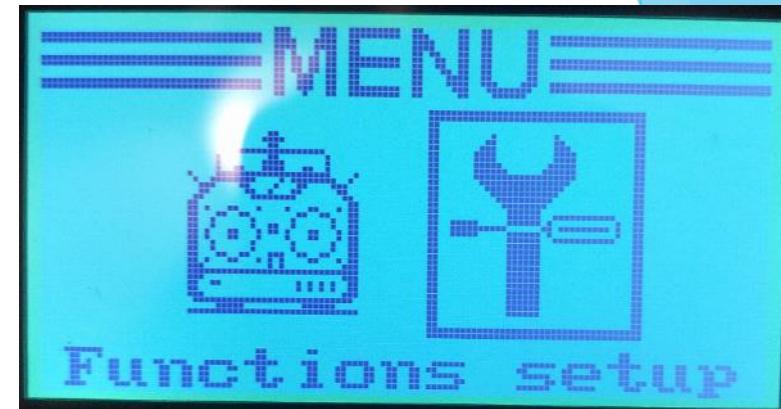
Hit ok button

Choose Channel to switch assignment on the
remote

Up/down button to select assignment

Hold Cancel Button for 3sec to set when exiting
the Aux Channel menu

You may enter in again to see if its set properly



FS or TYG i6 remote example for Fail safe

Press OK for 1 sec

Enter Systems

Choose RX Setup

Choose Failsafe

Choose Channel to set failsafe to

Move the stick or Aux switch to its fail safe position

Eg. GPS Home Mode (Ch5 or Ch6 where ever you set that mode in) or throttle down Stick on Ch3

Hit ok button

Hold Cancel Button for 3sec to set when exiting the failsafe menu

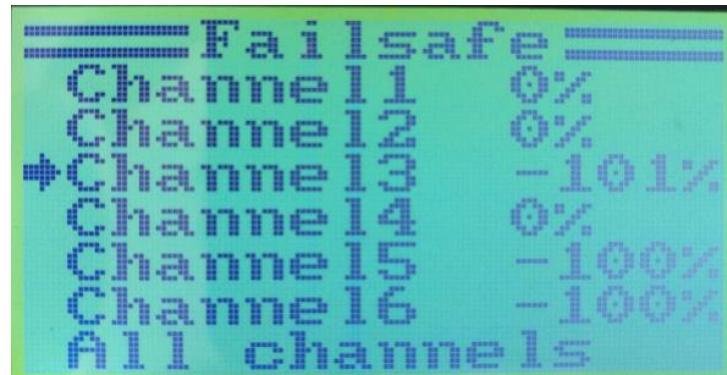
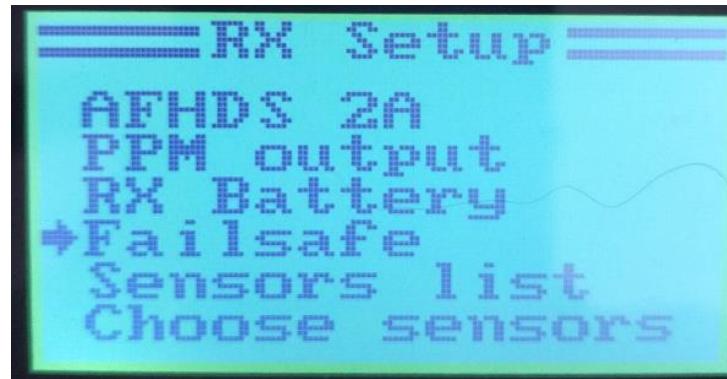
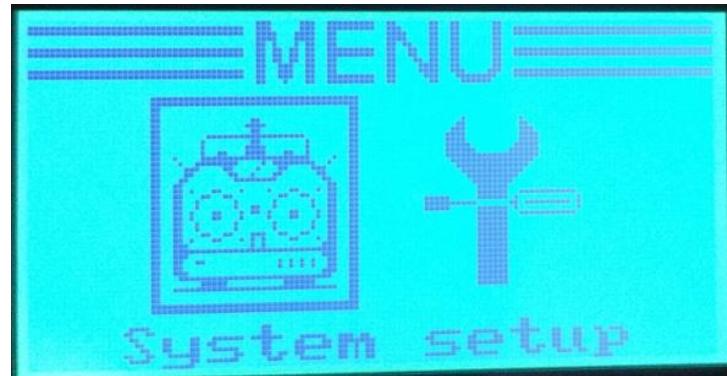
You may enter in again to see if its set properly

Attention:

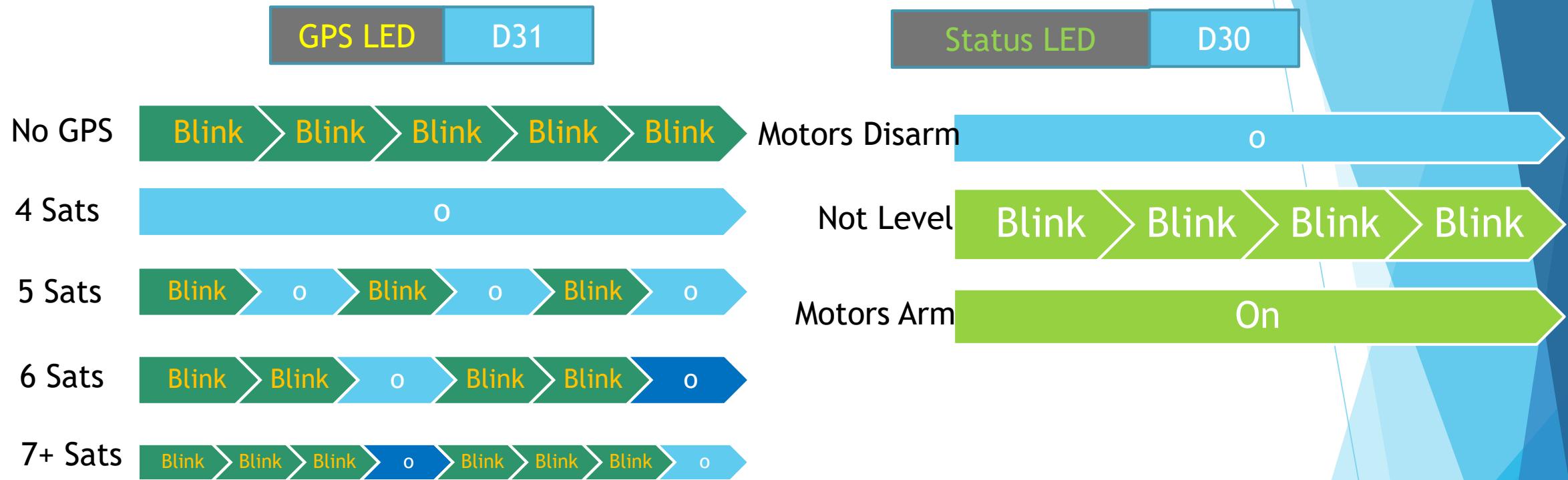
The Receiver will enter this mode when radio link is lost from the Transmitter

Switch transmitter off to test this function

Make sure props are remove before doing so

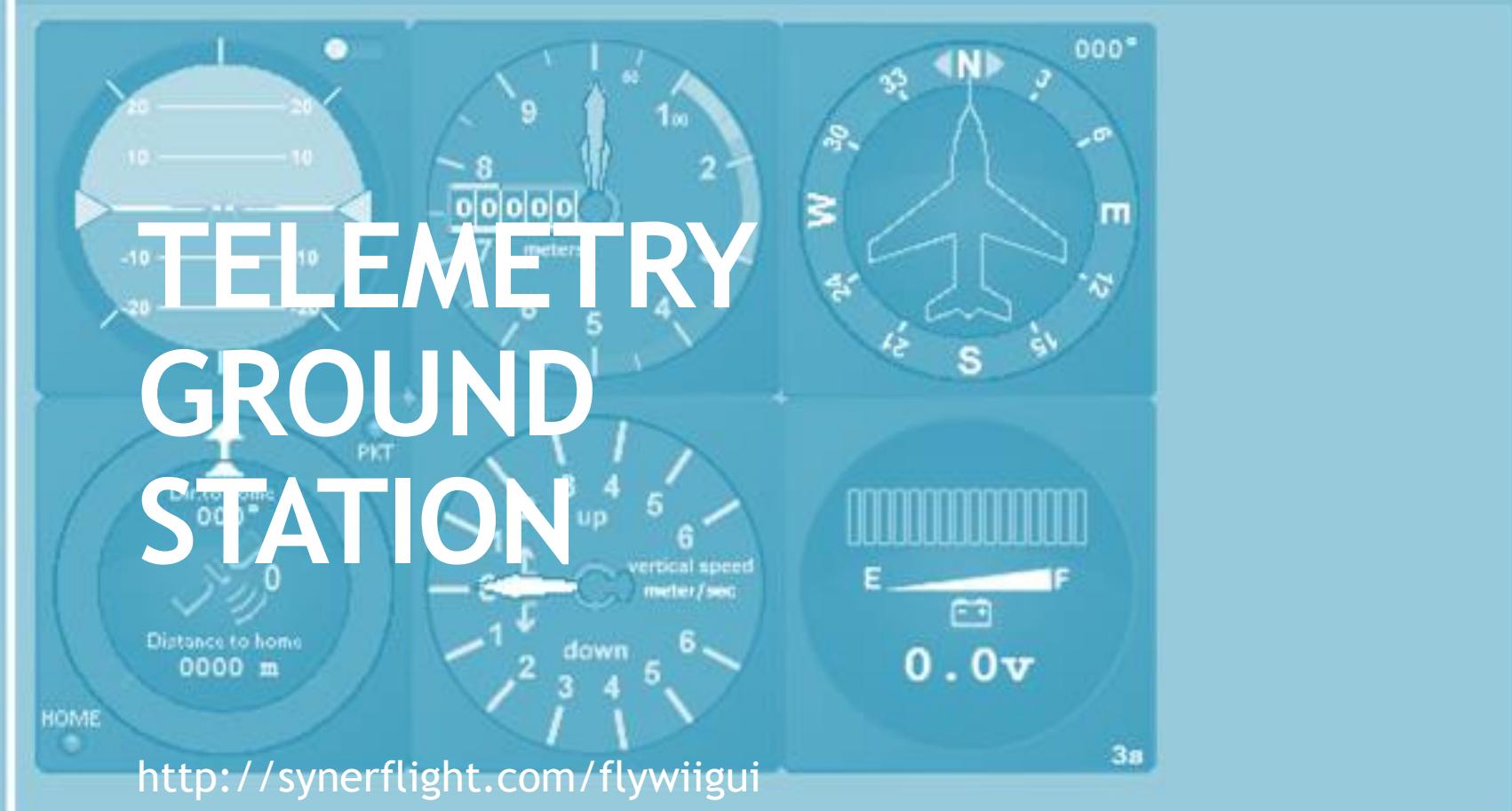


LED Indicator



indicate a valid GPS fix by flashing the LED

- led work as sat number indicator
- No GPS FIX -> LED blinks constant speed
- Fix and sat no. below 5 -> LED off
- Fix and sat no. >= 5 -> LED blinks, one blink for 5 sat, two blinks for 6 sat, three for 7 +



TELEMETRY GROUND STATION

<http://synerflight.com/flywiogui>





FLIGHT DECK - IF THIS DOESN'T LOOK RIGHT CHECK YOUR SENSORS ORIENTATION AGAIN USING THE SENSOR GRAPH

TELEMETRY CONNECTION SEE YOUR CHECK YOUR BLUETOOTH RADIO OR USB ON WHERE IS THE VIRTUAL COM PORT IS

COMPASS (MAG AND GYRO)

PWM OUTPUT INDICATOR

PWM INPUT INDICATOR

SAVE CONFIG

FLIGHT & GPS LOGS

ALTITUDE (BARO)

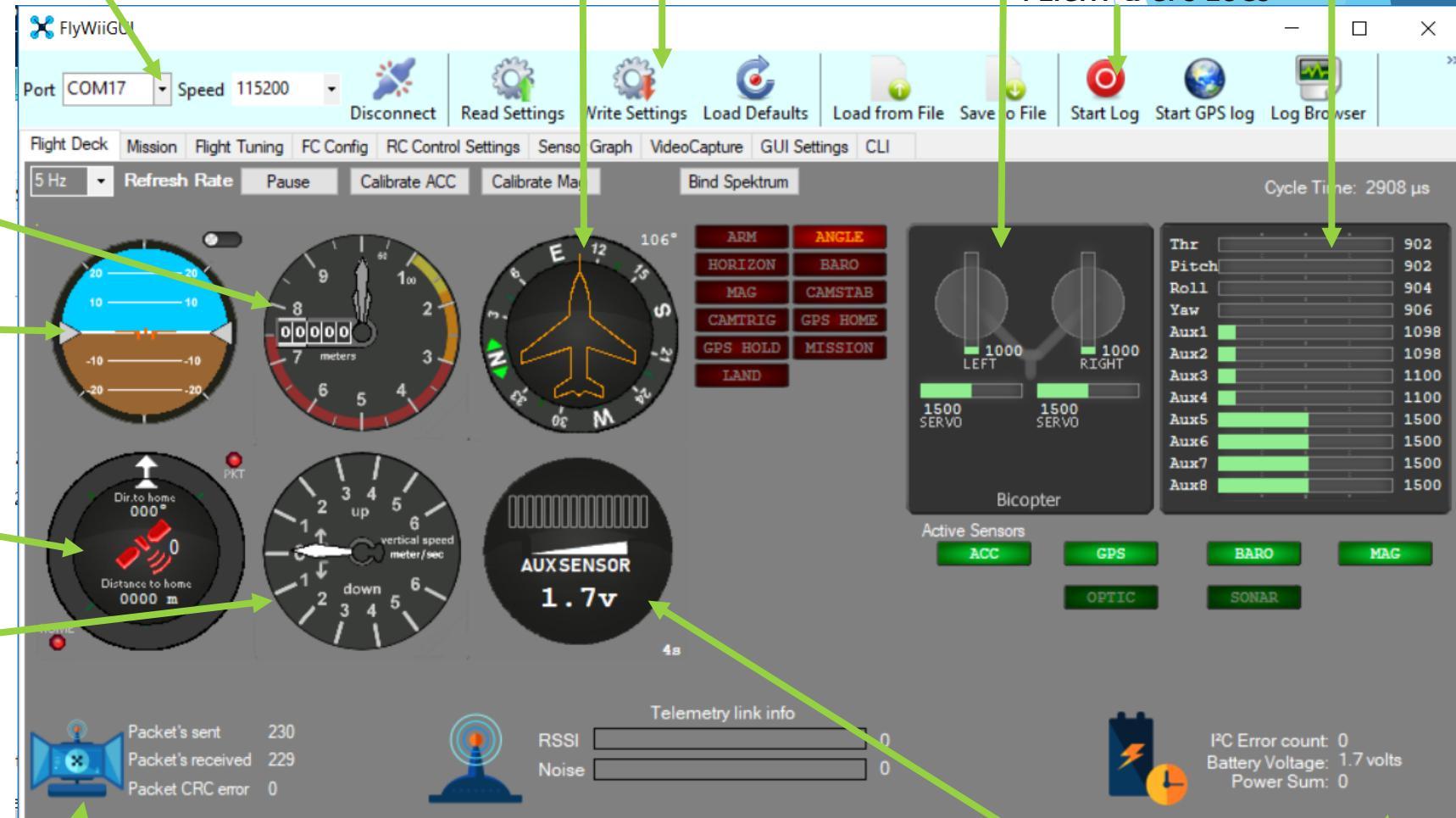
ATTITUDE (ARTIFICIAL HORIZON)
(GYRO XYZ AND ACC XYZ)

GPS SATELLITE COUNT
(4 SATS FOR 3D FIX - IDEAL 7 SATS)

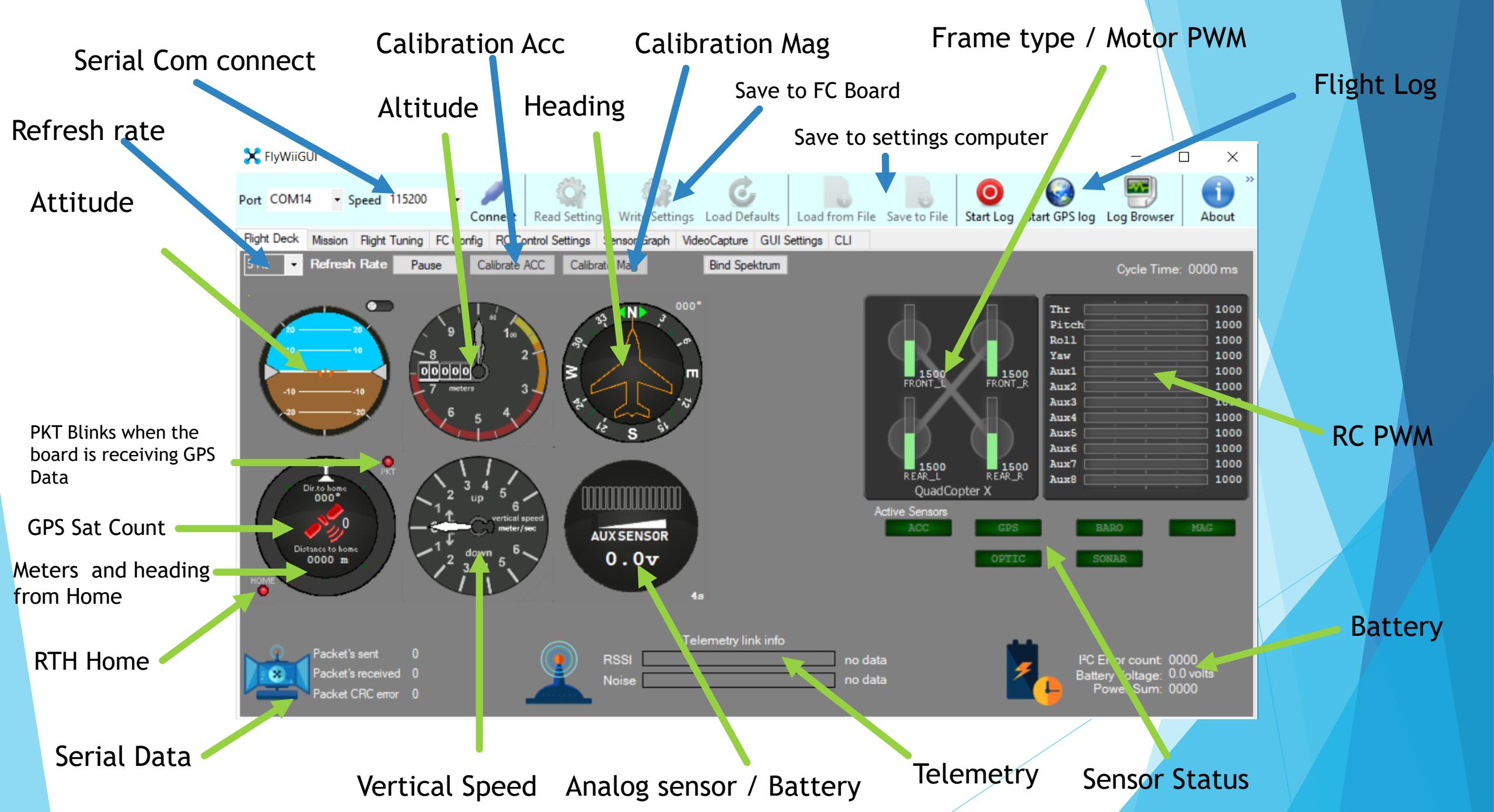
VERTICAL SPEED INDICATOR
(ACC Z AXIS)

PACKETS STATUS

(IF THE ERROR NUMBERS ARE HIGH PLS
CHECK YOUR TELEMETRY CONFIG)



POWER STATUS / AUX SENSOR
ALSO KNOWN AS FUEL GAUGE
(VBAT)





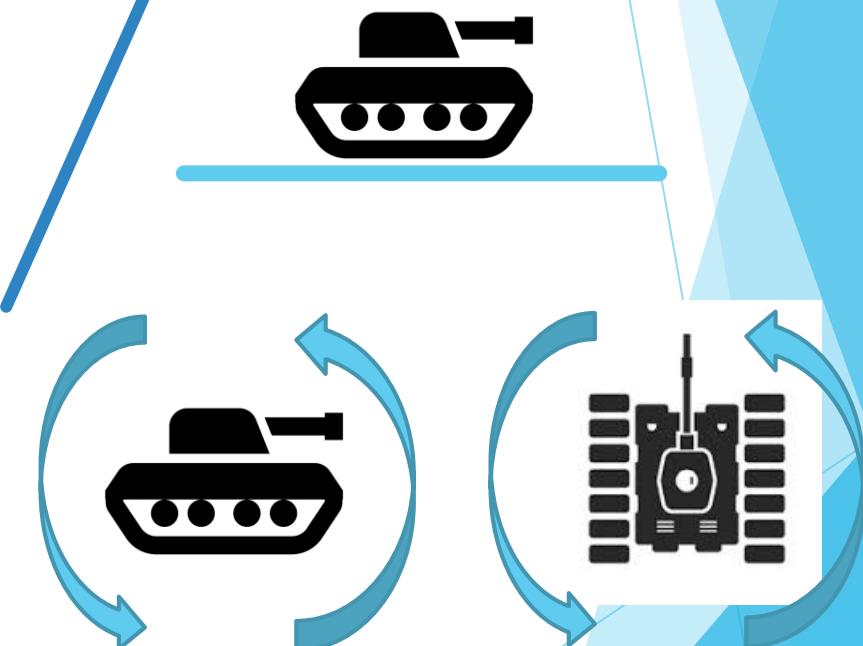
Refresh Rate . Telemetry update speed

Acc Calibration . Set the vehicle down on a level surface
. Away from any metal objects for 10 secs.

Mag Calibration . rotate the vehicle 360 degrees in all
axis within 30sec - 1 min. while the blue Led flashes

Mag Calibration must be perform when running your
vehicle in a new location for the first time. Pls verified
the Compass if the drone heading matches your compass
app in your phone.

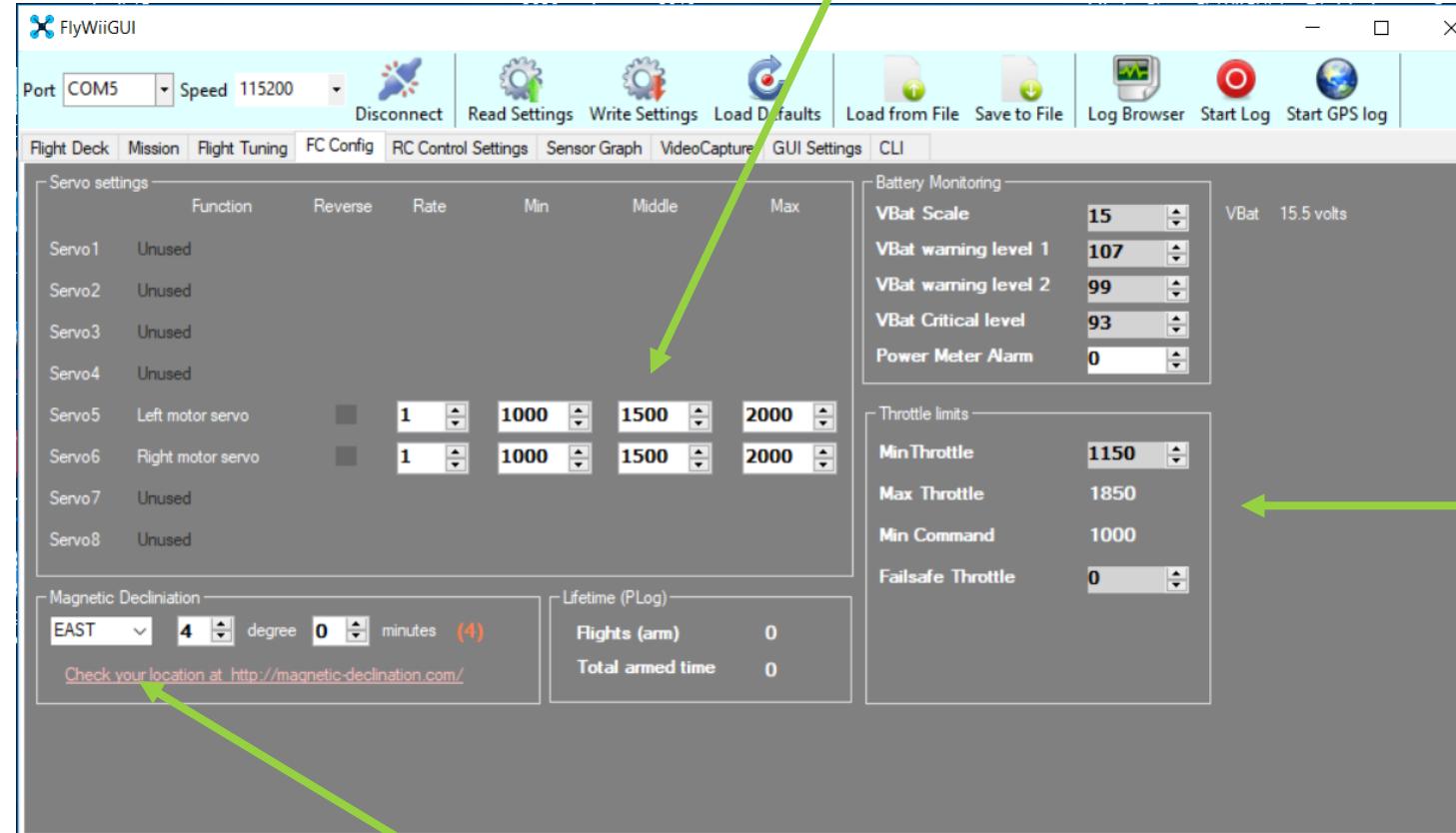
These Calibration must be perform after Parameter
updates after Flushing the firmware
Blue LED would flash during these calibration processes



Other Navigation Functions

FC Config

SERVO REVERSE OPTION - IF THE SERVO / REVERSABLE ESCS
IS OPERATING IN THE WRONG DIRECTION FROM CONTROLS



IMPORTANT TO KNOW THE MAGNETIC DECLINATION OF YOUR REGION

THIS AID ANY AUTONOMOUS FUNCTION THAT REQUIRES COMPASS

- HEADING HOLD
- GPS HOLD
- RTH
- MISSION

CALIBRATE COMPASS AT THE FLIGHT DECK TAB AFTER SETTING THIS UP

MOTOR THROTTLE RANGE PWM TO THE MOTOR
THIS ALSO CONTROLS THE MOTOR IDLE SPEED ON ARM



FLYWII GUI

Battery Monitoring

VBat Scale	120	▲ ▼
VBat warning level 1	110	▲ ▼
VBat warning level 2	110	▲ ▼
VBat Critical level	109	▲ ▼
Power Meter Alarm	0	▲ ▼

VBat 15.4 volts

Battery Cell Count

4s	▼
1s	
2s	
3s	
4s	
5s	
6s	
7s	
8s	
9s	
10s	

(FC CONFIG TAB)

BATTERY MONITORING

VBAT SCALE - ADJUST THIS TO MATCH THE BATTERY VOLTAGE OUTPUT USING THE VOLTAGE ALARM INDICATOR

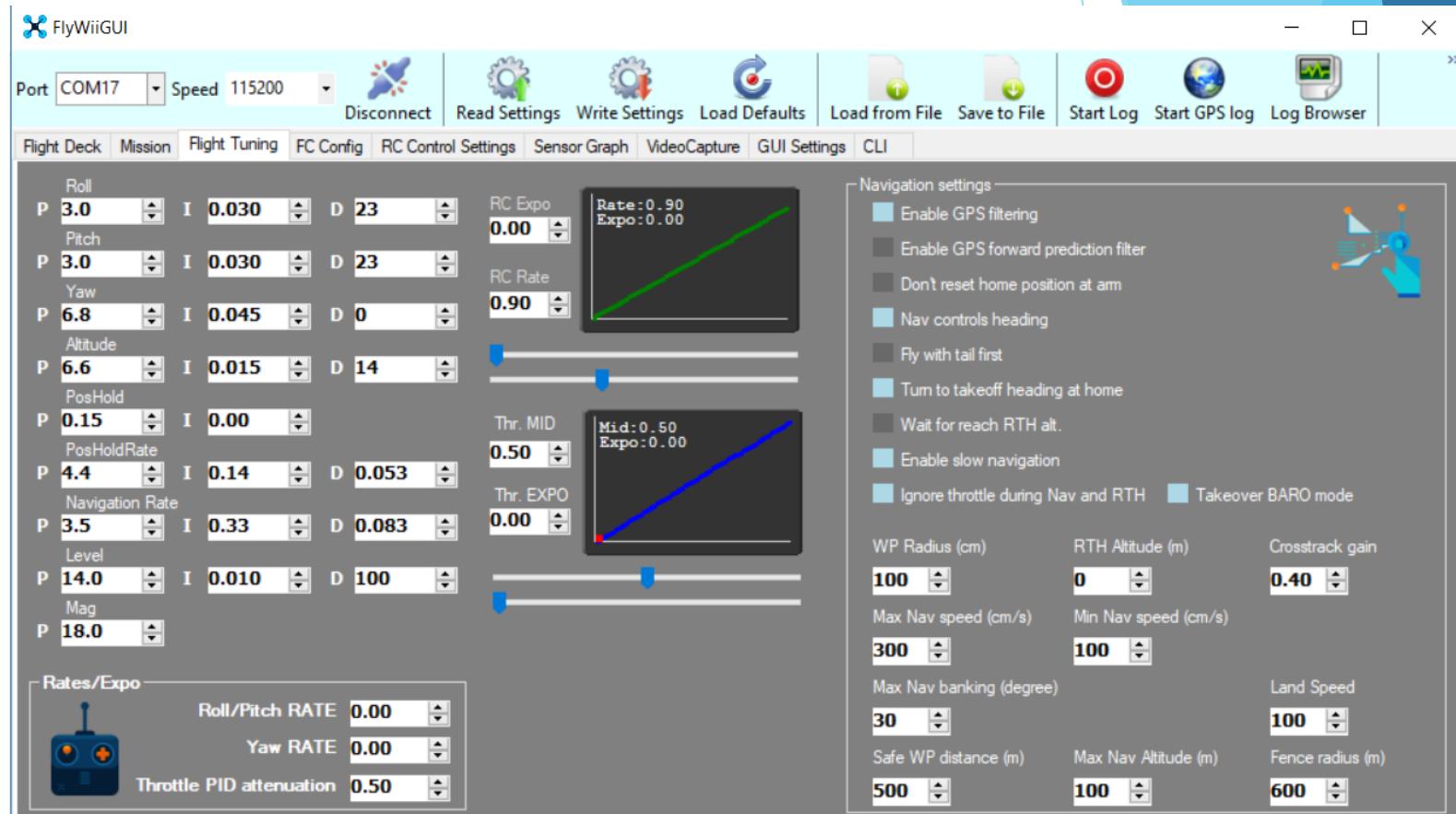
VBAT WARNING LEVEL - IDENTIFY THE NOTICE WHEN THE BATTERY DROPS TO THIS VOLTAGE

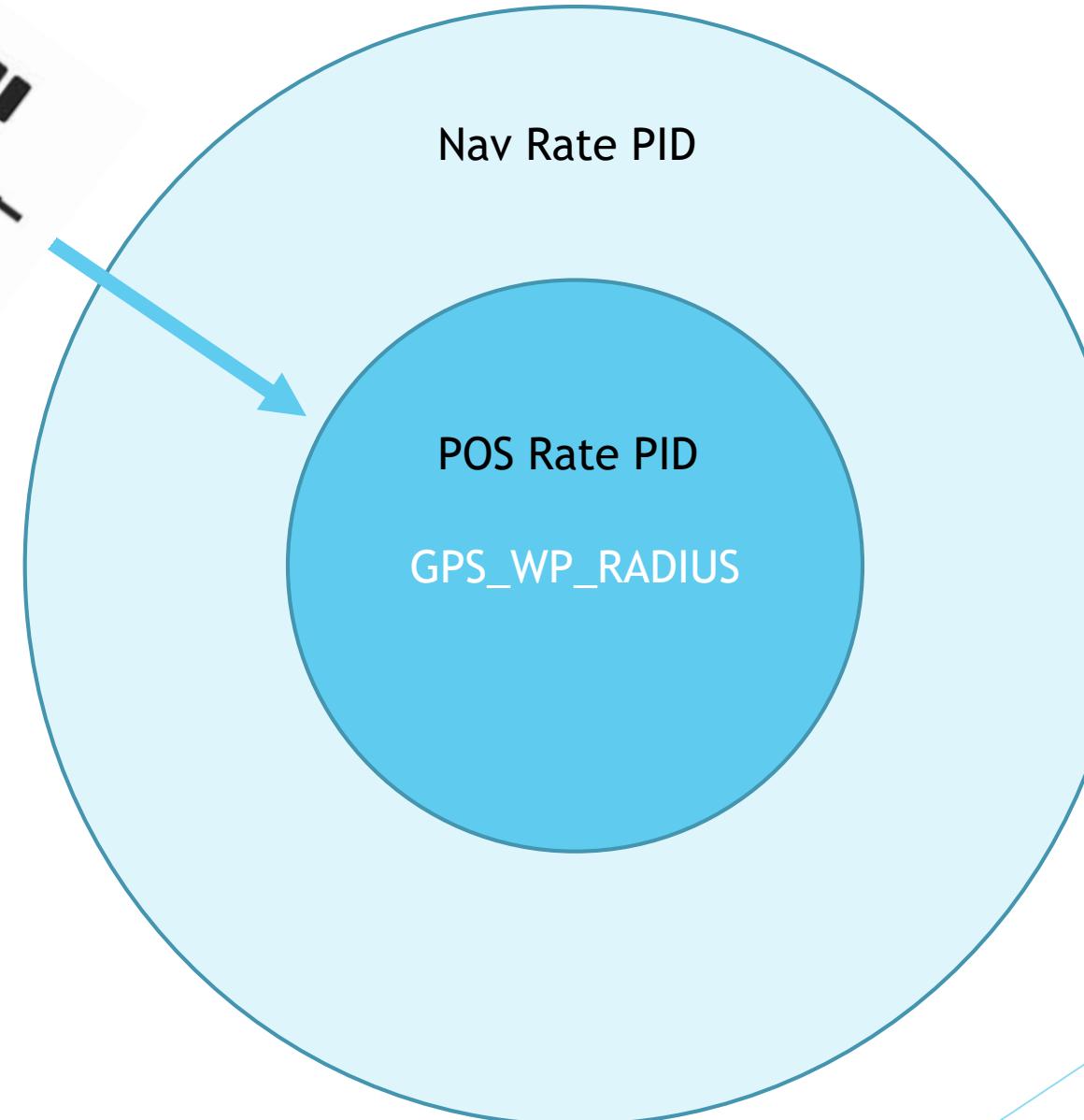
(GUI SETTINGS TAB)

BATTERY CELL COUNT- ADJUST THIS DEPENDING ON THE NUMBER OF CELLS

THIS BOARD SUPPORTS 2S-4S BATTERY

BATTERY

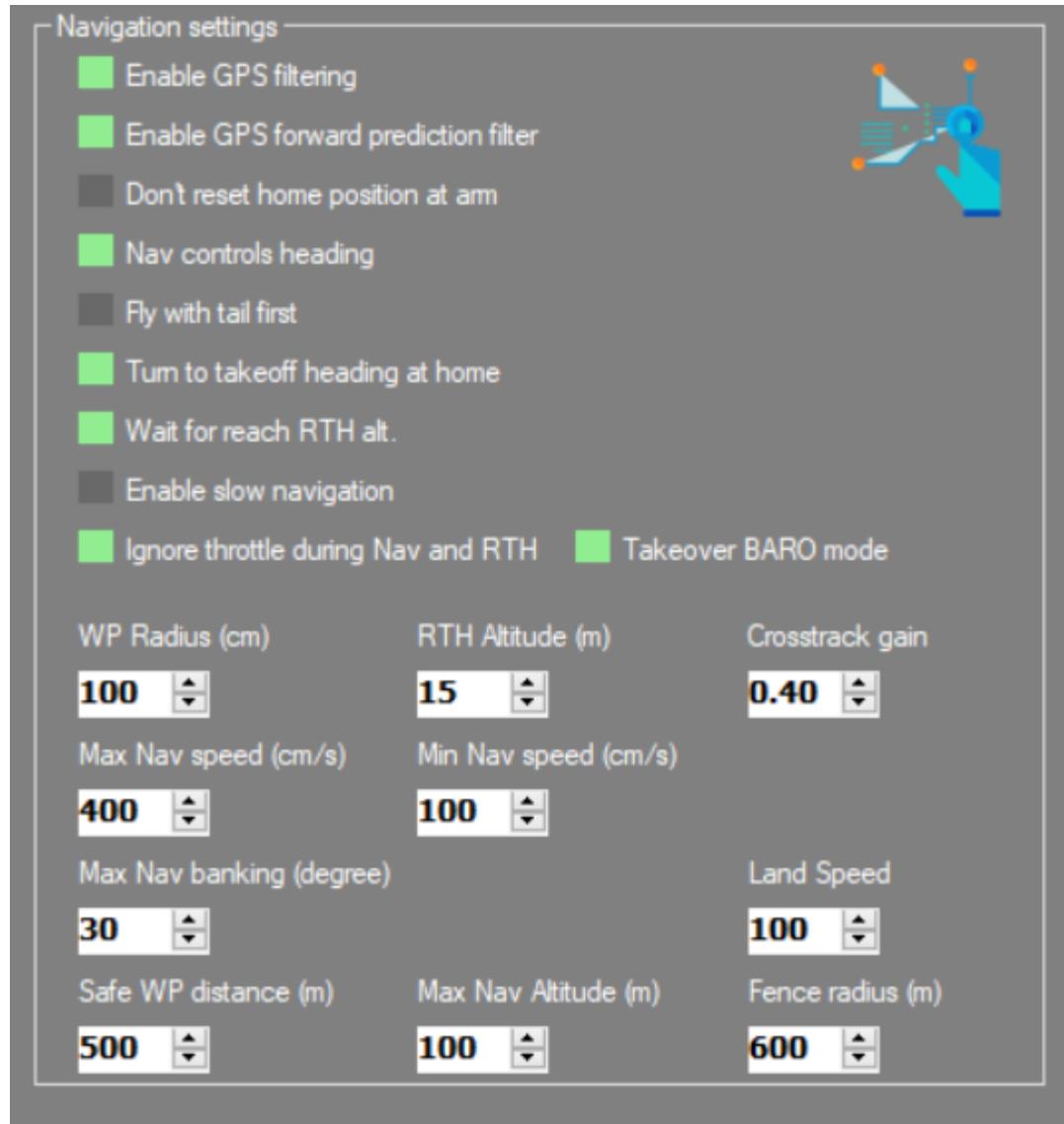




PosHold	P 0.15	I 0.00
PosHoldRate	P 3.4	I 0.14 D 0.053
Navigation Rate	P 2.5	I 0.33 D 0.083

The Navigation responds is the vehicle will orientate to the direction of the waypoint It will proceed to drive straight until it reach the WP_Radius and stop With multiple waypoint it will repeat the process till it completes the mission

Other Navigation Functions



WP Radius - the radius of the area the Pos PID will trigger it has reached the waypoint

Max Nav Speed - Maximum speed the Vehicle travel between waypoints (too fast and you likely over shoot your target) *for first mission flight test Nav speed of 100cm/s with ("Enable Slow Navigation "Active)*

Min Nav Speed - the speed the drone travel when within the WP Radius

RTH Altitude - (Zero Value for surface vehicle)

Max Nav Banking - the max allowable pitch and roll the drone will be set to while traveling between waypoints (tune this along with Max Nav Speed to take account with Environment conditions) **(not applicable for surface vehicle)**

Max Nav Altitude - Max altitude the drone is cap to fly at (Zero Value for surface vehicle)

Land Speed - speed of descending for Landing cm/s **(not applicable for surface vehicle)**

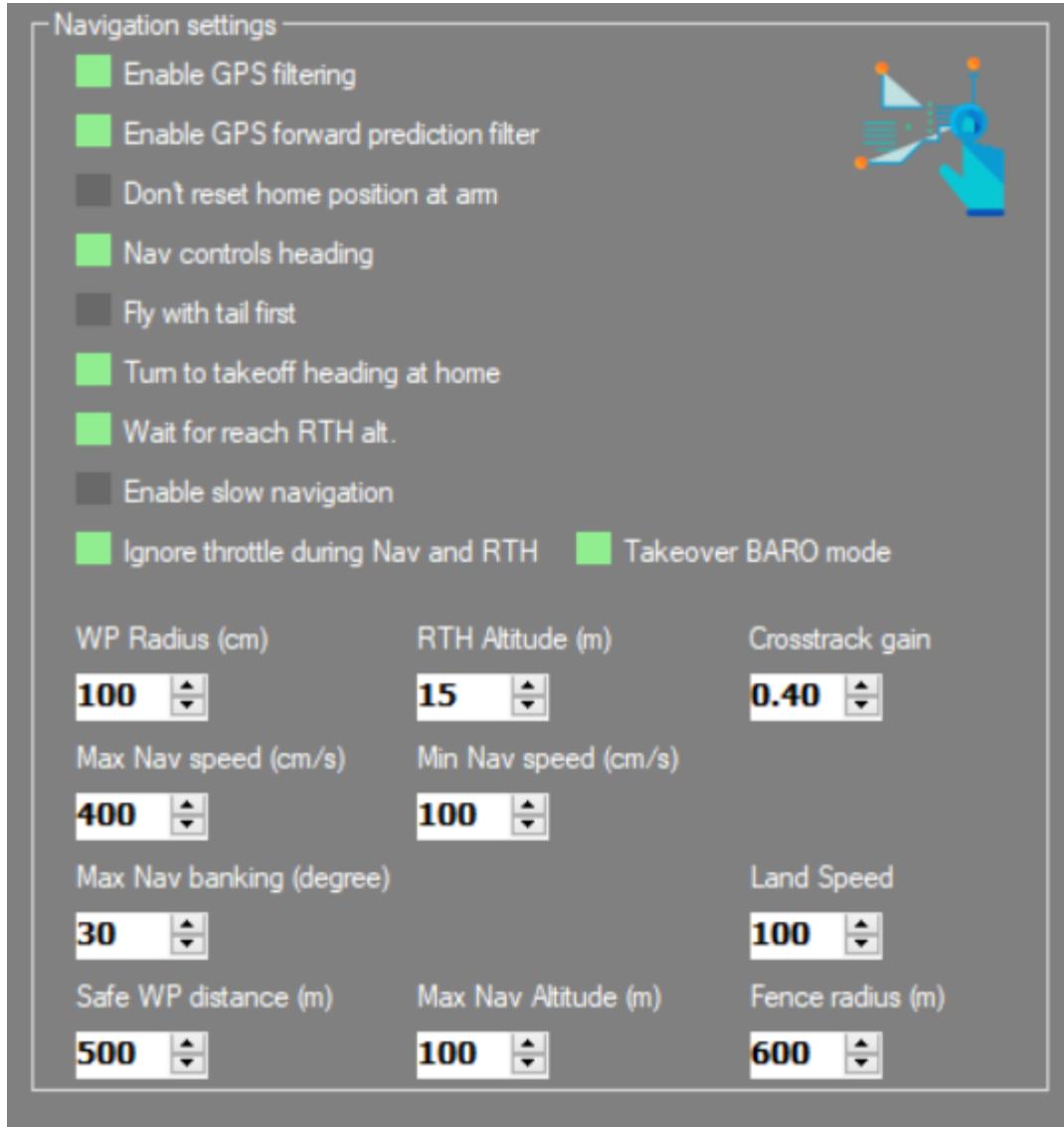
Safe WP Distance - max distance between waypoint before its null out

Fence Radius - Geo Fence to keep the drone within the perimeter in relation to home position

CrossTrack gain - this tune the GPS and Nav sensitivity

GPS Filtering - use to enhance GPS accuracy

GPS Forward Prediction Filter - predicting the Vehicle's location and to compensate for lag . (optional) - not necessary for most application



Don't Reset Home position at Arm - this retains the home position where you first plug power on your Vehicle

Nav Controls Heading - this points the Vehicle to its next waypoints (Keep this on) exception for omnidirectional vehicles

Fly tail first - makes the Vehicle drive reverse

Turn take off heading at Home - when drone arrives at home position it orientates to its heading right after arming

Wait to reach RTH - this works with RTH altitude command which the drone would climb to the said altitude before initiating the flight to home position

(turn off for surface vehicle) **(not applicable for surface vehicle)**

Enable slow navigation - this works with keeping the drone to its **Min Nav speed**

Ignore throttle and Take over Baro - Not applicable



Missions

Note: Only functional for Mega 2560 Boards with GPS

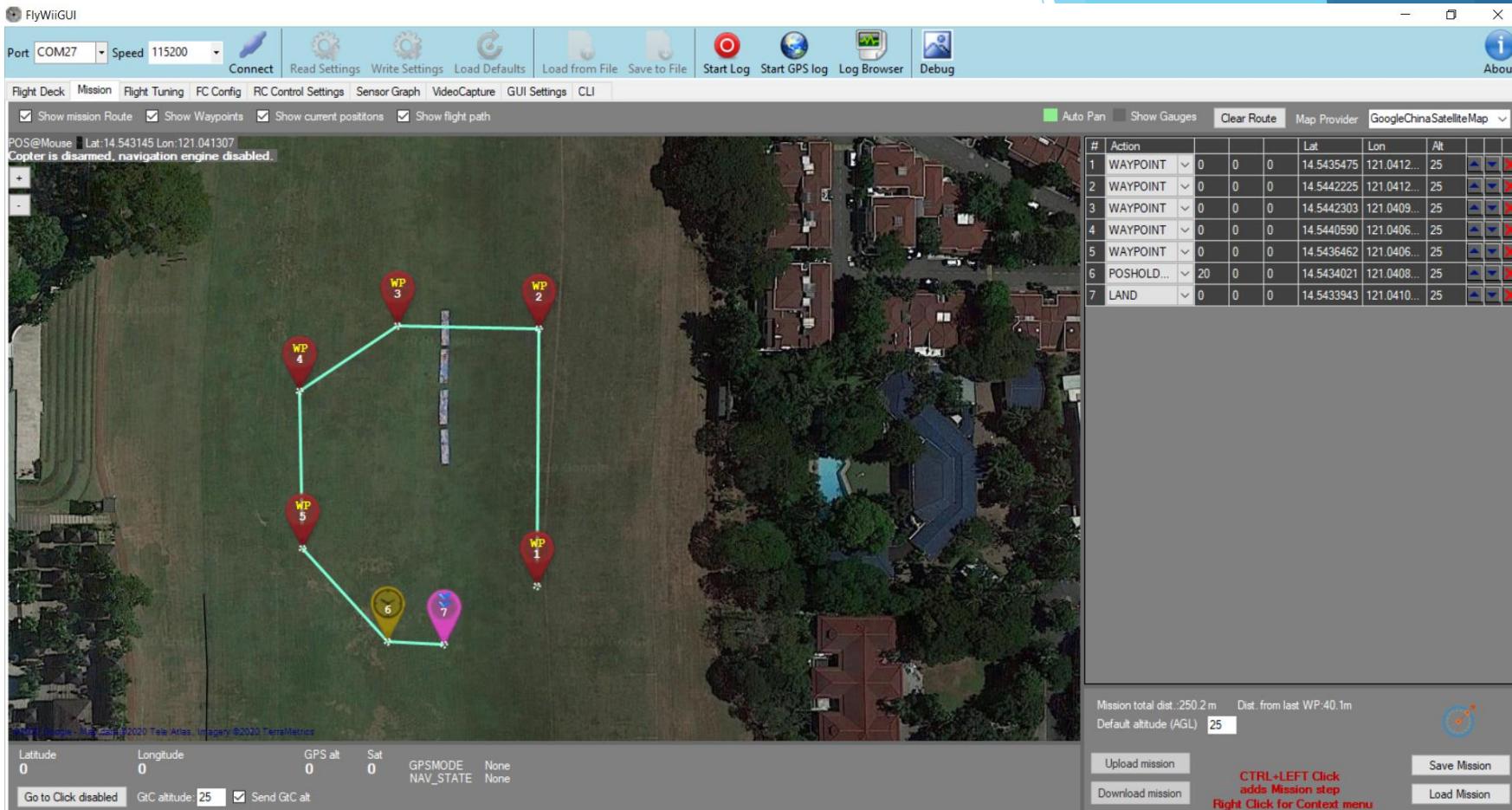
Waypoint - the Vehicle with travel between those points

Time PosHold - Vehicle will wait X number of 00:00:00 then move to the next waypoint

Unlimited PosHold - once the Vehicle reach this point it will hover and wait till you switch out of Mission mode

Land - the Vehicle Stop when has reach this point (**Must be place at the end of the mission**)

RTH - the Vehicle will go back to home position (**Must be place at the end of the mission**)



RC Control Setting Tab - activate Baro , Mag , Mission

To start mission takeoff aircraft in stabilize mode up to 1-2meter altitude then switch the aux switch to mission mode .

Any time you can switch out of it on hold or stabilize mode



Missions

Note: Only functional for Mega 2560 Boards with GPS

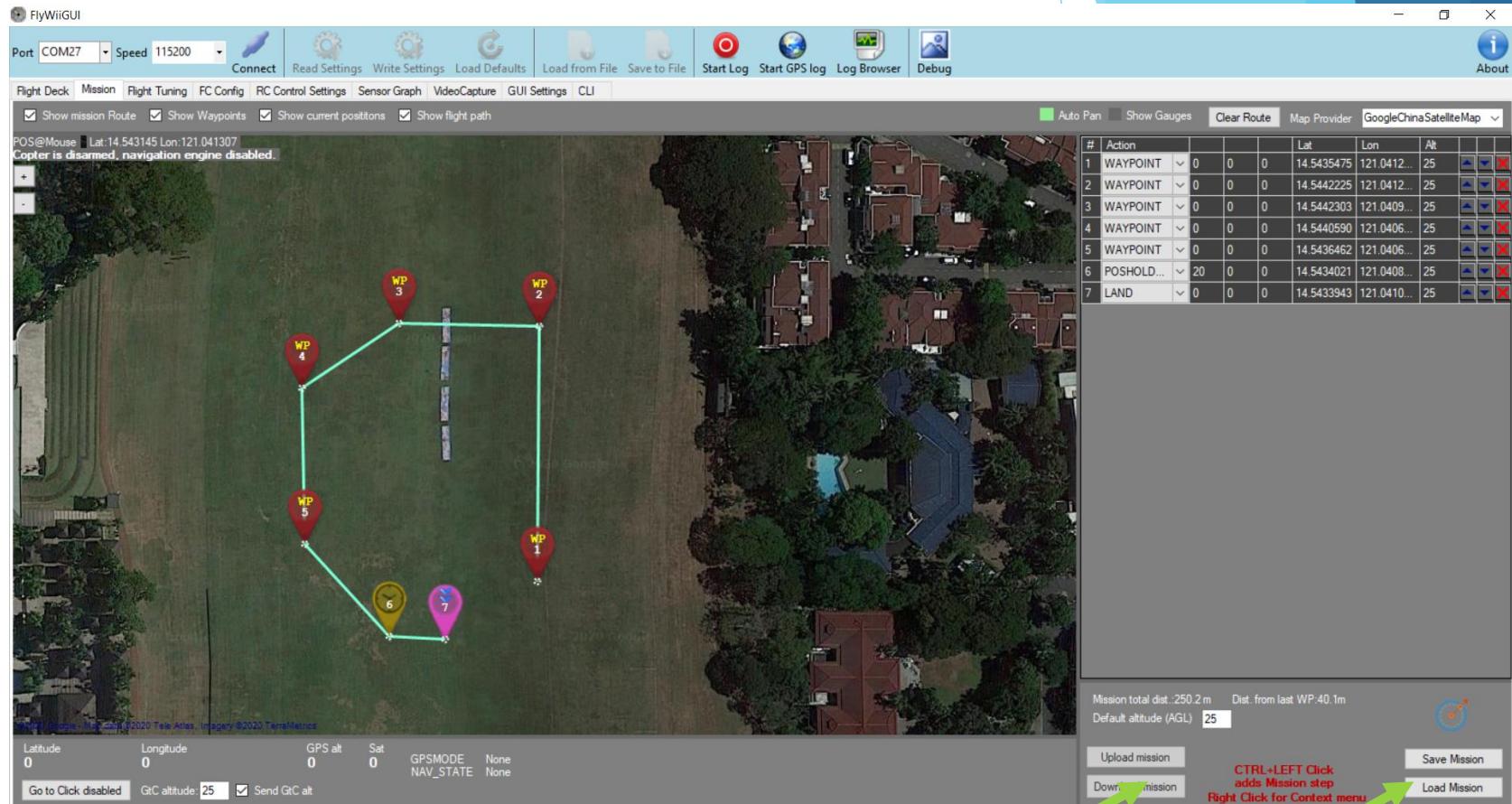
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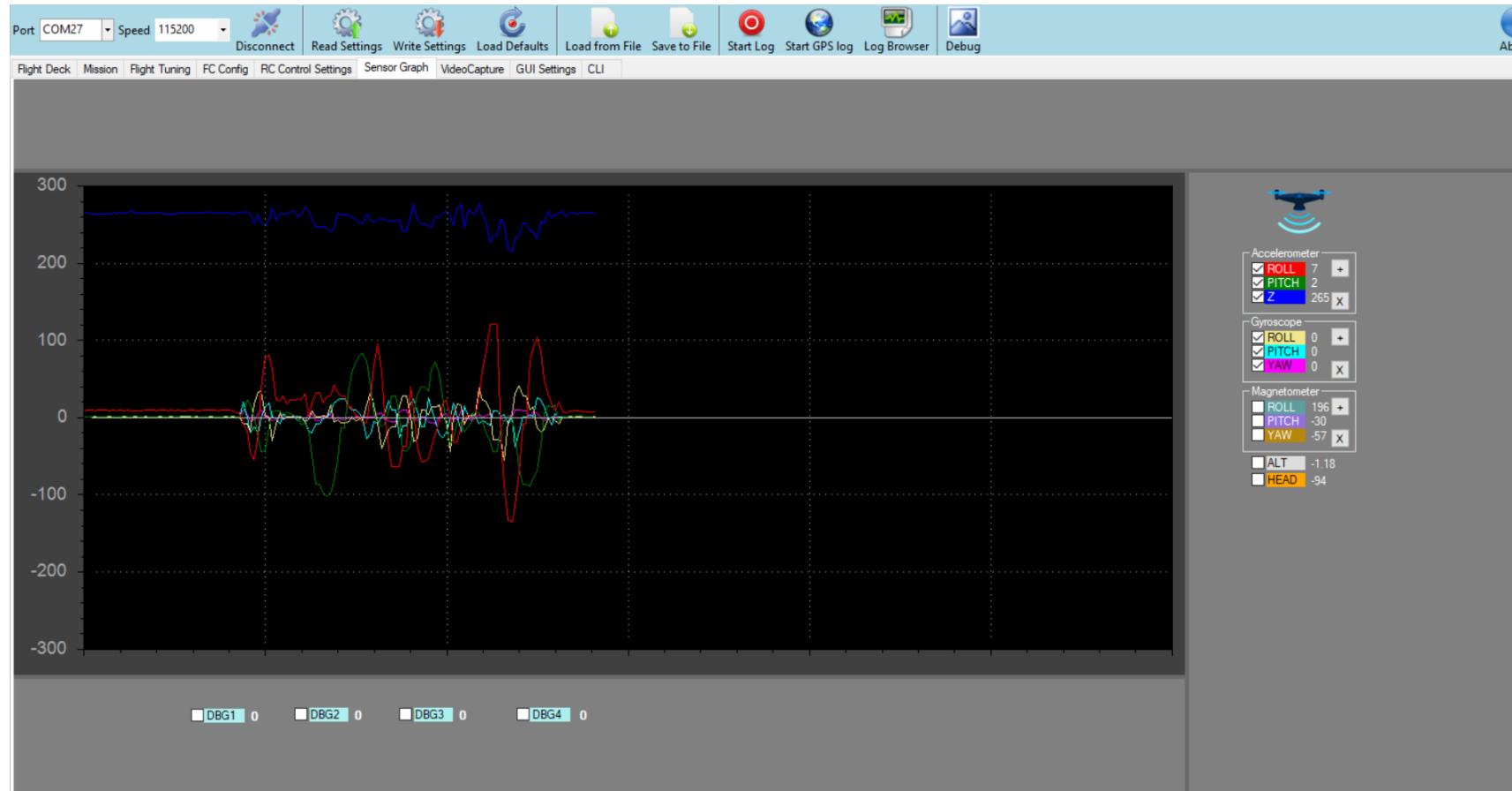
Mission upload to / download from Vehicle

Mission Save to / Open from File



Graphs and Sensors

Upload the sketch to the Arduino attach to the drone shield and open the FlywiiGUI sensor Graphs tab and hit connect to the appropriate COM your drone is connected to



the correct orientation

Roll Right + no#

Pitch nose down + No#

Z up + No#

Roll Right + no#

Pitch nose down + No#

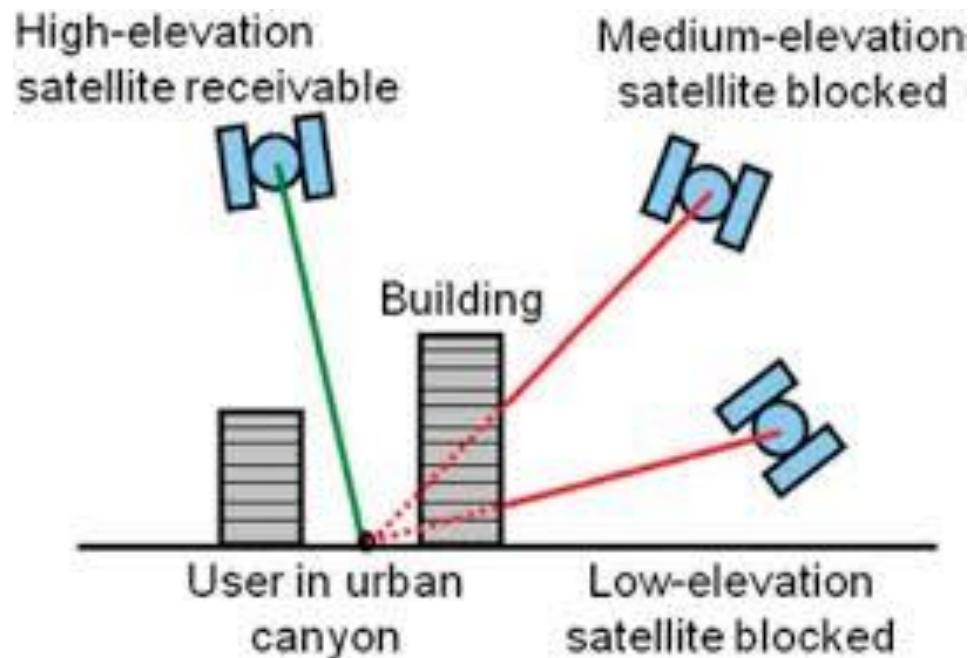
Yaw Right +No#

Mag & HEAD degrees
corresponds to the compass
(0 degrees = North)

Alt up +no#

Example : if roll the drone to the right the Accelerometer and Gyroscope graphs would show positive numbers and to the Left Negative numbers

If Lift the drone up Vertically the accelerometer Z axis should shows positive numbers and altitude should show a climb in meters



Note : GPS require a clear open area to get a proper fix and accuracy minimum 7 satellites but 10+ are Ideal

operating next to a building can distort satellite signal deteriorating accuracy

Which in this case its better to not use GPS modes and operate Manual

And your much Done on
your setup

Cannot Arm Motors

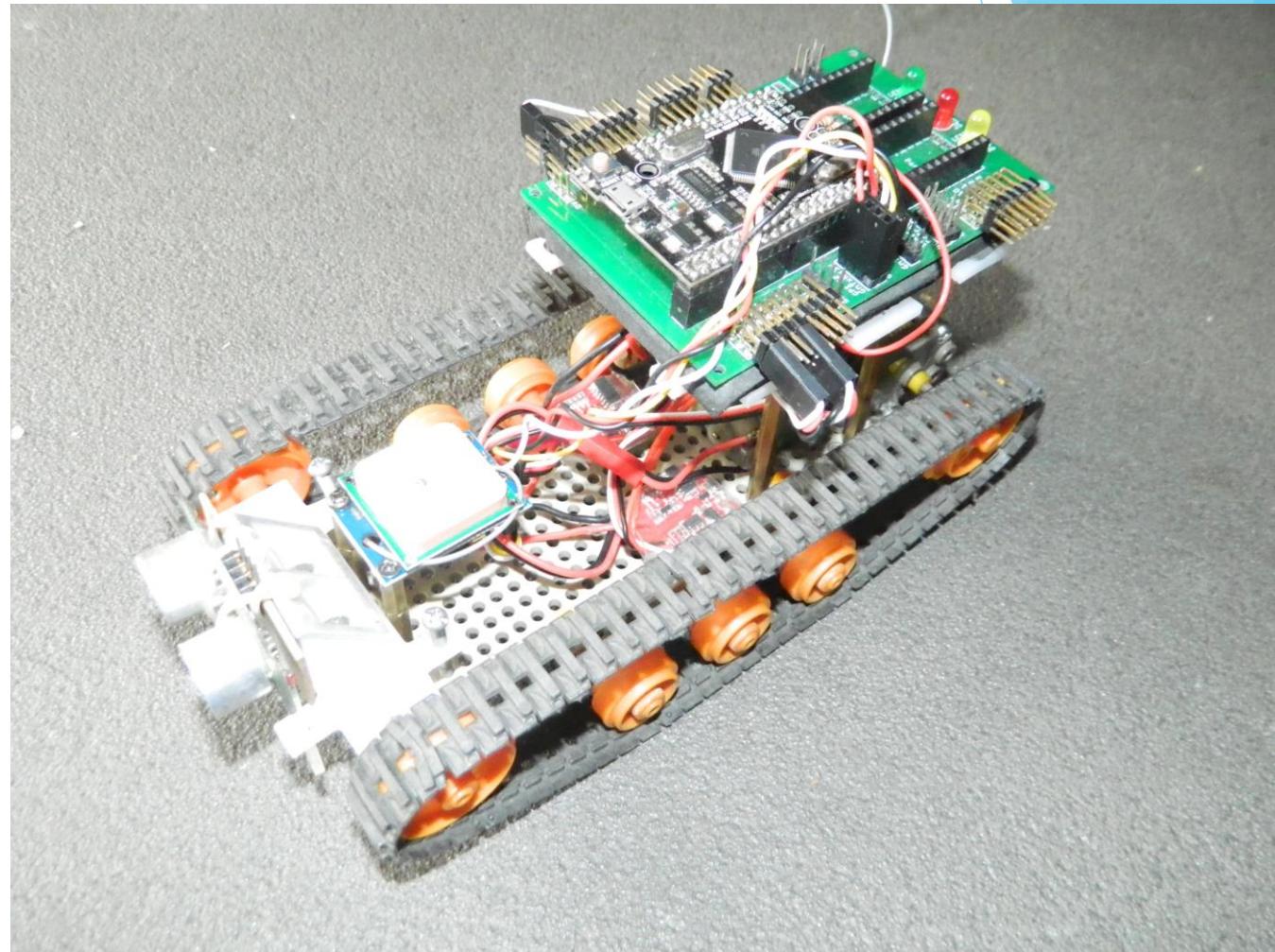
when on GPS Home , GPS Hold ,
Mission Flight modes & when
USB is plugged in . (pls use
Bluetooth telemetry)

You can Test with the Vehicle's
wheels off the ground first

**Pls calibrate ACC and Mag in
the FlyWii GUI Dashboard**

**Ensure the compass is facing
the correct orientation**

**Set Aux1 as Arm Switch at RC
control**



**For surface vehicles at RC
control settings**

**Set Aux1 as Arm Switch at RC
control**

**Boats must be plug in on level
surface first before placing on
water**

