

MULTIROTOR SETUP WIZARD



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LibrePilot progress

After the split there has been much work done with packaging for easy maintenance of code and new Linux distribution support like Fedora with rpm packages. All of the GCS is refreshed to fit with the new project and new features have been added to imp...

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Project Activity



- AlessioMorale**
Committed Merged in paul_jewell/librepilot/fix_google_maps (pull request #77)
- AlessioMorale**
Committed Merged in skarlss0/librepilot/skarlss0/LP-129_remove_broken_scalemotor_modes (pull request #75)
- paul-jewell**
Committed Fix Google Maps version
- skarlss0**
Committed LP-129 Remove broken motor scaling modes
- AlessioMorale**

LibrePilot GCS Version: 15.09-RC2

Setup Wizard

Welcome to the Setup Wizard

This wizard will guide you through the basic steps required to setup your flight controller for the first time. You will be asked questions about your platform (multirotor/heli/fixed-wing) which this wizard will use to configure your controller for its first flight.

This wizard does not configure all of the advanced settings available in the GCS Configuration. All basic and advanced configuration parameters can be modified later by using the GCS Configuration plugin.



**WARNING: YOU MUST REMOVE ALL PROPELLERS
FROM THE VEHICLE BEFORE PROCEEDING!**

Disregarding this warning puts you at **risk of injury!**

Now that your props are removed we can get started. Ready?

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Firmware Update

It is necessary that your firmware and ground control software are the same version.

When you are ready you can start the upgrade below by pushing the button. It is critical that nothing disturbs the board while the firmware is being written.

It is recommended that you erase all settings on the board when upgrading firmware. Using saved settings for a previous version of the firmware **may result in undefined behaviour** and in worst case danger. It is possible to suppress the erase by deselecting the check box below.

Erase all settings



Ready...

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It is recommended that you erase all settings on the board when upgrading firmware. Using saved settings for a previous version of the firmware **may result in undefined behaviour** and in worst case danger. It is possible to suppress the erase by deselecting the check box below.

Erase all settings



Board updated, please press 'Next' to continue.



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Next >

Cancel

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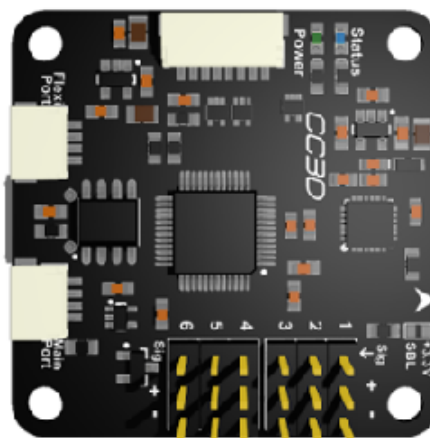
Setup Wizard

Board Identification

To continue, the wizard needs to determine the configuration required for the type of flight controller you have. When connected, the wizard will attempt to automatically detect the type of board.

If the board is already connected and successfully detected, the board type will already be displayed. You can **Disconnect** and select another device if you need to detect another board.

If your board is not connected, please connect the board to a USB port on your computer and select the device from the list below. Then press **Connect**.



Connection device: USB: CopterControl

Detected board type: OpenPilot CopterControl 3D

Disconnect

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Reboot

Please wait. Your controller is rebooting.
This can take up to a minute.

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Input Signal Configuration

The flight controller supports many different types of input signals. Please select the type of input that matches your receiver configuration. If you are unsure, just leave the default option selected and continue the wizard.

Some input options require the flight controller to be rebooted before the changes can take place. If an option that requires a reboot is selected, you will be instructed to do so on the next page of this wizard.

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CHOOSE RCINPUT TYPE



PWM



PPM



S.Bus



DSM Sat



SRXL

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Cancel

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Reboot

Please wait. Your controller is rebooting.
This can take up to a minute.

RCINPUT TYPE CHANGES
NEED REBOOT

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Setup Wizard





Vehicle Type Selection

To continue, the wizard needs to know what type of vehicle the flight controller board is going to be used with. This step is crucial since much of the following configuration is unique per vehicle type.

Go ahead and select the type of vehicle for which you want to create a configuration.

The current version only provides functionality for Multirotors, Fixed-wing aircraft and Ground vehicle.

SELECT MULTIROTOR



Multirotor Fixed wing Helicopter Surface

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Multicopter Configuration

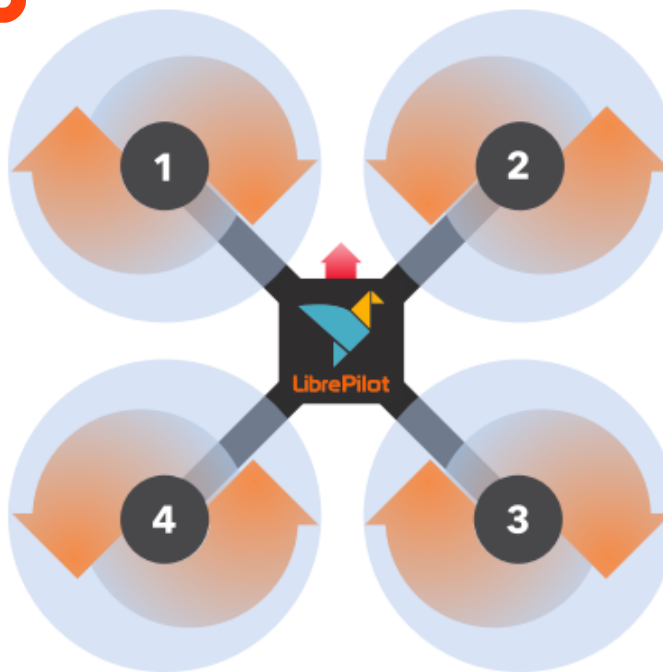
This part of the wizard will set up the flight controller for use with a flying platform utilizing multiple rotors. The wizard supports the most common types of multicopters. Other variants of multicopters can be configured by using custom configuration options in the Configuration plugin in the GCS.

Please select the type of multicopter you wish to configure for below:

Select

SELECT FRAME

The X Quadcopter uses four motors and is the most common multi rotor configuration. Two of the motors rotate clockwise and two counter clockwise. The motors positioned diagonal to each other rotate in the same direction. This setup is perfect for sport flying and is also commonly used for FPV platforms.



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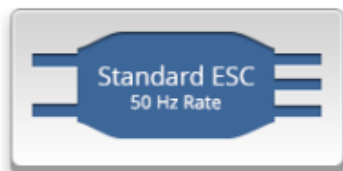
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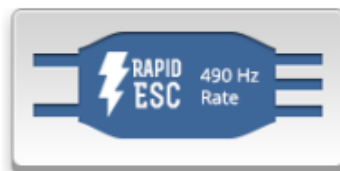
Output Signal Configuration

To set an optimal configuration of the output signals powering your motors, the wizard needs to know what type of Electronic Speed Controllers (ESCs) you will use and what their capabilities are.

Please select one of the options below. If you are unsure about the capabilities of your ESCs, just leave the default option selected and continue the wizard.



Standard ESC



Rapid ESC



OneShot ESC

< Back Next > Cancel

CHOOSE ESC TYPE

Setup Wizard

Configuration Summary

The first part of this wizard is now complete. All information required to create a basic flight controller configuration for a specific vehicle has been collected.

Below is a summary of the configuration and a button that links to a diagram illustrating how to connect required hardware and the flight controller with the current configuration.

The following steps require that your flight controller is connected according to the diagram, remains connected to the computer by USB, and that you have a battery ready but **do not** connect it right now, you will be told when to in later steps of this wizard.

Controller type: OpenPilot CopterControl 3D
Vehicle type: Multirotor
Vehicle sub type: Quadcopter X
Input type: PPM (One cable for all channels)
Speed Controller (ESC) type: Oneshot ESC

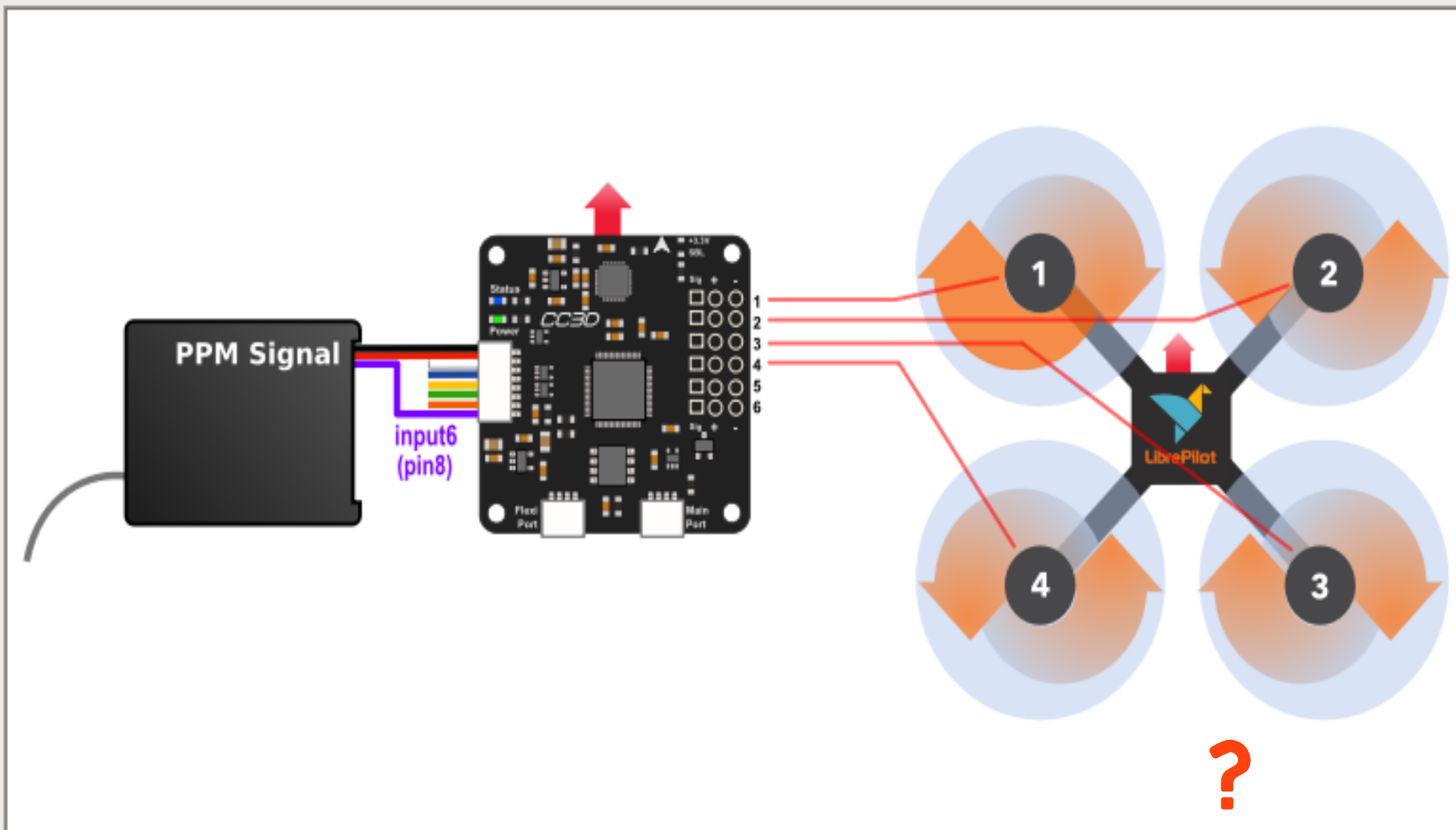


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Connection Diagram



Save Close



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Input type: PPM (One cable for all channels)
Speed Controller (ESC) type: Oneshot ESC



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Setup Wizard

Sensor Calibration Procedure

The wizard needs to get information from the controller to determine in which position the vehicle is normally considered to be level. To be able to successfully perform these measurements, you need to place the vehicle on a surface that is as flat and level as possible. Examples of such surfaces could be a table top or the floor. Be careful to ensure that the vehicle really is level, since this step will affect the accelerometer and gyro bias in the controller software.

To perform the calibration, please push the Calculate button and wait for the process to finish.

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LEVEL FRAME/BOARD

Calculate

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Setup Wizard

ESC Calibration Procedure

As you have selected to use a MultiRotor and Fast / Flashed ESCs, we need to calibrate the endpoints of these ESCs so they can see the full throttle range sent from the flight controller.

This part of the wizard will tell you to connect the battery to your aircraft, before doing so you absolutely **must remove the propellers from all motors.**

The steps to perform this calibration are as follows:

1. Confirm all safety questions,
2. Press the Start button when it becomes enabled, **battery not connected,**
3. Connect the battery to your airframe,
4. Wait for ESC calibration beep(s),
5. Press the Stop button,
6. Wait for ESC confirmation beep(s),
7. Disconnect battery.

WARNING !!

- I have removed ALL propellers from ALL motors of my vehicle.
- The vehicle is NOT powered by any external power source but USB
- I confirm i have read and understood the above instructions in full



Low/Off ————— 900 μs ————— High

Start Stop

< Back Next > Cancel

Setup Wizard

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4. Wait for ESC calibration beep(s),
5. Press the Stop button,
6. Wait for ESC confirmation beep(s),
7. Disconnect battery.

I have removed ALL propellers from ALL motors of my vehicle.
 The vehicle is NOT powered by any external power source but USB
 I confirm i have read and understood the above instructions in full

BAT ✗ ESC



BAT ✓ ESC



Low/Off
900 us
High

Start

|

Stop

NO BATTERY CONNECTED!

< Back
Next >
Cancel

Setup Wizard

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5. Press the Stop button,
6. Wait for ESC confirmation beep(s),
7. Disconnect battery.


I have removed ALL propellers from ALL motors of my vehicle.

The vehicle is NOT powered by any external power source but USB

I confirm i have read and understood the above instructions in full



BAT X ESC



BAT ✓ ESC

Low/Off
2000 μs

**OUTPUT SIGNAL HIGH
CONNECT BATTERY !**



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6. Wait for ESC confirmation beep(s),
7. Disconnect battery.

- I have removed ALL propellers from ALL motors of my vehicle.
- The vehicle is NOT powered by any external power source but USB
- I confirm i have read and understood the above instructions in full



Low/Off ————— 2000 us ————— High

Start Stop

BATTERY IS CONNECTED AND ESC BEEP

< Back Next > Cancel

Setup Wizard

ESC Calibration Procedure

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4. Wait for ESC calibration beep(s),
5. Press the Stop button,
6. Wait for ESC confirmation beep(s),
7. Disconnect battery.


I have removed ALL propellers from ALL motors of my vehicle.

The vehicle is NOT powered by any external power source but USB

I confirm i have read and understood the above instructions in full



DISCONNECT BATTERY



Low/Off

900 μ s

High

Start

Stop

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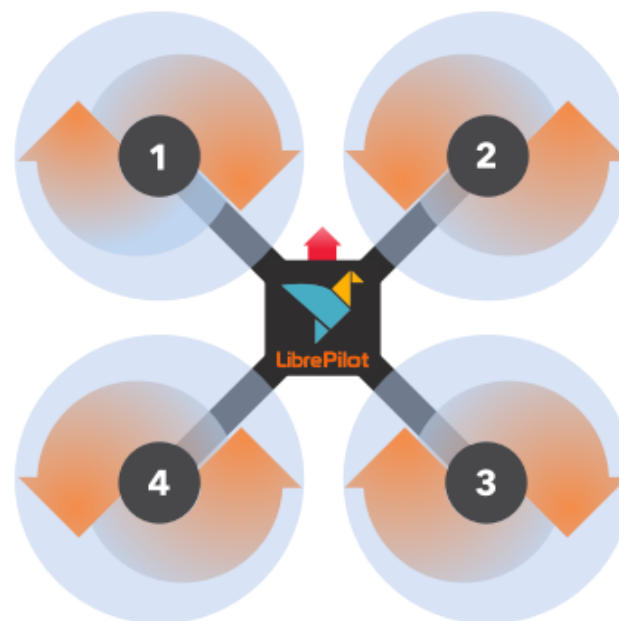
Output calibration

It is now time to calibrate the output levels for the signals controlling your vehicle.

**VERY IMPORTANT!
REMOVE ALL PROPELLERS FROM THE VEHICLE
BEFORE PROCEEDING!**

Connect all components according to the illustration on the summary page, and provide power using an external power supply such as a battery before continuing.

Depending on what vehicle you have selected, both the motors controlled by ESCs and/or servos controlled directly by the flight controller may have to be calibrated. The following steps will guide you safely through this process.



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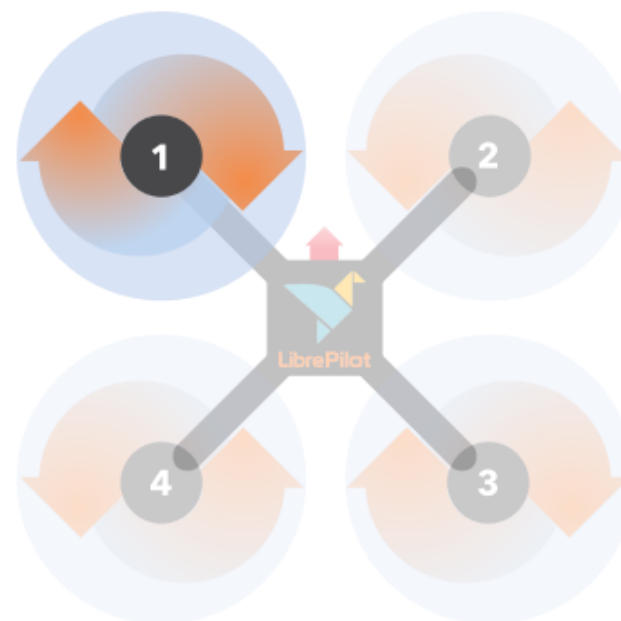
In this step we will set the neutral rate for the motor highlighted in the illustration to the right.

Please pay attention to the details and in particular the motors position and its rotation direction. Ensure the motors are spinning in the correct direction as shown in the diagram. Swap any 2 motor wires to change the direction of a motor.

To find **the neutral rate for this motor**, press the Start button below and slide the slider to the right until the motor just starts to spin stable.

When done press button again to stop.


Calibrate all motor outputs at the same time



Output value : 1000 μ s

Start

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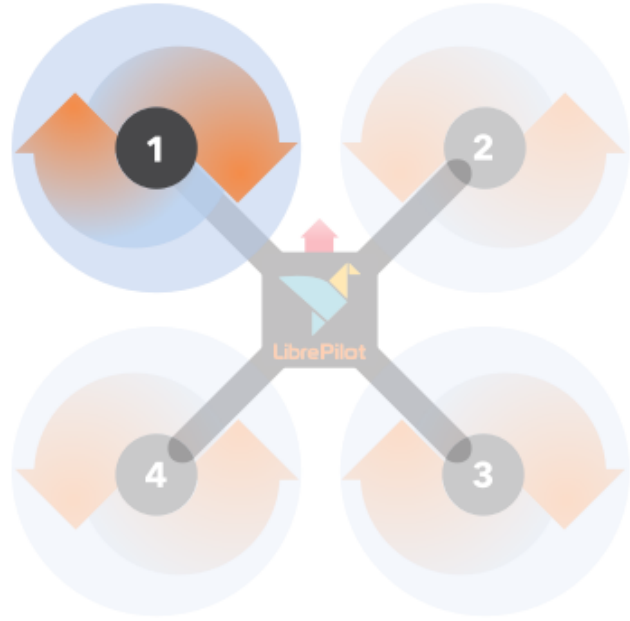
In this step we will set the neutral rate for the motor highlighted in the illustration to the right.

Please pay attention to the details and in particular the motors position and its rotation direction. Ensure the motors are spinning in the correct direction as shown in the diagram. Swap any 2 motor wires to change the direction of a motor.

To find **the neutral rate for this motor**, press the Start button below and slide the slider to the right until the motor just starts to spin stable.

When done press button again to stop.

Calibrate all motor outputs at the same time



SET NEUTRAL

Output value : 1071 μ s

Stop

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Output calibration

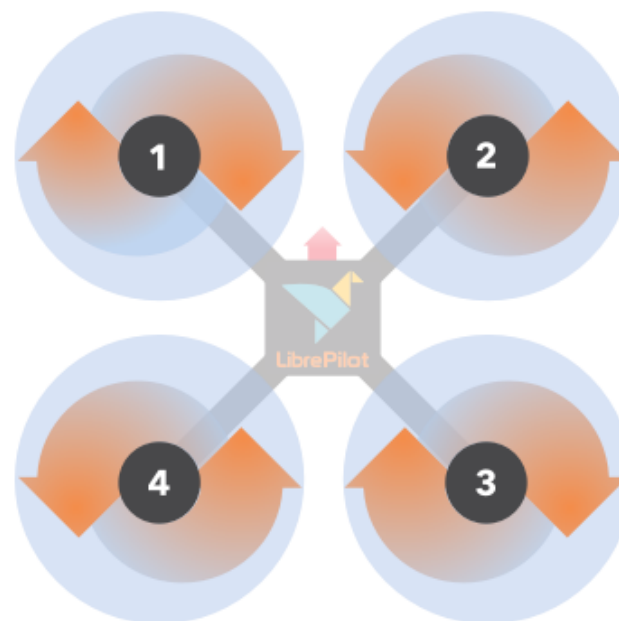
In this step we will set the neutral rate for the motor highlighted in the illustration to the right.

Please pay attention to the details and in particular the motors position and its rotation direction. Ensure the motors are spinning in the correct direction as shown in the diagram. Swap any 2 motor wires to change the direction of a motor.

To find **the neutral rate for this motor**, press the Start button below and slide the slider to the right until the motor just starts to spin stable.

Calibrate all motor outputs at the same time

SAME PROCEDURE BUT ALL MOTORS AT SAME TIME



Output value : 1072 μ s



Start

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Setup Wizard

Initial Tuning

This section of the Wizard allows you to select a set of initial tuning parameters for your airframe. Presented below is a list of common airframe types, select the one that matches your airframe the closest, if unsure select the generic

Current Tuning
(RACE) FPV 260 HobbyKing


DEFAULT SETTINGS

- (STOCK) HobbyKing FPV 260 Upswept Arms Kit
- BlackOut FPV
- BlackOut Mini
- DJI F450
- Droneframes DRQ250CF
- Droneframes DRQ430G
- Emax Nighthawk
- Flying Cinema Cinetank MK2
- Flip Fpv Pro
- Flip FPV Pro
- Flip Sport
- Flying Cinema Tankito "MINI TANK"
- Generic Quad X
- Guerrilla Drones Toad Quad 240/260
- H King DYS 250 Carbon Fiber
- H King DYS 320 Carbon Fiber
- HoverThings FLIP FPV
- Inventors Sparrow Race quad
- QAV250

This option will use the current tuning settings saved on the controller, if your controller is currently unconfigured, then the pre-configured firmware defaults will be used.

It is suggested that if this is a first time configuration of your controller, rather than use this option, instead select a tuning set that matches your own airframe as close as possible from the list above or if you are not able to fine one, then select the generic item from the list.

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Setup Wizard

Initial Tuning

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- Droneframes DRQ430G
- Emax Nighthawk
- Flying Cinema Cinetank MK2
- Flip Fpv Pro
- Flip FPV Pro
- Flip Sport
- Flying Cinema Tankito "MINI TANK"
- Generic Quad X
- Guerrilla Drones Toad Quad 240/260
- H King DYS 250 Carbon Fiber
- H King DYS 320 Carbon Fiber
- HoverThings FLIP FPV
- Inventors Sparrow Race quad
- QAV250
- QAV400
- QAV500
- QUAD1 250
- Xhover MXP230 Elite**
- ZMR 250
- ZMR250 - Chinese QAV250 clone



Name of Vehicle: Xhover MXP230 Elite
Name of Owner: NORM CHILDS (STORMIN)
Size: 230
Weight: 574
Motor(s): TIGER 2204KV2300
ESC(s): B-12A Ice Blue
Servo(s): N/A
Battery: Nanotech 4S 1300mah 45-90C
Propellers(s): Gemfam 5x3

**FROM SHARED TEMPLATE,
CHECK DESCRIPTION**

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Setup Wizard

Configuration ready to save

The wizard is now ready to save the configuration directly to your flight controller.

If any of the selections made in this wizard require a reboot of the controller, then power cycling the flight controller board will have to be performed after you save in this step.

Press the Save button to save the configuration.



Ready...

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Cancel

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Reboot

Please wait. Your controller is rebooting.
This can take up to a minute.

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Setup Wizard

Congratulations!

Setup wizard is completed.

This part of the setup procedure is now complete and you are one step away from completing the setup of your flight controller.

To complete the setup please click the button below to close this wizard and go directly to the Transmitter Setup Wizard.



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Finish