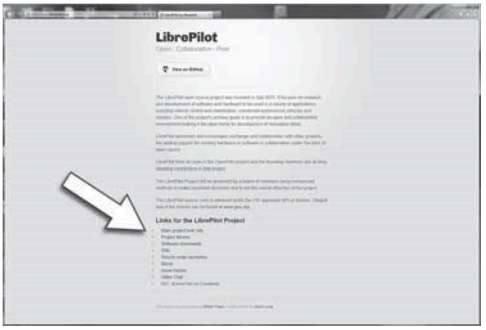
FLIGHT CONTROLLER SETUP

The CC3D flight controller used by the Dron has Open Pilot firmware. We have found that the LibrePilot GCS app has better performance and recommend that it should be installed.



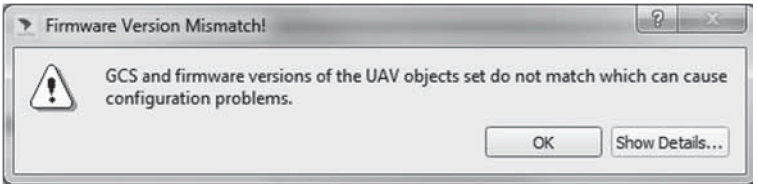
Download the LibrePilot Ground Control Station app (GCS) from http://www.librepilot.org/ from the software downloads section.

WARNING: Always remove the props before connecting the flight controller to the GCS.

To set up the CC3D flight controller to use your transmitter, you will need:

a. a mini-usb cable to connect the cc3d controller to the GCS app.
b. a charged flight battery.
c. the transmitter set up with the new model and linked to the receiver.

Open the GCS app and connect the Dron with your mini-USB cable. When the communication window shows that the flight controller is connected to the GCS app, you should see a warning about firmware incompatibility.



Click on the yellow Vehicle Setup Wizard button. Clink on the Next button to open the Firmware Update page. Make sure that the “Erase all settings” box is checked and click on the Upgrade button.

When the update is completed, click on the Next button to open the Board Identification page. The detected board should be “CopterControl 3D”. Cancel the wizard to return to the Welcome screen.

This mean import / retrieve important settings from a stored vehicle template.

Go to the Tools menu > Import / Export Vehicle Template...

On second tab "Import Template".

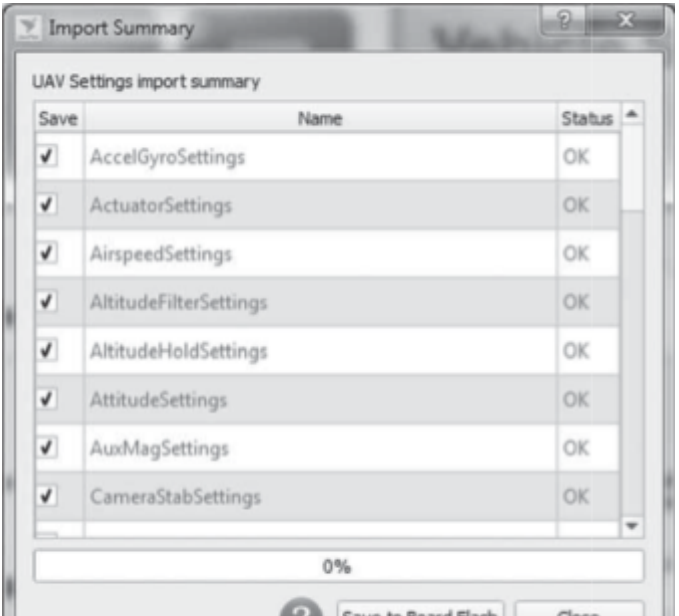
Select the vehicle template you want and hit the Import button.

Import QAV250 !

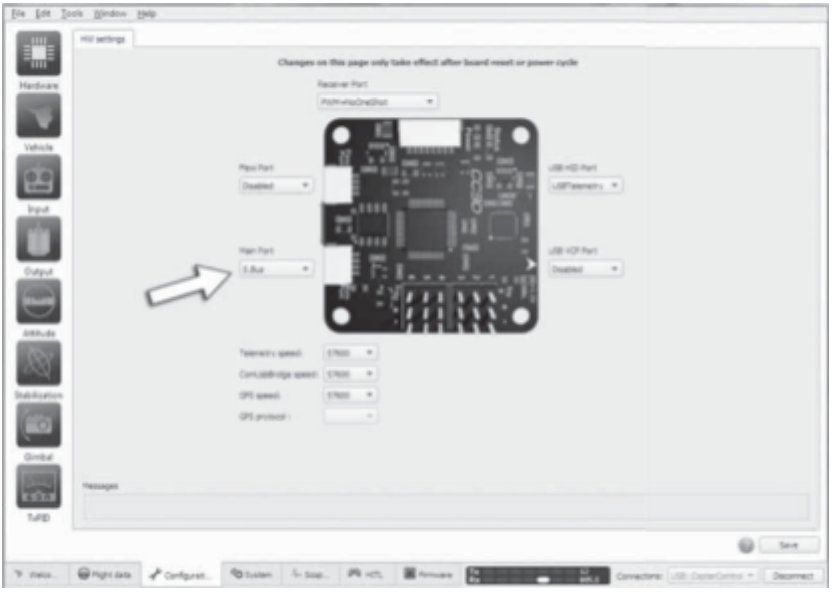
Click on the “Save to Board Flash” button to load the file onto the flight controller.

If you have a PWM receiver, no hardware settings will need to be changed. Please go the Flight Controller Input section.

If using an S-Bus or DSM type receiver, the receiver cable

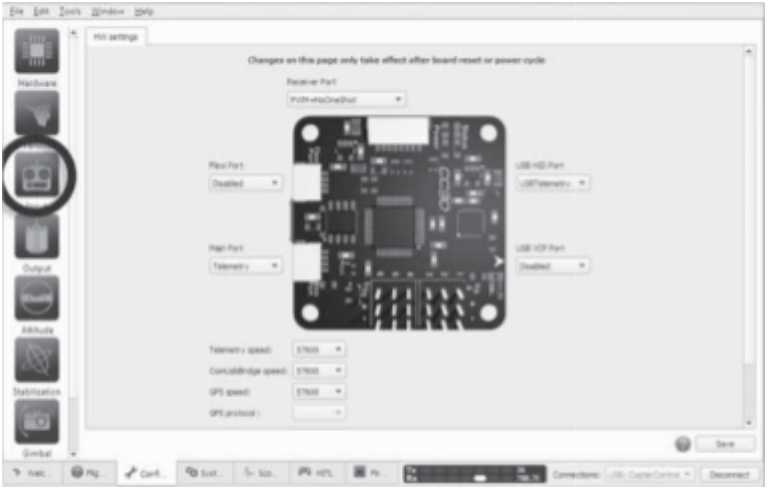


should be plugged into the Main Port and the appropriate receiver type (S.Bus or DSM) should be selected. When the settings have been changed, click the Save button and cycle the power for the CC3D controller.



FLIGHT CONTROLLER INPUT SETUP

Click on the Input button on the left side of the screen to open the Input settings page.

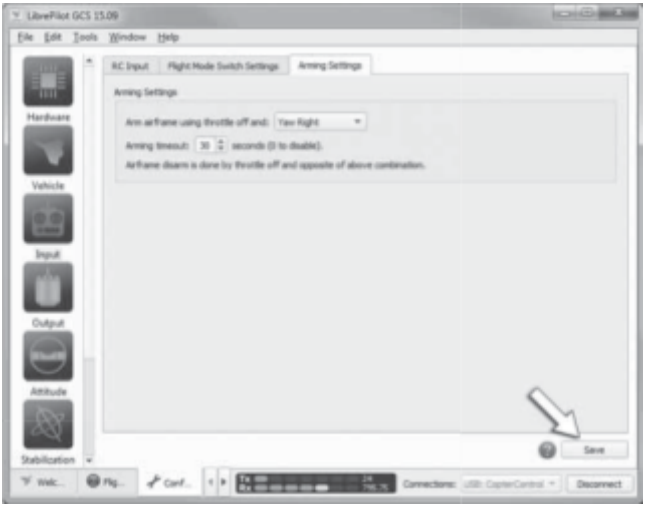


If your transmitter and receiver have already been setup with the flight controller, this page can be used to test the transmitter controls and switches. The flight battery

will have to be connected to power the receiver. Warning: Remove the props before connecting the flight battery to the quadcopter.

If any of the channel indicators do not respond to input from the transmitter, click on the “Start Transmitter Setup Wizard” button to configure the flight controller’s input settings.

At the end of the wizard is the screen to set the motor arming procedure. The recommended setting is Yaw Right



which requires the yaw control to be held to the right while the throttle is at 0 for 3 seconds. Holding the Yaw control to the left will disarm the motors. There are several other options available for arming/stopping the motors including using a switch assigned to Channel 6.

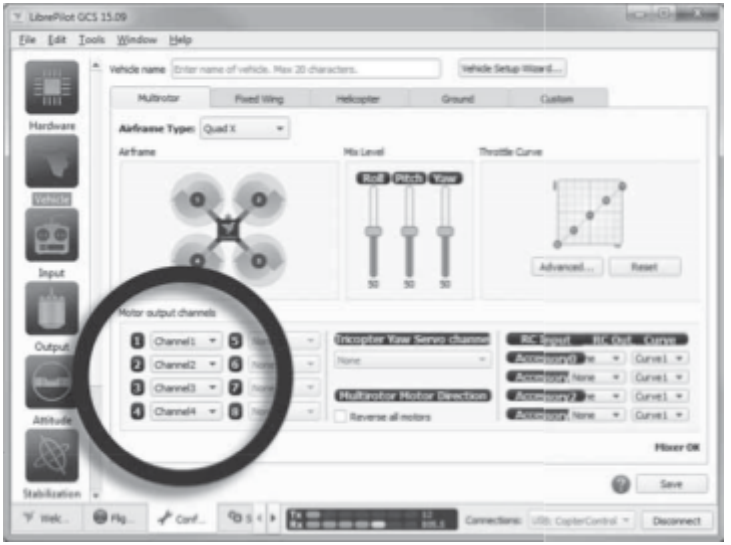
After the Arming Setting is selected, the settings need to be saved to the flight controller

GENERAL SETTINGS

Any time the controller is connected to the app, the following settings should be checked.

Vehicle Configuration Screen

The Motor Output Channels should have matching Channels



Attitude Configuration Screen

The Roll, Pitch and Yaw settings should “0”. The Filtering Accelerometer setting should be 0.10.

UPLOADING and DOWNLOADING FLIGHT CONTROLLER SETTINGS

The settings file for the flight controller can be saved or replaced any time the

GCS app is open and connected to the flight controller. These functions can be found in the File menu at the upper left corner of the GCS window.

Click on Export UAV Settings to save the current configuration settings of the flight controller.

Click on Import UAV Settings to load a settings file onto the flight controller. If the current settings will be needed in the future, they must be saved before a new file is downloaded.

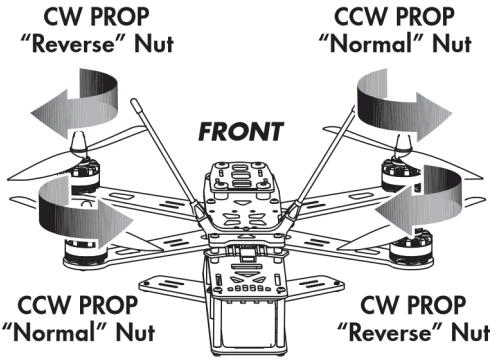
If you see an entry point error message when either of these procedures is used, click the OK button until a window opens with a folder to save or upload the settings file.

PROPELLERS

Please refer to the diagram when installing or replacing the propellers. When installing propellers, make sure each is installed on the correct motor. Note that two of the motors shafts and prop nuts are reverse threaded.

CW – Clockwise rotation when viewed from above.

CCW – Counter clockwise rotation when viewed from above.



FAILSAFE

If your transmitter can set values for all the channels for failsafe, set the roll and pitch channels to midstick and the throttle to its lowest setting to stop the motors. For transmitters that only set failsafe on the throttle channel, set the throttle to its lowest setting. Be sure to remove the props before testing the failsafe operation.