

## Libre Pilot for Small Parts CNC 120mm FPV Racer

1. Download Libre Pilot: <https://librepilot.atlassian.net/wiki/display/LPDOC/Downloads>
2. Install LibrePilot SuperMoon Eclipse Ground Control Station 15.09
3. Plug USB into CC3D Atom and Computer. The driver should automatically install if you are running windows.
4. Disconnect USB after successful drive installation (You may get a failed Installation notice from Windows Update, just disregard) If you get at least one green check the driver was installed sufficiently.
5. Disconnect USB and Open LibrePilot Ground Control Station Program
6. Connect CC3D Atom and if your driver was successfully connected you will see at least one green light on TX and several on RX in the bottom right hand corner. If you only get one green light on TX/RX then your driver was not successfully installed.

You may get an error saying the firmware does not match what's pre-loaded on the flight controller. Click Okay and proceed normally.

7. Click on "Vehicle Set up Wizard" This will help walk you through set up.
8. Insure all propellers have been removed (Failing to follow this guideline could result in personal injury!) Click Next to acknowledge the warning.
9. Click Upgrade and allow Atoms firmware to be updated. If the update causes your computer to crash restart Libre Pilot and start from step 3. Click next after successful upgrade.
10. The Board Identification Screen will show you what flight control you are using and how it's connected to your computer. Just click NEXT
11. Select PPM as the receiver type and click next
12. Click Multirotor and Click NEXT
13. The Motor Configuration screen shows you the order in which your motors should be plugged in and the rotation of the propeller for each motor. Just click NEXT after reviewing g the layout
13. Select ONESHOT 125 as the ESC Type and click next
14. The configuration summary will show a connection diagram review the diagram and insure you have set the multirotor up in this manner. Then click next
15. The sensor Calibration Procedure requires your aircraft to be set on a perfectly level surface. After you have moved the aircraft to a level surface click the CALCULATE button and wait for it to calibrate. Then Click Next

16. ESC Calibration Procedure: Check the three boxes confirming the warnings displayed. Click Start, Plug in the Flight Battery, Click Stop. Note: After you plug in the flight battery you have one second to click stop to insure the esc's are calibrated correctly. If you waited too long go back and repeat the process.

17. Click next on the output calibration screen. This will take you to the motor one output. You will plug in the flight battery and click start, and then you will drag the slider until the motor just starts up and is running smoothly but at a low rpm. Then Click NEXT and repeat the process for motors 2-4. NOTE: If you spin up the motor and it is spinning the wrong direction, then swap any two motor wires around with each other to reverse the motor.

18. Initial Tuning Select "Current Tuining"and click next.

19. Click SAVE and allow the Atom to reset and finish save. Then Click Next

20. Click the Big Yellow button labeled "Transmitter Setup Wizard"

Note: Do not click "Finish"

Insure Your RX is Bound before preceding

21. A warning will pop up saying that the board is set to disarm for your safety. Click Okay

22. on the next screen just click next after reviewing the information.

23. Select the ACRO radial button. Plug in the flight battery and turn on your transmitter. Then Click Next

24. Select Mode 2 if you plan on having the throttle on the left stick. Then Click Next

25. When the sticks move on the screen mimic them on your TX in your hand. After you have mimicked all movements with the sticks you will be asked to move the flight modes switch. Move the switch you plan to use to select flight modes. Then you will skip Aux 1-Aux3. Then Click Next

26. Center the sticks and the flight modes switch if it has 3 positions. If it has 2 then leave it in the default position.

27. Move the sticks around to the extents of their movements in big squares making sure to cover all corners on both sticks. Don't worry if it's not mimicking your stick movements correctly.

Then flip the flight modes switch in all positions several times, and then click NEXT

28. Move the sticks and if the on screen display does not mimic exactly then you can reverse any channel by checking the box at the top over each axis. Does this until the sticks on screen mimic your TX sticks exactly? Then Click next

29. Double check to see that all movements are being correctly mimicked on the screen. Then Click next.

30. You have now finished Transmitter set up Click Finish.

31. You are now on ARMING Settings. Select YAW RIGHT as the arming sequence from the drop down menu. Then Click SAVE in the bottom right hand corner.

32. on the top tabs click on Flight Modes Tab

33. On the top box everything should be set to Bank 1. Position 1 should be stabilized 1 position 2 should be Stabilized 2; Position 3 should be stabilized 3.

34. on the bottom box on Stabilized One select

Stabilize 1 ROLL-ATTITUDE PITCH ATTITUDE YAW AXIS LOCK THRUST-MANUAL

Stabilize 2 ROLL-Rattitude, Pitch Rattitude, Yaw Axis Lock, Thrust-Manual

Stabilize 3 ROLL-Rate, Pitch Rate, Yaw Axis Lock, Thrust-Manual

35. Click Save

36. Obtain the latest PIDS by Emailing [DriveFlyRC@gmail.com](mailto:DriveFlyRC@gmail.com)