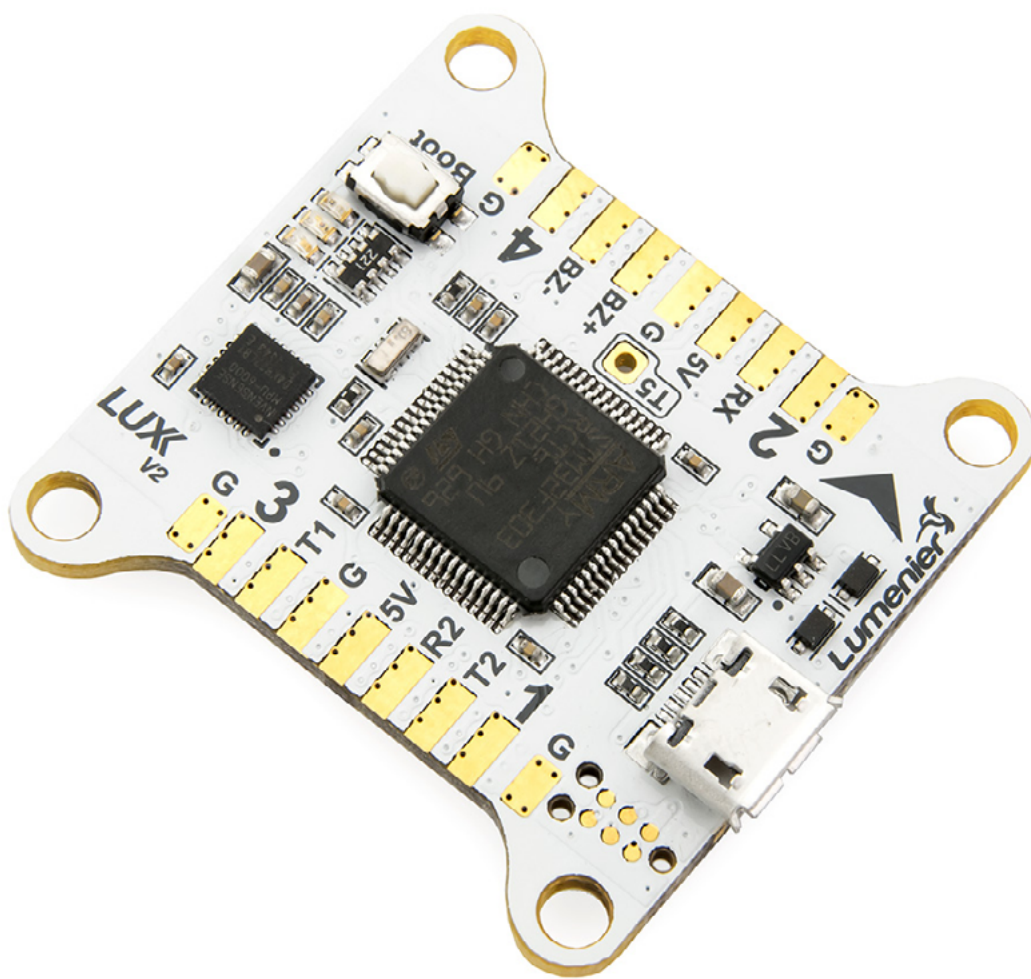




LUX_{V2}

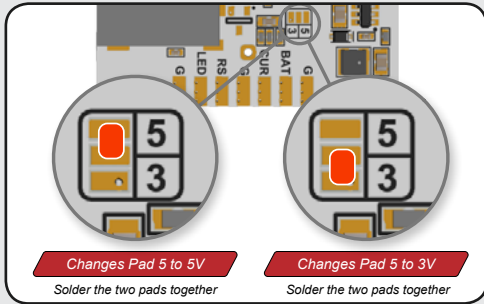
FLIGHT CONTROLLER

Quick Start Guide



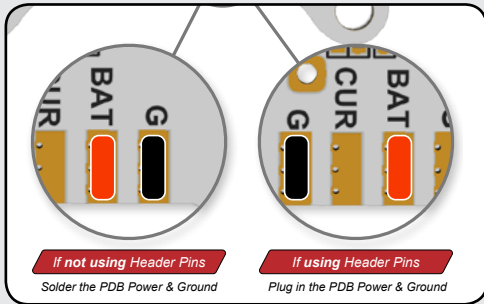
Unleash the capabilities of your FPV Racing Quadcopter with the Lumenier LUX Flight Controller.

QUICK START GUIDE



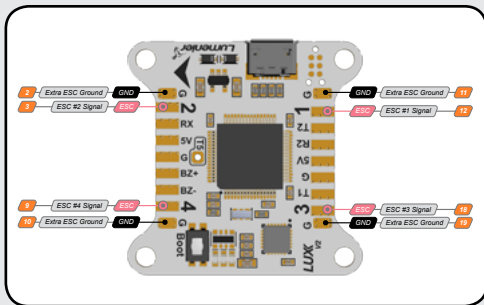
1. Set Voltage for Radio RX

The Voltage Output for Pad 5 must be set to 5V or 3V in order to be enabled. The LUX V2's Pad locations are positioned in a way to make it simple to connect the Radio Receiver for Power and Signal.



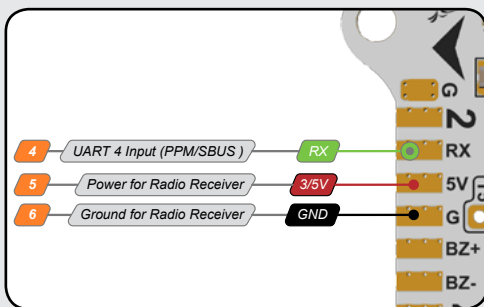
2. Connect Battery (2-6S)

Connect the LUX V2 to the PDB or Battery. No Voltage Regulator is needed if battery power is between 2S - 6S (7.4V - 22.2V). Using this method for powering also enables Voltage Monitoring for Telemetry Data.



3. Connect ESC's

The LUX V2 is designed in a way that the ESC Data wires are connected to the 4 corners of the Flight Controller. There are 4 extra Ground Pads to help if connecting the wires by soldering.



4. Connect Radio Receiver (RX)

UART4 (Pad 4) is dedicated as Radio Receiver. It supports PPM and Serial RX. The Pads are positioned in a way that it makes it simple to connect and power the Radio Receiver.

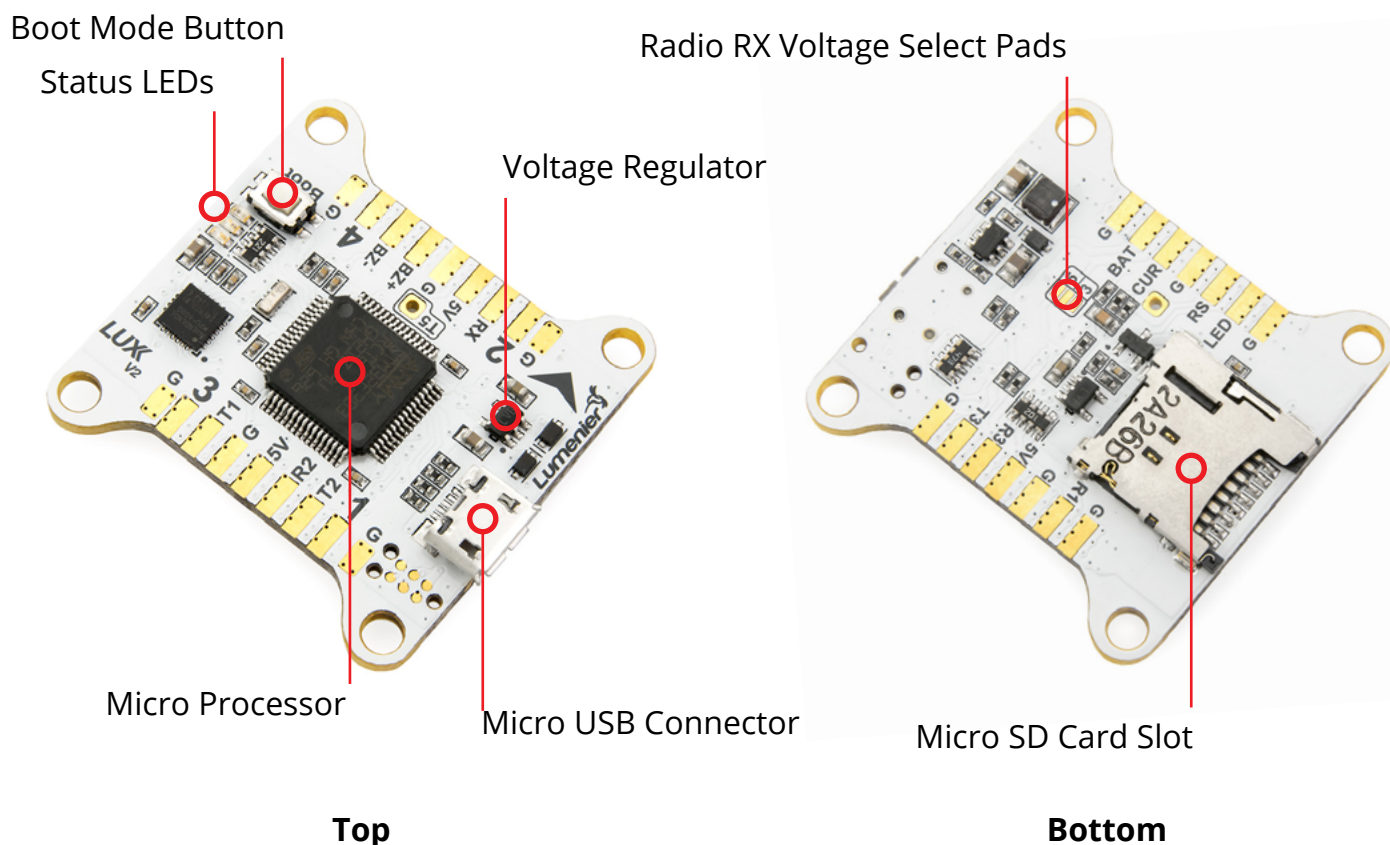


5. Setup Software

LUX V2 supports [Betaflight](#), [Cleanflight](#) (RACE target), and [Raceflight](#).

SPECIFICATIONS

The LUX V2 builds on all the best features of the V1 board and further improves on hardware components and layout. Now you get a whopping 5x dedicated UART ports for peripherals, along with an SD Card slot for practically unlimited data logging.



Software

- [Betaflight](#) support (Supports [DSHOT protocol](#)).
- [Cleanflight](#) support (RACE target).
- [Raceflight](#) ready.
- BLHeli passthrough flashing supported by hardware.

Physical

- **Dimensions:** 36x36x6mm (includes USB in height).
- **Mounting Holes:** 30.5mm square to center of holes.
- **Weight:** 5g

Electronics

- STM32F303RCT6 (256kB flash) 32-bit processor
- MPU6000 SPI Gyro/Accelerometer
- microSD Card Slot
- Micro USB connector for programming

Power

- Voltage in: 5V - 22.2V (2-6S)
- Voltage out: 5V 1A (3V 1A via Pad 5 if configured)

PINOUT (TOP)

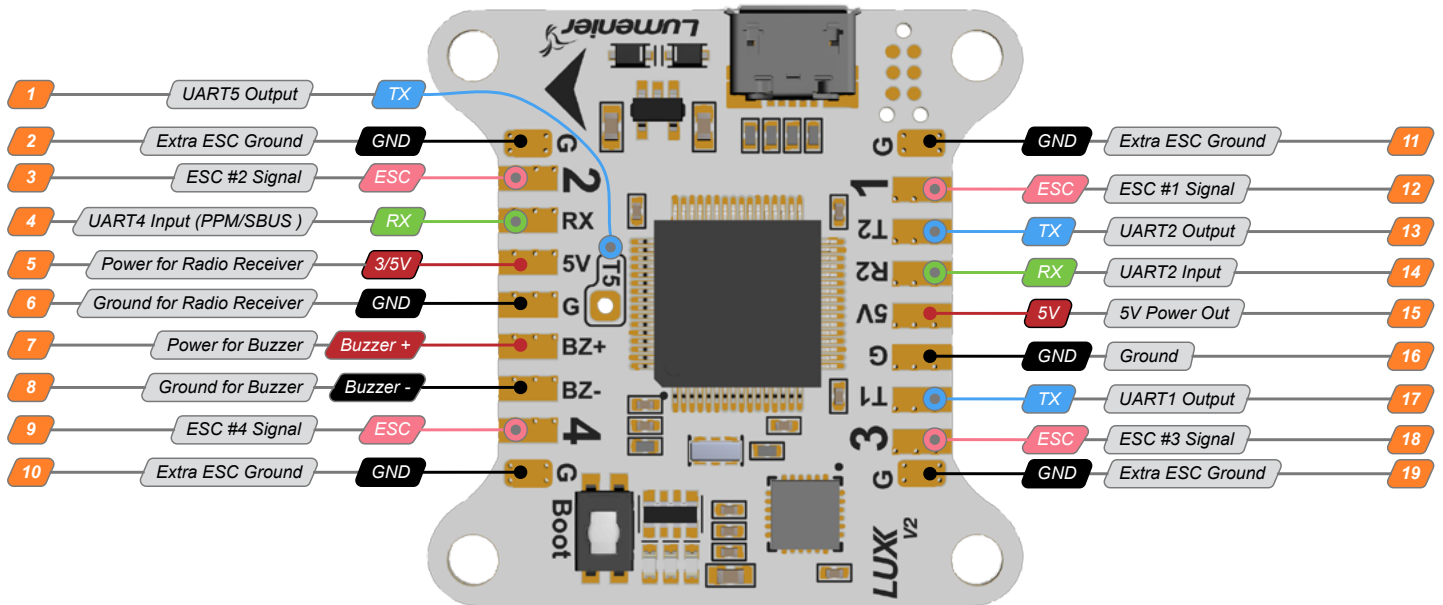


Fig 1 - LUX V2 (Top)

Pad	Description
1	UART5 TX Output: Dedicated RC Telemetry. Can be used to send Telemetry Data to the Radio Receiver.
2	Ground: Can be used as an extra Ground to connect to the ESC.
3	ESC #2 Signal: Connect to the Signal wire of the ESC that is connected to the Motor in the #2 position.
4	UART4 RX Input for PPM/SBUS: Connect to Signal wire of the Radio Receiver.
5	3/5V Power Out: Connect to the Power input wire of the Radio Receiver. This pad can be set to 3V 1A or 5V 1A output by soldering the jumper pads on the bottom of the Flight Controller. (Has power when ever a USB or Battery is connected.)
6	Ground: Connect to the Ground wire of the Radio Receiver. This is only a recommendation due to the location of the Radio Receiver input (Pad 4).
7	Buzzer + : Connect to the Positive (+) wire of a Buzzer. (5V 1A)
8	Buzzer - : Connect to the Negative/Ground (-) wire of a Buzzer.
9	ESC #4 Signal: Connect to the signal wire of the ESC that is connected to the Motor in the #4 position.
10	Ground: Can be used as an extra Ground to connect to the ESC.
11	Ground: Can be used as an extra Ground to connect to the ESC.
12	ESC #1 Signal: Connect to the signal wire of the ESC that is connected to the Motor in the #1 position.
13	UART2 TX Output: Can be used for connecting extra peripherals / Sensors.
14	UART2 RX Input: Can be used for connecting extra peripherals / Sensors.
15	5V Power Out: Connect to a device that requires 5V 1A of power. (Only has power when a Battery is connected.)
16	Ground: Connect to a device that requires a ground connection.
17	UART1 TX Output: Can be used for connecting extra peripherals / Sensors.
18	ESC #3 Signal: Connect to the signal wire of the ESC that is connected to the Motor in the #3 position.
19	Ground: Can be used as an extra Ground to connect to the ESC.

PINOUT (BOTTOM)

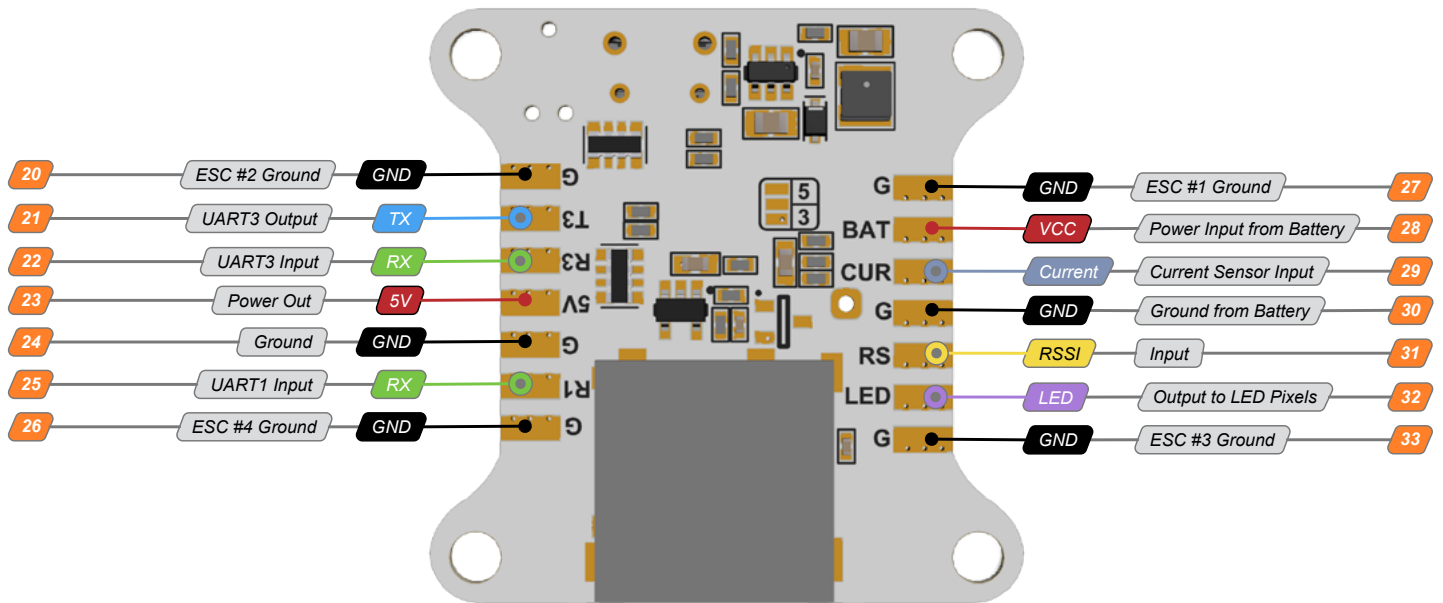


Fig 2 - LUX V2 (Bottom)

Pad	Description
20	ESC #2 Ground: Connect to the Ground wire of the ESC that is connected to the Motor in the #2 position.
21	UART3 TX Output: Can be used for connecting extra peripherals / Sensors.
22	UART3 RX Input: Can be used for connecting extra peripherals / Sensors.
23	5V Power Out: Connect to a device that requires 5V 1A of power. (Only has power when a Battery is connected.)
24	Ground: Connect to a device that requires a ground connection.
25	UART1 RX Input: Can be used for connecting extra peripherals / Sensors.
26	ESC #4 Ground: Connect to the Ground wire of the ESC that is connected to the Motor in the #4 position.
27	ESC #1 Ground: Connect to the Ground wire of the ESC that is connected to the Motor in the #1 position.
28	VCC Battery Input: Connect to the Positive (+) wire of the Battery or PDB (Power Distribution Board). Input Voltage 7.4V - 22.2V (2S-6S LIPO Battery).
29	Current Sensor Input: Connect to a Signal wire from a Current Sensing Board. This will enable the Current Data to be included with the Telemetry Data. (0V - 3.3V Max).
30	Ground: Connect to the Negative/Ground (-) wire of the Batter or PDB (Power Distribution Board).
31	RSSI Input: Connect to the Signal/RSSI wire of the Radio Receiver to enable Radio Signal Strength in the Telemetry Data.
32	LED Output: Connect to the Signal wire of a LED Tail Board or LED Pixel Array. This <u>can not</u> be used to power the LEDs.
33	ESC #3 Ground: Connect to the Ground wire of the ESC that is connected to the Motor in the #3 position.