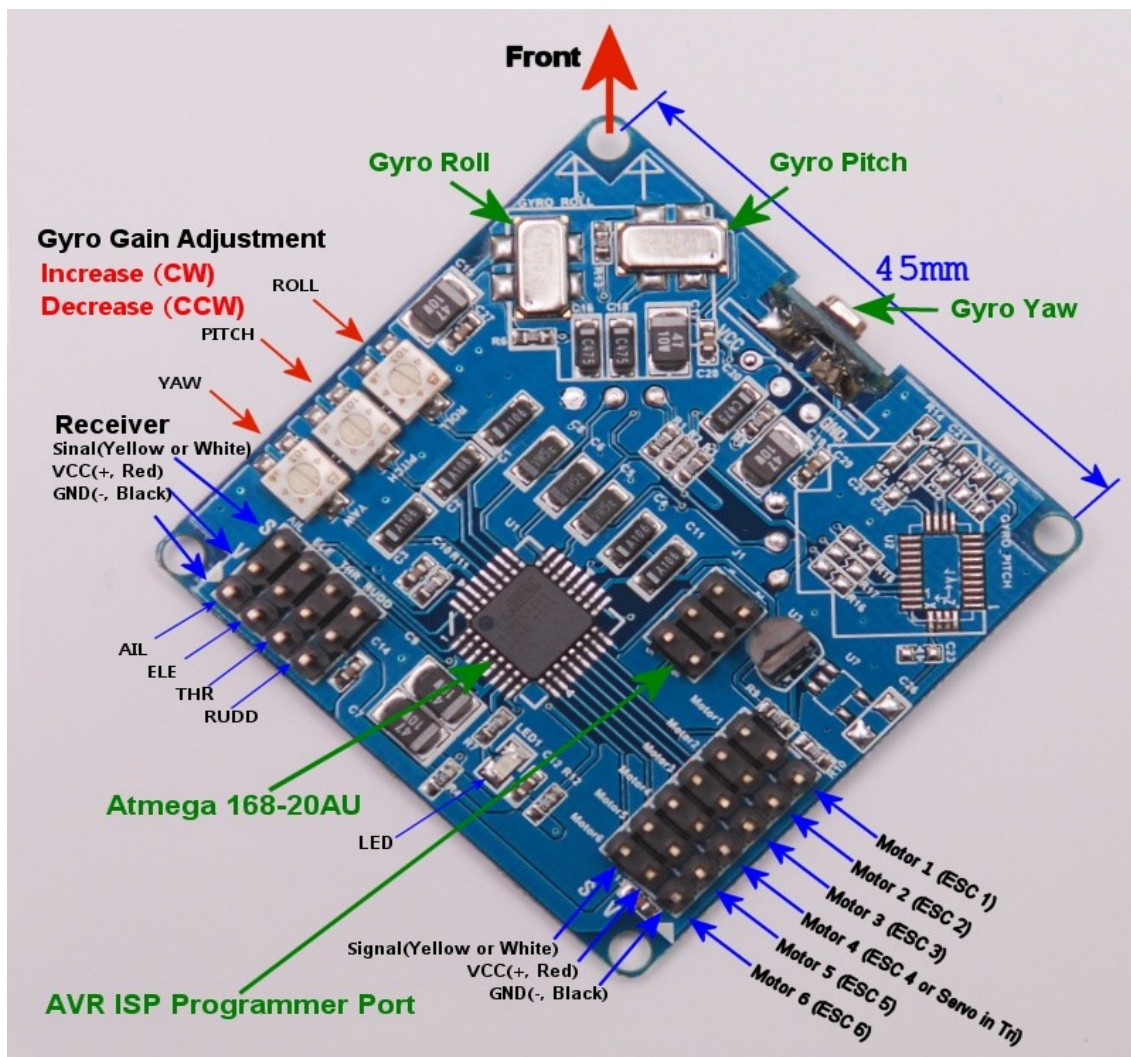# Kmulticopter
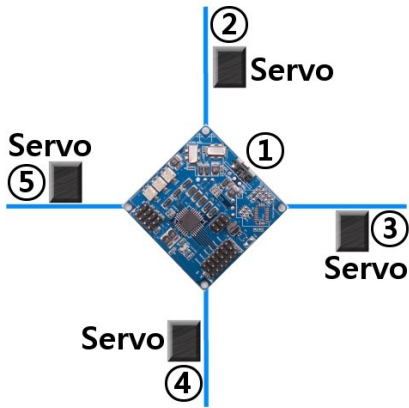
Setting Manual for KKXXKR Firmware for Atmega168 and Atmega328 based KKmulticontrollers.

Thanks for this contribution go to Minsoo Kim and the team at kkmulticopter.kr
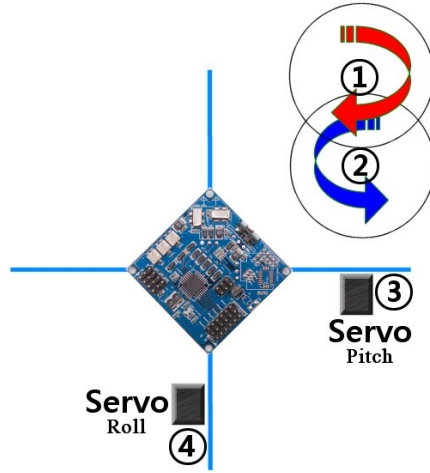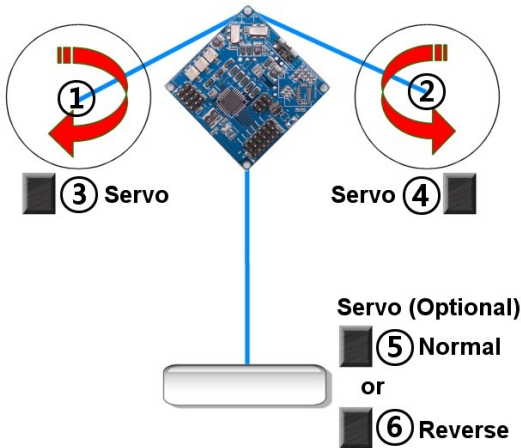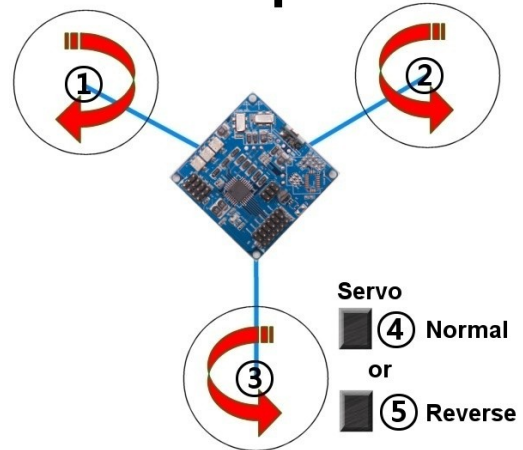
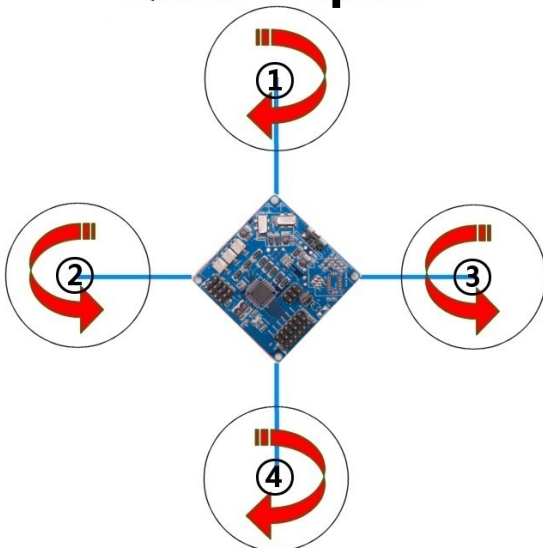**MultiCopter Types**

SingleCopter

② Servo

Servo ⑤

①

③ Servo

Servo ④

DualCopter

①

②

③ Servo
Pitch

Servo ④
Roll

TwinCopter

①

②

③ Servo

Servo ④

Servo (Optional)
⑤ Normal

or

⑥ Reverse

TriCopter

①

②

③

Servo
④ Normal

or

⑤ Reverse

QuadCopter

①

②

③

④

XCopter

①

②

④

③

Y4Copter

① ② ③ ④

HexCopter

① ② ③ ④ ⑤ ⑥

Y6Copter

① ② ③ ④ ⑤ ⑥

H6Copter

① ② ③ ④ ⑤ ⑥

Aeroplane

① Aileron
② Reverse

③ Elevator
④ Reverse
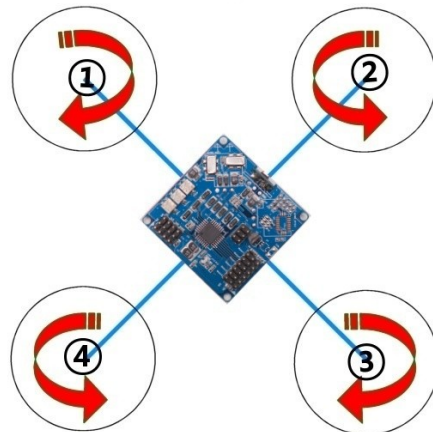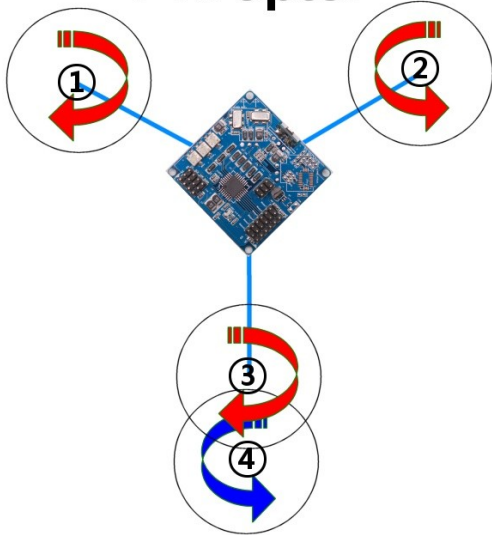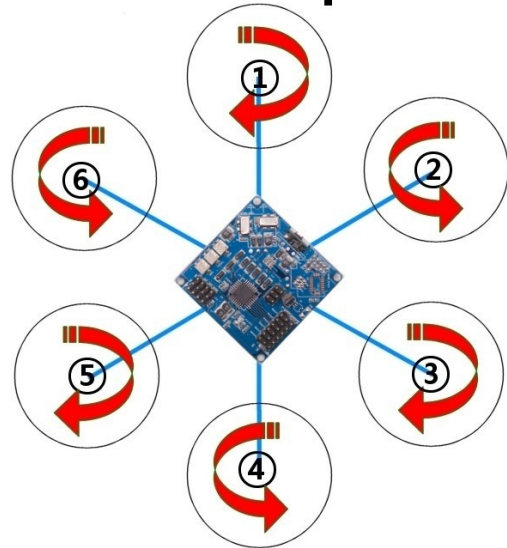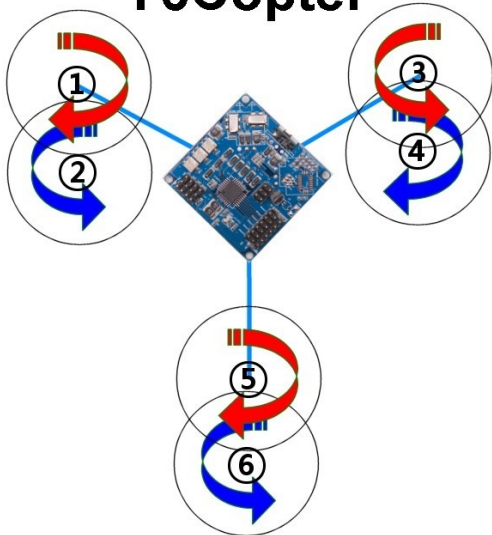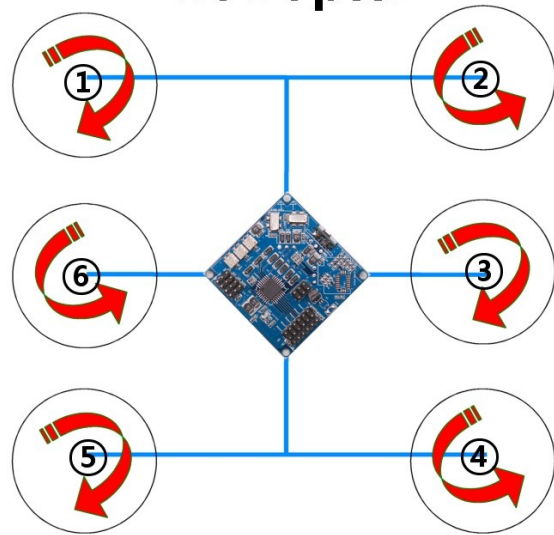
⑤ Rudder
⑥ Reverse
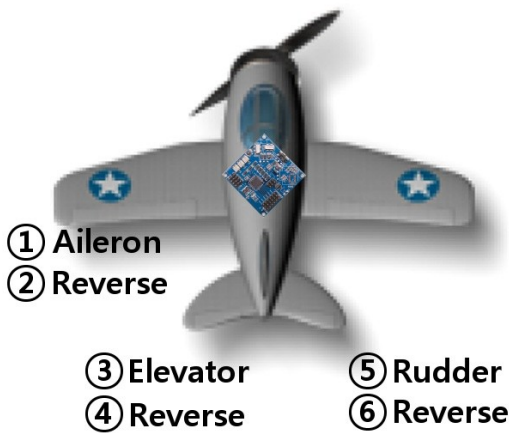
Receiver connection
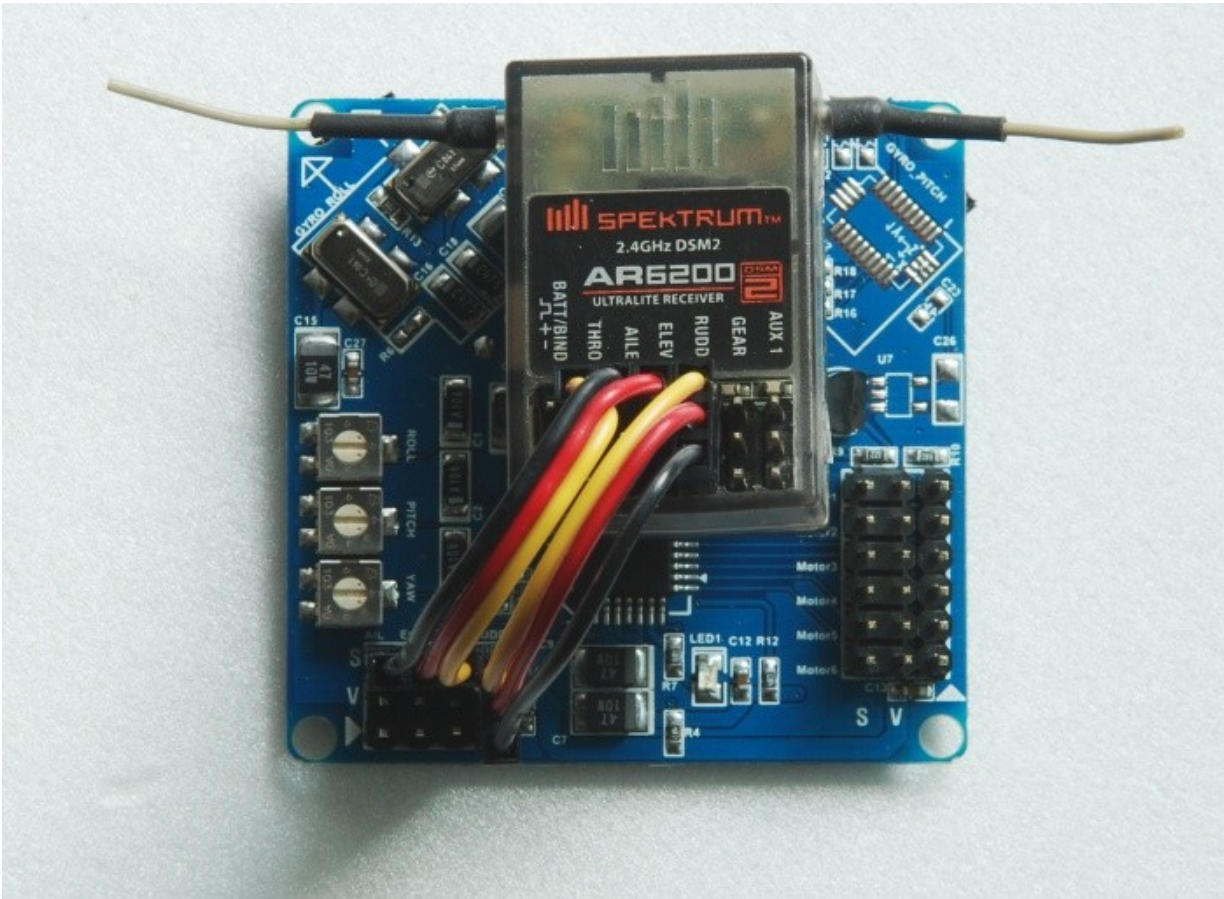
Range of gain ports

Setting up the kkMultiCopter controller

1. Setting transmitter channels
2. Stick Centering
3. Gyro(Servo) direction reversing (Optional)
4. ESC throttle calibration and Battery type
5. Clear all settings [servo & stick centering] (Optional)
6. Setting Gyro gain
7. Setting flying mode by Transmitter

1. Setting transmitter channels

| CHANNEL	Aileron	Elevator	Throttle	Rudder
JR/SPEKTRUM	REVERSE	REVERSE	NORMAL	REVERSE
FUTABA	NORMAL	NORMAL	REVERSE	NORMAL
HITEC	NORMAL	REVERSE	NORMAL	NORMAL
Others				

Make sure you do not have any mixing switches on your Transmitter enabled.
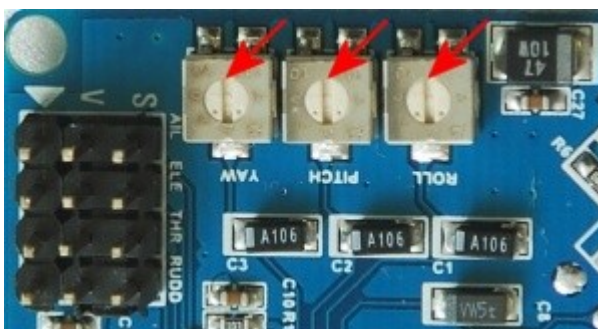
2. Stick Centering

In this version, we provide convenient method to set multicopter.
Your current stick position can be center by following next steps except throttle.

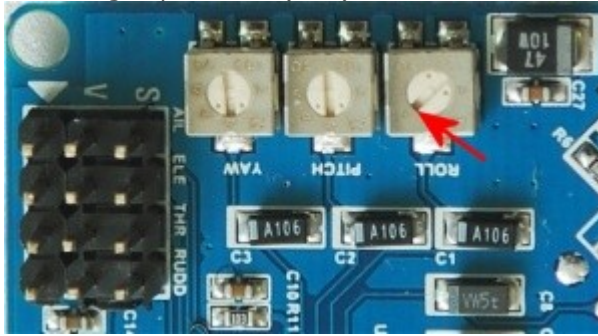- Set Pitch gain pot to zero. (CCW)
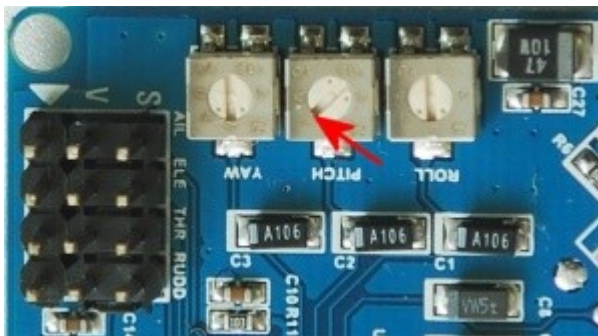
- Set Transmitter trims to center.
- Power on.
- LED flashes 3 times.(Ready)
- Check a receiver power.
- Wait a few seconds.
- LED flashes 1 time.
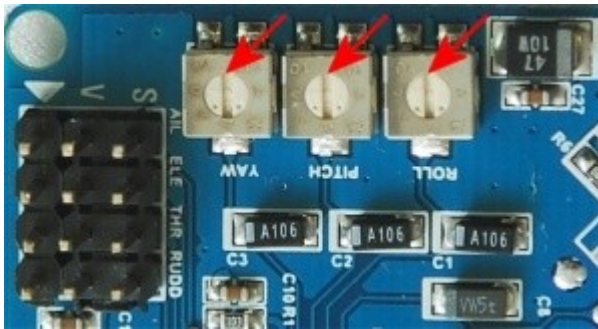- Power off.
- Restore Pitch gain pot.

3. **Gyro (Servo) direction reversing**
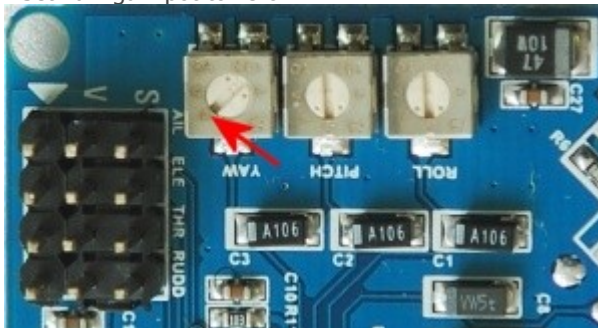
- Set Roll gain pot to zero.(CCW)

- Power on.
- LED flashes 3 times.
- To set Gryo Reverse, move Tx stick right/down or To normal it move stick left/up.
- Power off.
- Restore Roll gain pot.

4. **ESC throttle calibration and Battery type**
Take off the propellers.
Calibrate throttle range.
Set to NiCd battery.(Do not set to Li-po.)
Please refer to the manual of ESC.

- Set Yaw gain pot to zero.

- Put throttle stick to full.
- Power on.
- LED flashes 3 times.(Ready)
- Check a receiver power.
- Wait a few seconds.(In this state, ignore the beeping.)
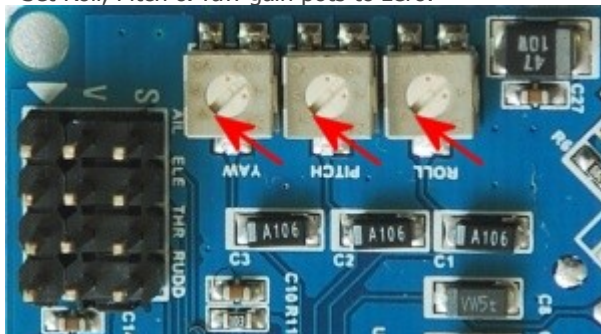- LED flashes 3 times.(Start)[Supported in v1.6 or later]

- Wait for motor signal.(Please refer to the manual of ESC.)
- Throttle to zero.
- Wait for motor confirm signal.
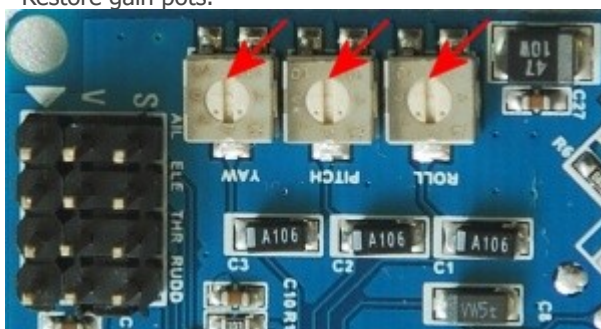- Power off.
- Restore Yaw gain pot.
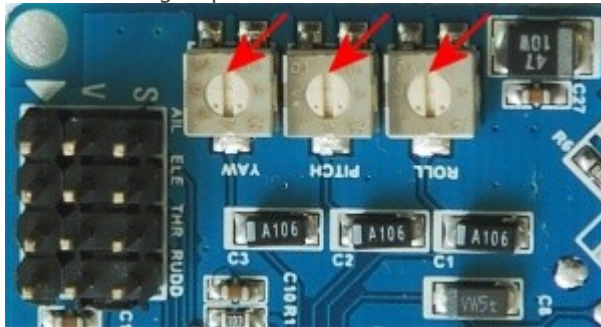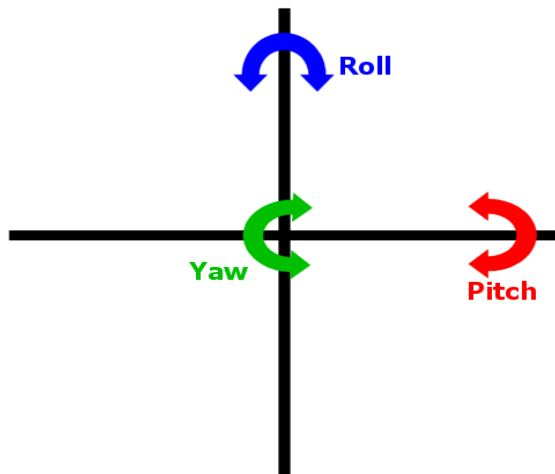

5. Clear all settings [servo & stick centering]

- Set Roll, Pitch & Yaw gain pots to zero.

- Power on.
- Wait a few seconds.
- Power off.
- Restore gain pots.

6. Setting Gyro gain

- Increase: Clockwise
- Decrease: Counter-clockwise
- Initial Gyro gain pot value is 50%.
- Increase until it starts to oscillate rapidly, then back off until it is stable again.
- If decrease gain pots, The reaction of sticks reacts rapidly.

7. Setting flying mode by Transmitter

- If your multicopter cannot be armed to fly, then just try to put the throttle trim down by stages.

- Normal Mode: The reaction of sticks is 50%.
- Acro Mode: This reacts rapidly with transmitter control. The reaction of sticks is 70%.
- UFO Mode: The Yaw rotate rapidly. The reaction of rudder is 90%, other sticks is 50%.
- Set transmitter trims on take off.