# RGB LED Gyro Top DIY Kit

COMPONENT LISTING

| Resistor | R1, R2, R5, R6 | 1 Kohm (Brown-Black-Black-Brown-Brown) | 4 | |
|---|---|---|---|---|
| Resistor | R3, R4 | 1 Mohm (Brown-Black-Black-Yellow-Brown | 2 | |
| Capacitor | C1, C2 | 0.1 uF ( marked 104) | 2 | |
| S9013 Transistor | Q1, Q2 | TO-92 | 2 | |
| RGB LED | D1, D2, D3, D4 | | 4 | |
| Vibration Switch | S1 | | 1 | |
| Battery Socket | BT1, BT2 | | 2 | |
| Threaded shaft | | M2 x 24mm | 1 | |
| Threaded Shaft | | M2 x 4mm | 1 | |
| Screw | | M2 x 10mm | 1 | |
| Circuit Board | | | 1 | |
| | | | | |

**Tools:**

1. Soldering iron 20-50W preferably temperature controlled
2. Electronic solder. Either leaded or lead-free.
3. Wire cutters
4. Small Philips screwdriver

**Assembly:**

1. All components are inserted from the top side of the board (The side with writing).
2. Bend one 1Kohm resistor (Brown-Black-Black-Brown-Brown) into a 'U' shape with light finger pressure. Insert in position R1 from the top side of the board. Bend the leads slightly from the bottom to hold in place and solder from the bottom side. Trim the leads just above the solder leaving about 1mm.
3. Repeat for R2, R5 and R6.
4. Bend one 1 Mohm resistor (Brown-Black-Black-Yellow-Brown) into a 'U' shape and insert in position R3. Bend the leads slightly to hold in place. Solder and trim the leads
5. Repeat for R4.
6. Install one of the LEDs in position D1 with the longer lead through the side closest to the marking 'D1'. Bend the leads slightly from the bottom to hold in place. Solder from the bottom side and trim the leads just above the solder leaving about 1mm.
7. Repeat for D2, D3 and D4.
8. Insert one of the capacitors in location C1. Bend the leads slightly from to hold in place. Solder from the bottom of the board and trim the leads above the solder joint leaving about 1mm.
9. Repeat for C2

10. Install one of the transistors in position Q1 so that the package aligns with the shape printed on the circuit board. Bend the leads slightly to hold in place. Solder from the bottom and trim the leads.
11. Install one of the battery holders in position BT1 with the opening towards the curved arrow. Solder the two tabs from the bottom of the board. Repeat for BT2.
12. Insert the vibration switch in location SW so that it aligns with the shape printed on the circuit board. Solder from the bottom and trim the leads.
13. Thread the screw through the shorter 4mm shaft.
14. Insert the screw through the hole in the center of the board from the bottom. Screw the longer shaft onto the screw.
15. Insert one CR2032 battery in each of the battery holders with the '+' side facing up.