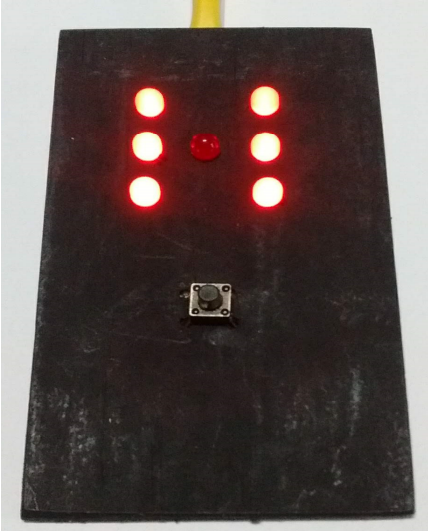


How to Build an Electronic LED Dice

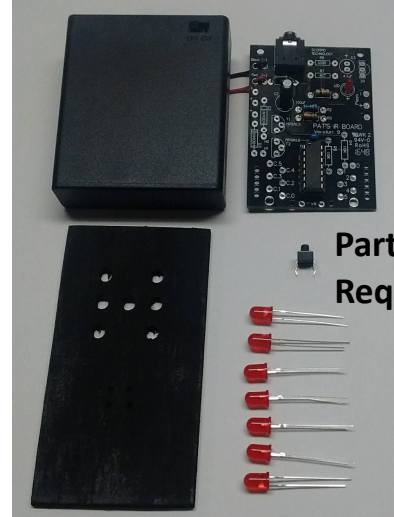
Pat McMahon– V1 - 10/9/2018

Design Brief – Build a switch activated, Electronic LED Dice, controlled by your micro-controller.

Note – The photos taken in this “How to Build” are using Pat’s method of construction, but you may use your own design method.



Electronic LED Dice - Switched Activated
using 7, long leg, 27 mm long LED’s



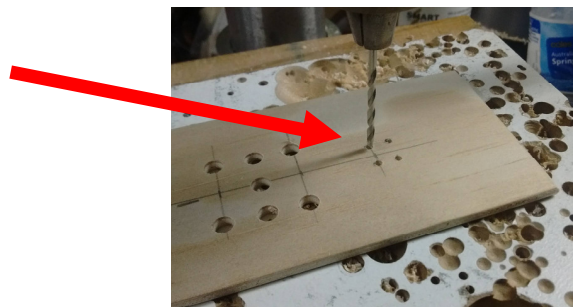
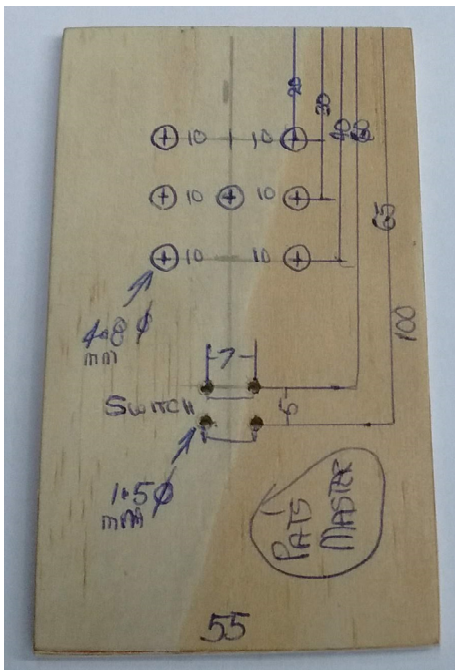
Parts Required

Below are some of the Production Steps, you can use or design your own, Tick off each box as you complete a task and Document it.

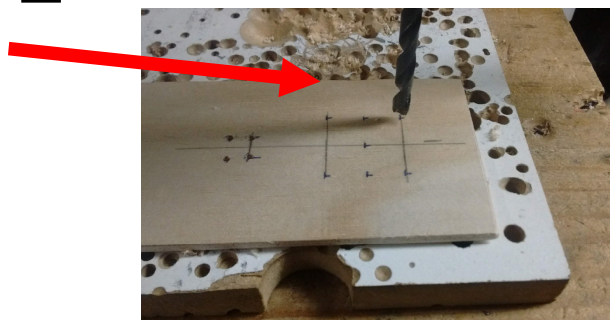
Tools Required– Drill, Drill bits, Square, Rule, Soldering Iron, Side Cutters, Pointy Nose Pliers, Glue, Pencil.

NOTE– Extra special care should be taken to get an accurate 4.8 mm (3/16”)Drilled Base to ensure a tight press fit with the 7 LED’s.

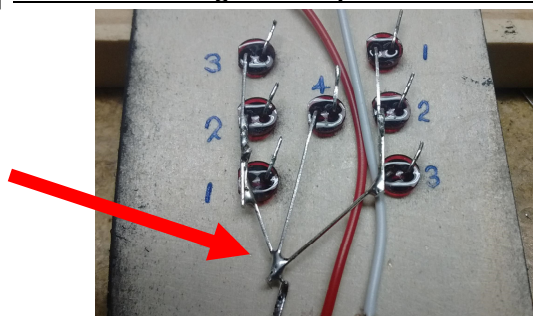
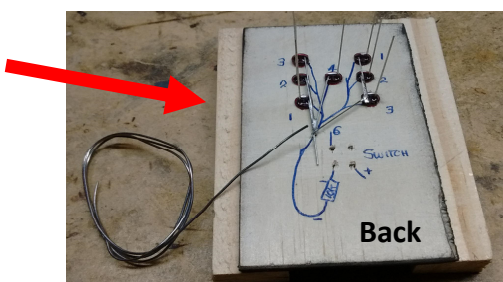
- You will need a ~ 100 x 55 mm x 3 mm plywood base.
- Drill the 4 small switch holes with a 1.5 mm diam drill



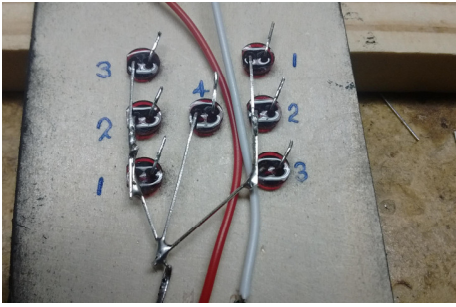
- Drill the 7 Large LED holes with a 4.8 mm (3/16”)diam drill



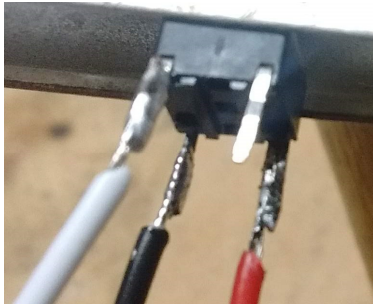
- Insert the 7 LED’s, raising the ply, to enable a tight push on inserting.
- Bend down the negatives only to touch each other and solder.



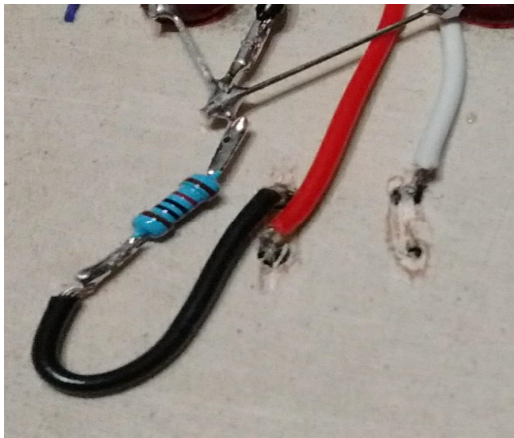
- Bend up & trim the positives.



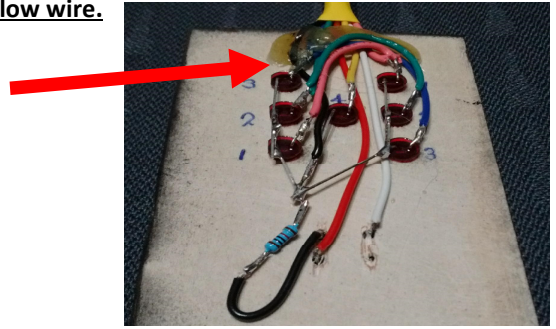
- Solder wires to the switch as below, white, red (+) and black (-) to the shortest gap spaced legs.



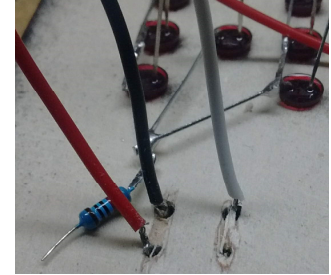
- Pass the Red (+) switch wire & the white switch wire up through the LED's to the microcontroller.



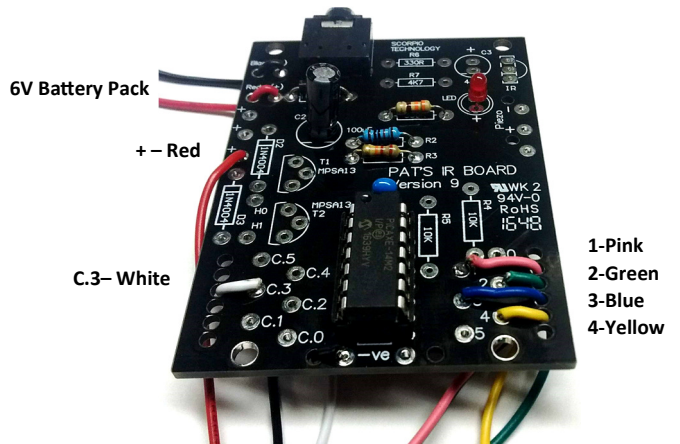
- Connect the 1's with Pink wire, 2's with Green, 3's with Blue, 4 with Yellow wire.



- Poke the wires of the switch, through the small holes in the ply & attach a 10K pull down resistor as below to the LED's negatives legs.



- Build up one of Pat's 14M2 Microcontrollers and insert the coloured wires as shown.



- Use Picaxe Programming Editor to CODE your displays or see Pat for his sample program.

The following is needed to Code the correct display on the Dice.

Dice Roll Numbers



- 1 - high 4 low 1,2,3
- 2 - high 1 low 2,3,4
- 3 - high 3, 4 low 1,2
- 4 - high 1, 3 low 2,4
- 5 - high 1,3,4 low 2
- 6 - high 1,2,3 low 4

- Congratulations on Constructing, Soldering and Coding your own Electronic LED Dice. WELL DONE!

