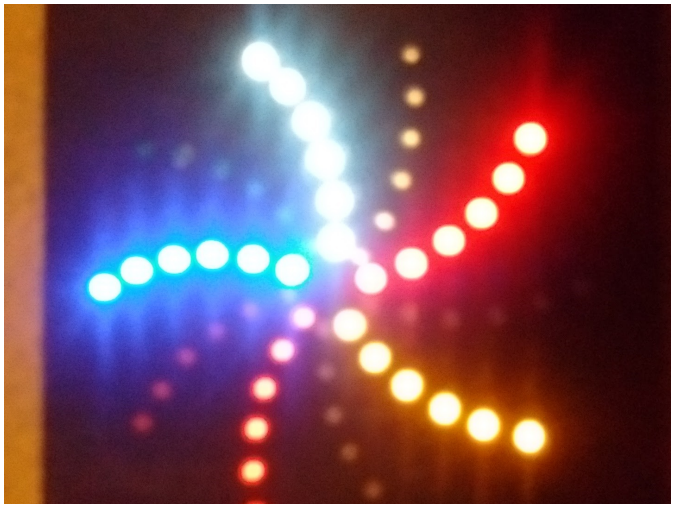


# How to Build your Infrared Animated Disc

Pat McMahon- V3- 10/6/2016

**Design Brief** – To Design, Construct & Program, your Infrared Remote Controlled Animated Disc, to run from Pat’s 14M2 Picaxe PCB, with 10 outputs (coloured arms).

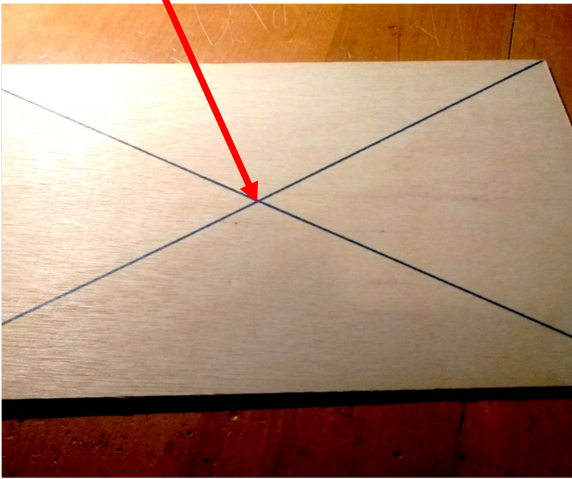
## Infrared Remote Controlled Animated Disc



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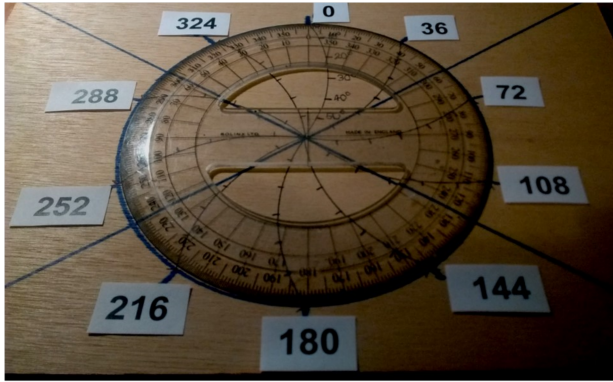
low are some of the set up and production Steps or use your own design. Tick off each box as you complete a task and Document it.

Find Centre of an A4 (300x200 mm) 3 Ply sheet.



Mark out at multiples of 36 Degrees around Circumference.

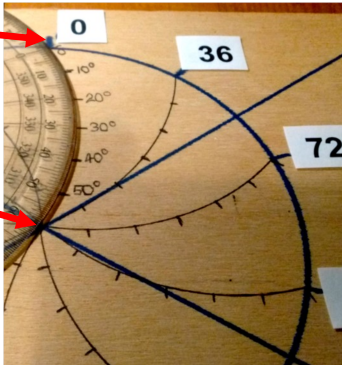
Using a 150 mm diameter, 360 degree protractor, draw a circle around the circumference and because of 10 outputs or arms, mark off  $(360/10) = 36$  Degree multiples. ie 0, 36, 72, 108, 144, 180, 216, 252, 288, 324 degrees.



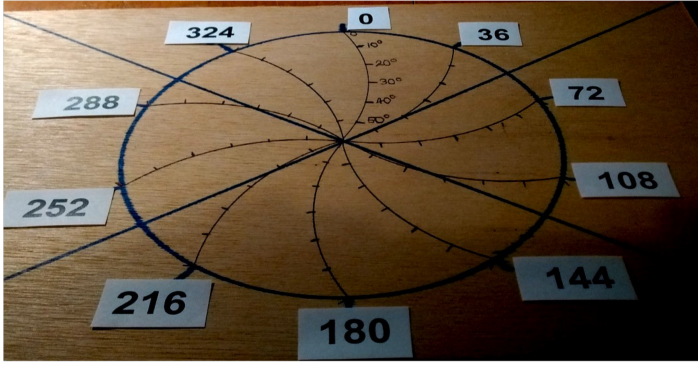
Mark out Spiral Arms at 10 Degree intervals.

Pivot the Protractor around 0 degree mark and draw a spiral arm from the outer marks on the circumference and through the centre, marking every 10 degree mark.

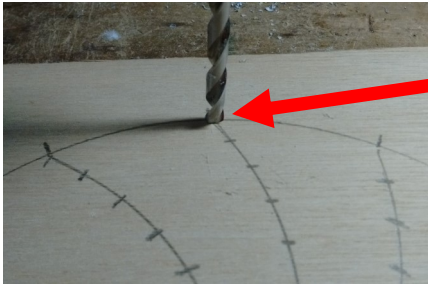
ie 0, 10,20,30,40,50  
6 marks for each arm.



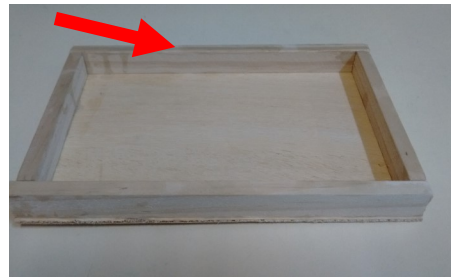
Repeat for the 10 Spiral arms, each with 6 equal marks.



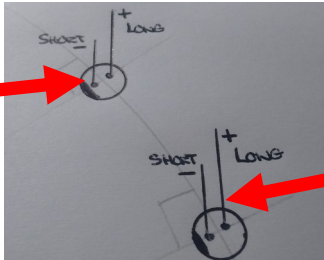
- Drill 60 holes using a 3/16" or 4.8 mm diameter drill.



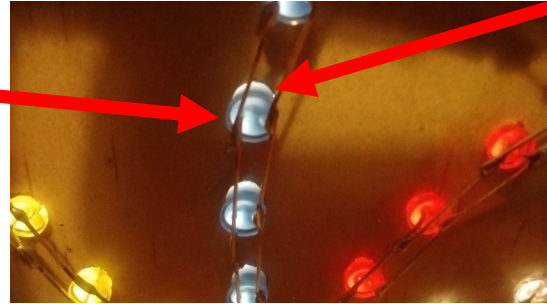
- Make up back supports, glue, nail, sand & paint/spray.



- Insert 6 same coloured LED's in one arm.  
Ensure all short (-) legs are facing to left of curve.



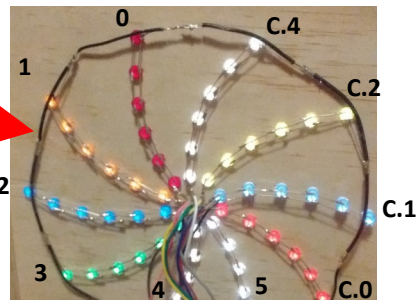
- Bend and Solder all short (-) legs together, then (+) longs.



- Repeat the same for the other 9 arms.

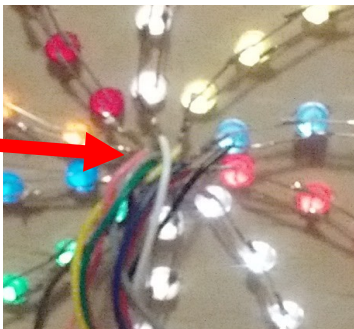


- Join all 10 negative arms together with a black (-) wire.  
Remember - Strip wire, Twist it & Tin it .

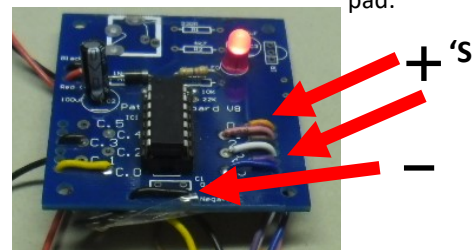


When viewed from the back.

- Attach a 200mm Coloured (+) wire to each arm. and a 200mm Black (-) wire to one arm only.



- Build Pat's Infrared 14M2 Microcontroller attaching the 10 coloured (+) wires to pin 0,1,2,3,4,5,C.0,C.1,C.2,C.4 Note- Start from the top arm & work **anticlockwise** (Don't use C.3 or C.5 as they are inputs only) & the black wire to the negative (-) pad.



- Attach the microcontroller to the back.

- Program/Code your microcontroller to your own personal design, using Picaxe Programming Editor.



Well Done!

You have successfully built, programmed and tested your Infrared 14M2 Picaxe Microcontroller, Animated Disc.