

# “Getting Started with BLOCKLY” Assignment

## Using Pat’s PICAXE 14M2 Microcontroller.

Pat McMahon– V1– 29/1/2017

**Design Brief**– You will investigate how to code using BLOCKLY and program various outcomes to run, using Pat’s 14M2 Picaxe Microcontroller.

You can CODE or Program your Picaxe Microcontroller using any of the 3 following methods.

- 1- BASIC
- 2- Flow Charts
- 3- BLOCKLY

In this Assignment we will investigate using BLOCKLY which uses Visual Graphical Blocks to CODE. Its like Dragging and Dropping jigsaw pieces to CODE or Program. Go to Picaxe Programming Editor 6 (referred to as PE6)



- A – RESEARCH- Go to top right hand corner ? open up & research Manual 5 on BLOCKLY.
- B - CODE— Open up the New Blockly icon and start building your own CODE for the various Design Brief’s below.
- C—SIMULATE—Open up Simulate and test your CODE to see if you have got it right.
- D—Save each Design Brief No.
- E - RUN - Convert BLOCKLY to BASIC and download with cable to run on the Microcontroller.

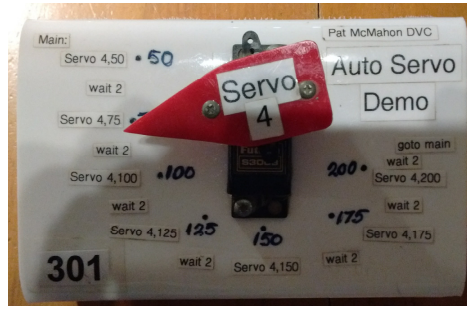
Inputs Only

Piezo Sounder

**Design Brief-2**  
Build up by turning on each 6 output lights (B.0,B.1,B.2,B.3,B.4,B.5) independently, at one second intervals.

**Design Brief-3**  
Turning continuously on and off successively, six LED outputs (B.0,B.1,B.2,B.3,B.4,B.5) at 2 second (2000 milliseconds) intervals.

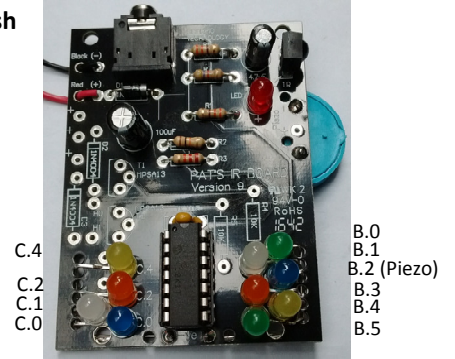
- Design Brief 4 – Viewing Pat’s Auto Servo Demo, code in Blockly, servo 4 to rotate in increments of 25, starting at 50 & ending at 200, at 2 second intervals continuously.



- Design Brief 5– Viewing Pat’s 10 led Microcontroller, code in Blockly, each LED to flash on, running down from B.0 to C.4, at 500 millisecond intervals for 1 second duration.

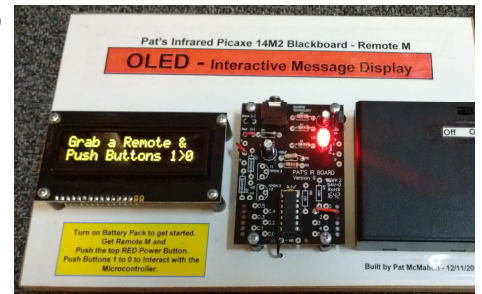
- Design Brief 6– Viewing Pat’s 10 led Microcontroller, code in Blockly, each LED to flash on, running up from C.4 to B.0, at 300 millisecond intervals for 2 second duration.

Note– C.3 & C.5 are inputs only.

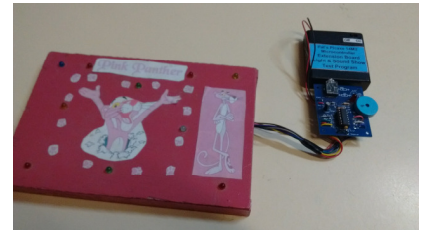


- Design Brief 7– Viewing Pat’s OLED Display, code in Blockly, 5 different OLED screens about you.

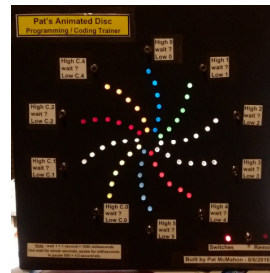
- Design Brief 8– Viewing Pat’s OLED Display, code in Blockly, 5 different OLED screens using a Universal Remote.



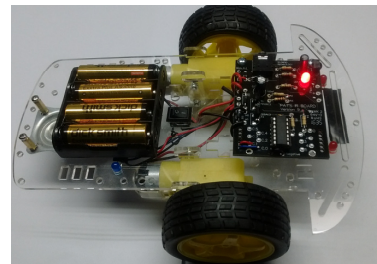
- Design Brief 9– Code in Blockly, a program of your own design, to run LED’s and Tunes on your extension Board.



- Design Brief 10 – Code in Blockly, a program of your own design, to run 10 LED’s spiral arms on your Animated Disc, in various patterns.



- Design Brief 11– Code in Blockly, a program of an Infrared Robot going forwards, stopping, left & right, via high amp HO (ie B.0) & HI(ie B.1).



- Design Brief 12 to 19– Code in Blockly, 8 different individual programs of your own design, for each Design Brief.

- Design Brief 20– Write and submit your own 2 page Assignment Summary on “How to use BLOCKLY” using Windows Accessories and the Snipping Tool.

**Well Done! Congratulations on CODING & Programming your Design Brief’s using BLOCKLY.**