

The Me Potentiometer module is a resistor with three terminals, and its resistance can be adjusted by rotating the knob 270 degrees which results in values between 0-980. Everyone of you has used a potentiometer when you dim a light.

When I am designing a new action for the robot, I first want the action to be very slow so that I can ensure that I programmed it correctly. When I am happy, then I want to increase the speed of the action. Traditionally, I would have to go back into the program and then change all the speed numbers. Maybe there are parts of the program that I have modified and therefore want these parts to run slower. Traditionally, I would have to go back into the program and then change the speed numbers in these sections.

Now I can set a variable and let it read the value of the potentiometer. Then I can set the motor speed to this variable. When you change the potentiometer, the motor speed will also change.

Example.

```
X = potentiometer (port 7)/10  
. bunch of actions  
- set motor (m1) power (X)
```

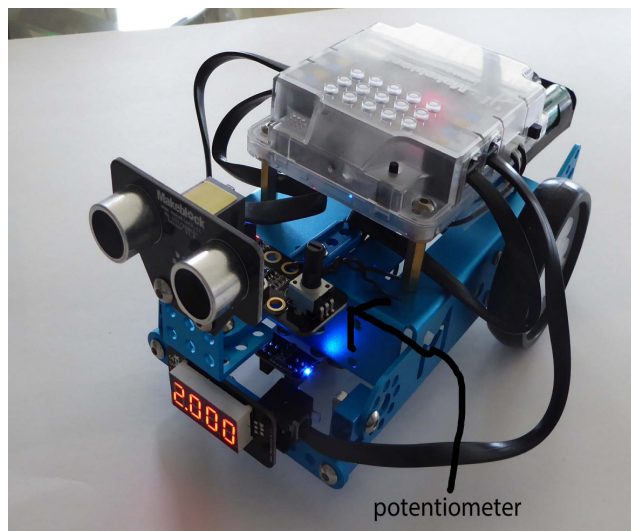
wait (10) - this will stop program for 10 seconds

In that 10 seconds I turn the potentiometer knob to a lower value

```
X = potentiometer (port 7)/10  
. next bunch of actions now at the lower speed  
- set motor (m1) power (X)
```

Okay, now hands up for anyone who drew outside the lines as a child. Also when driving, how often do you go over the center or side lines? NEVER. Sorry but unless you are under a medical prescription, BC bud is not yet legal.

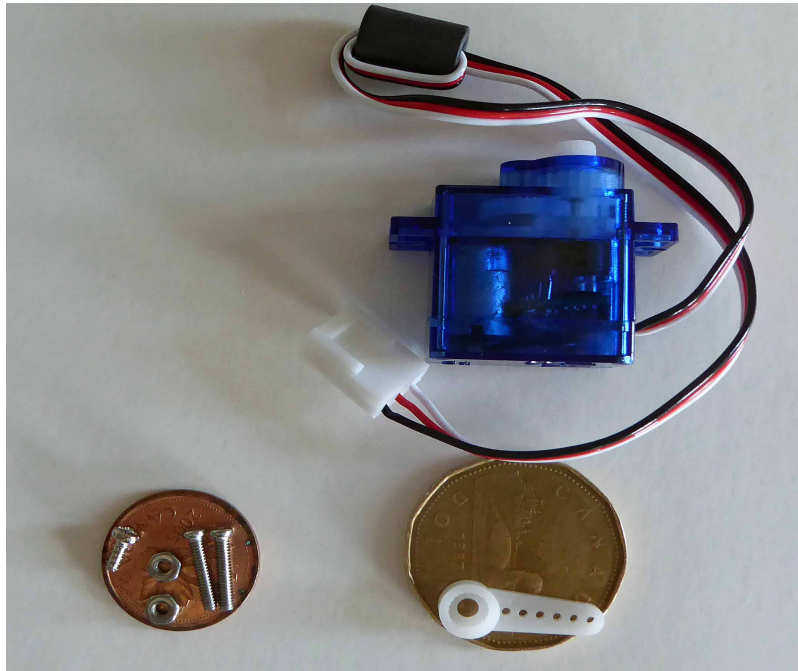
I decided to test how often Pocito goes off the road/line. I attached a four digit LED display and programmed a counter to track when both sets of IR sensors could not see the track. First time the count was 15/minute. I determined that some of the problems were because the track corners were too tight as there is a minimum radius that Pocito requires for a turn. Those parts were replaced. I also used the potentiometer to adjust the turning speeds of each of the motors. My last test had a count of 2/minute.



The ultrasonic sensor had one limitation, it could only look forward. So I decided that Pocito required a rotating neck and this would be accomplished with servo motors. They arrived last week.

Servo motors are generally an assembly of four things: a DC motor, a gearing set, a control circuit and a position-sensor (usually a potentiometer). The position of servo motors can be controlled more precisely than those of standard DC motors, and they usually have three wires (power, ground & control). They are usually restricted to 90 or 180 degree rotation.

I hope that everyone has their glasses on.



Yes the servo and arm are about the size of a loonie and all the bolts, nuts and screw fit on a penny. I had to use a jewelers screwdriver and tweezers to build and install it.

Since the servo uses Pulse Width Modulation, a technique for controlling analog circuits with a microprocessor's digital outputs, I had to use an adapter between the servo and Pocitos brain.

Pocito saw this video, Audi does auto parking, and wants this to be my project for next month.

https://www.youtube.com/watch?v=NzqUNYU-7_8