

**ECE 4175**  
**Project Six**  
**Stepper Motor Control**  
**Part Two**

**Complete by:**

Friday February 13<sup>th</sup> ☹ for an A+

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**Objective**

For this project you are to again use the pot to set the stepping rate and the LCD to display it. Now however, you are to have the stepper motor take 800 steps CW (i.e., exactly 4 revolutions), pause for 3 seconds, take 800 steps CCW, pause for 3 seconds, and repeat this process indefinitely.

During, and only during, each 3 second pause, check the pot each 0.1 second and use the resulting value to update the LCD. Only at the end of the 3 second pause are you to update STEPCNT, the value used during the stepping interval by the high-priority interrupt service routine.

This procedure will give you a definitive view of when stepping becomes erratic because of stepping too fast. Note that this is a more stringent test of maximum stepping rate because you are no longer able to edge up to the maximum rate. Here the motor goes directly from a dead stop to maximum rate. And it goes directly from maximum rate to a dead stop.

Before starting stepping, move the stepper motor pointer (by hand) to the straight up position so that you can gauge whether the motor has returned to that same position after taking 800 steps.