



Lab 4 Part B

Position control using

- Encoder
- Arduino code based on hardware interrupt (modify the position control example program provided on the Lab 4 page)

Lab 4 demo

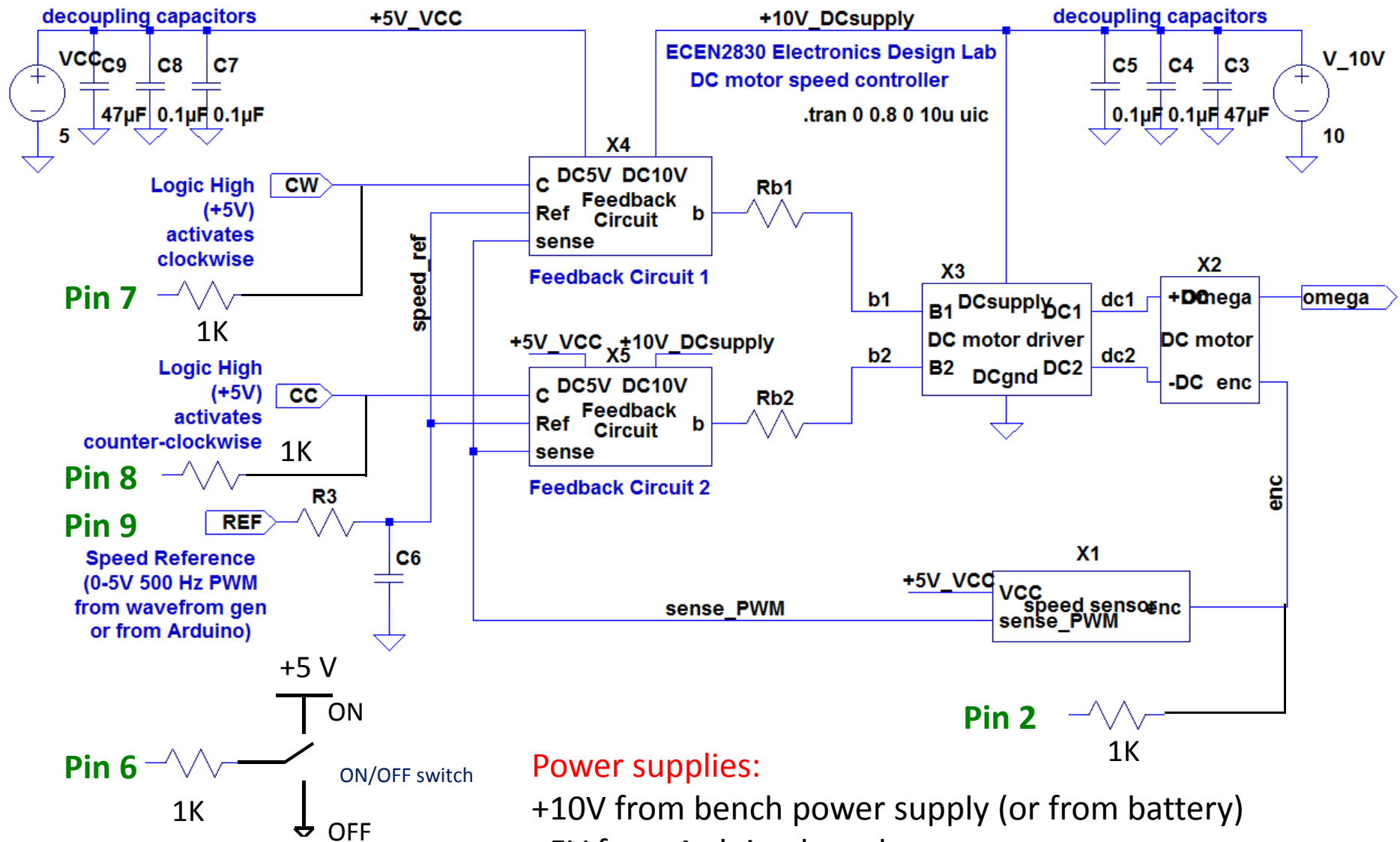


Lab 4 Part B Tasks

- Follow the setup shown on the next page
- Test using the example position control code
- Modify the position control code to perform the following in `void loop()`:
 - Stop, wait for the switch to be in the ON position
 - Wait 1 second
 - 360° clockwise rotation of the robot (not the wheel)
 - Stop and wait 1 second
 - 360° counter clockwise rotation of the robot (not the wheel)
 - Stop and wait 1 second
- In the report:
 - Include a copy of your code
 - Comment on the position accuracy achieved, and how fast your robot could accomplish the positioning task



Lab 4 Part B Position Control Setup





Lab 4 Demo

Be prepared to:

- Show how the robot powered from 2 battery packs in series (approximately 10 V) can accomplish the specified Part B positioning task. **Extra credit** will be given for exceptionally fast and accurate* positioning
- Show your position control program
- Show complete speed control circuit, and complete LTspice diagram of your speed control circuit
- Answer questions related to your position control code and speed control circuit

* You may use Serial Monitor to display the actual encoder count after completion of the positioning routine