

## EE 308 — Homework 8

Due Mar. 18, 2002

1. The table below shows some values in the HC12's PWM registers:

PWCLK	PWPOL	PWEN	PWSCAL0	PWSCAL1	PWPER0	PWPER1	PWDTY0	PWDTY1	PWCTL
2D	5F	03	35	57	C7	63	31	4F	00

- What is the period of the pulse width modulated signal generated on PWM channel 0?
  - What is the duty cycle of the pulse width modulated signal on PWM channel 0?
  - What is the period of the pulse width modulated signal generated on PWM channel 1?
  - What is the duty cycle of the pulse width modulated signal on PWM channel 1?
- You want to set up PWM channel 3 to generate a pulse width modulated signal with a frequency of 5 kHz and a duty cycle of 40%. How will you set up the HC12 PWM registers to do this? Indicate which clock mode you will use, and the values of PCKB (and PWSCLO, if you use clock mode 1).
  - Write some C code to set up PWM channel 3 to generate a pulse width modulated signal with a frequency of 5 kHz and a duty cycle of 40%. Be sure your code does not change the function of any other PWM channel?
- Write the program for Part 4 of Lab 8. Note that this includes the code for the previous parts of the lab.