Prelab 5

Aseda Gyeke Aboagye   Joe Orr   Doug Hewitt

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1   DAC Pins

DAC0: Pin 64 (our JTAG connector: C26)

DAC1: Pin 63 (our JTAG connector: B25)

There appears to be no bits in the XBRn that control the DAC.

2   VREF Configuration

1. VREFD is on pin C28. It should be connected to B32.

2. The Reference Control Register, REF0CN enables/disables the internal reference generator and the internal temperature sensor on all devices.

   Bits 0 and 1 should be set to 1. (SFRPAGE 0)

3   Timing

Solving for the Timer 2 overflow count:

$$SYSCLOCK = 12.25 \ MHz$$

$$T_2 = {}^{SYSCLOCK}/_{12} = 1.0208\overline{3} \ MHz$$

$$\frac{T_2}{8 \ KHz} = 127.6041\overline{6} \implies count = -128$$

$$Error = \frac{128 - 127.6041\overline{6}}{128} = 0.3092\%$$

Using a count of -128, we can use the following assembly code for our Timer 2 setup:

```
mov RCAP2H,#HIGH(-128)
mov RCAP2L,#LOW(-128)
```

4   DAC SFR Configuration

Bits 4 and 3 and DACnCN need to bet set to 1.