Setting up the Fuse bits on an Atmel

Using AVR Studio

The first time you get a new Atmel chip the fuse bits and ISP clock may not be setup correctly. This tutorial will help you set the fuse bits to the most common setting. If your Atmel chip is working you don’t need to continue.

This example will assume you are using the Atmega324p but the process is the same for any chip.

Setting the ISP clock

Open up the programmer dialog box by connecting to your Atmel (Tools / Program AVR / Connect...). Make sure you have the correct device selected.

Under Programming Mode and Target Settings make sure ISP is selected if you are using an ISP program (if you are using Jtag disregard this section). Next click Settings and select the ISP clock speed that is less than ¼ of your Atmels clock speed. For the Atmega324p: 8mhz/4 = 2mhz so we’ll choose 1.845mhz. Then click Write
Setting up the Fuse bits

Make sure that your fuse bits are configured like those in the above picture. [From top to bottom]

- Brown Out Reset at 2.7v
- On Chip Debug Enabled
- If you are using ISP then you may want to Disable JTAGEN because the JTAG interface will take up pins on a port and can cause headaches.
- SPIEN
- Turn off the Watch Dog Timer
- Make sure CKDIV8 is Disabled or your Atmel will run 8 times slower!!!
- CKOUT should be disabled or one of the pins on the Atmel will out the clk

- **SUT_CKSEL** is set to the internal oscillator. If you accidental set it to **Ext.** you will not be able to access your chip without attached that specified external oscillator. So be careful.