

Installation

If you do not have a programmer, see *Price List* for details on how to purchase one.

Step 1:

Install AVR Studio either from the CD included with the STK500 or by downloading it from [Atmel's website](#). Make sure the version of AVR Studio that you are installing is at least 4.12 build 460.

Step 2:

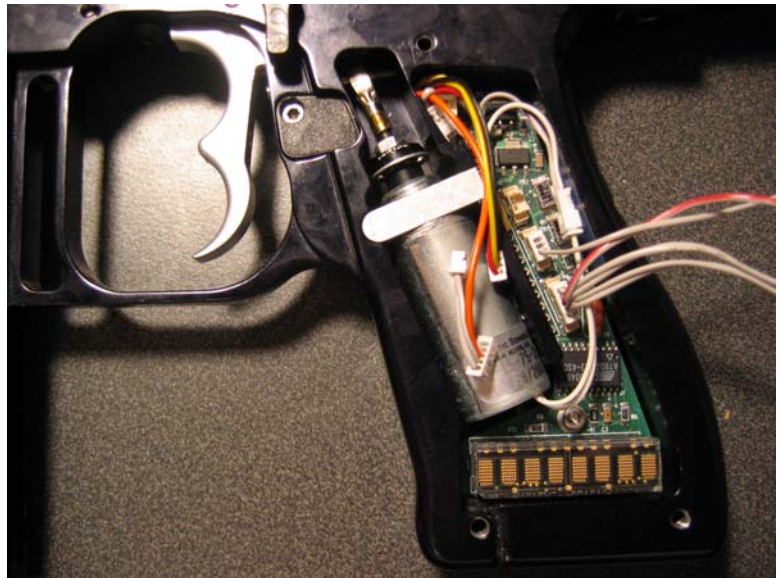
Connect the programmer to your computer either with the USB cable or the serial cable, whichever applies to your specific programmer.

Step 3:

Unscrew the left grip and connect the flash cable to your E/X-Mag as shown.

Note:

I have modified the wires to my solenoid to have an extra connector. This connector makes it easy to quickly disconnect and reverse my solenoid. I did this so that I could test the reliability of my software whether the solenoid was wired correctly or not.



This is a picture of the programming cable that will connect to whatever programmer you have. The left end will connect to the programmer and the right end to the gun as shown in the picture above. Be careful when connecting the cable to the programmer that the red stripe gets connected to the pin designated pin 1 on the circuit board of the programmer.

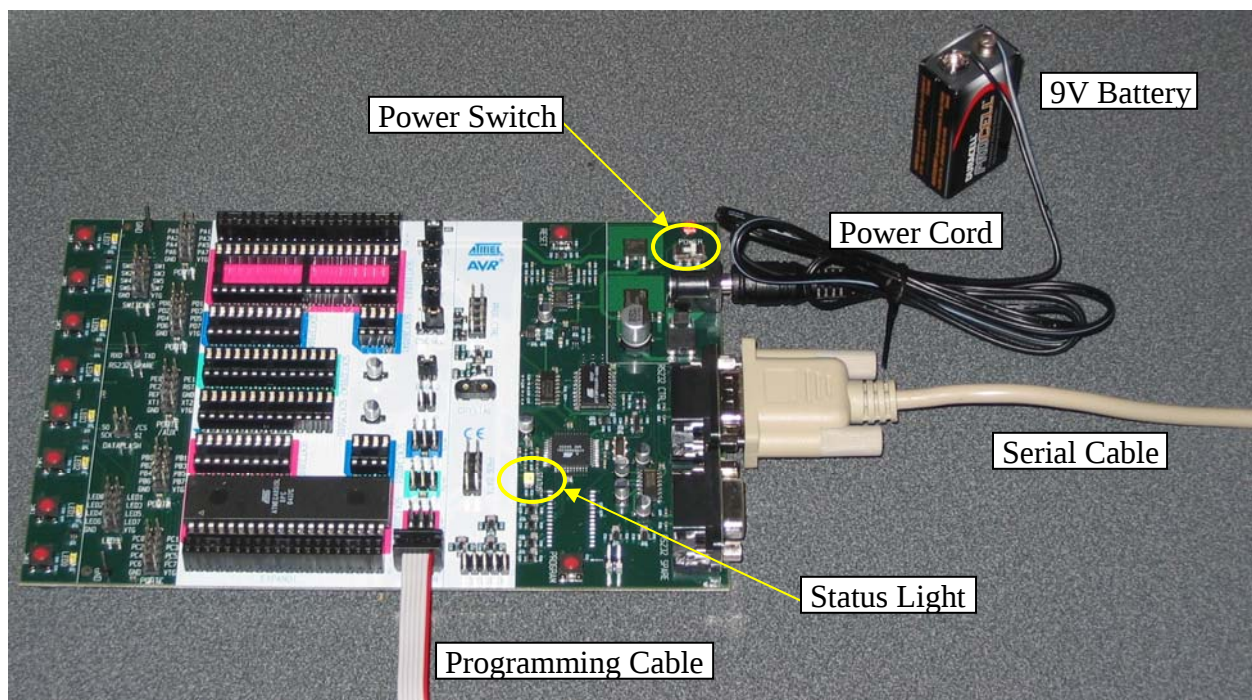


Step 4: (AVRISP)

If the power is not already on turn it on now. The light on the AVRISP will turn red then green then blink once and remain green. DO NOT proceed until after the light blinks and remains green.

Step 4: (STK500)

Connect the other end of the programming cable to the bottom 6-pin connector labeled ISP6PIN as shown. Make sure the red stripe designating pin 1 is on the right side by the label 1 2. Leave the gun powered off. Connect the power cord to the STK500 as shown and connect the ends to a NEW 9V battery. Turn the power switch on the STK500 to the ON position. The light labeled STATUS will turn red then green then blink once and remain green. DO NOT proceed until after the light blinks and remains green.



Step 5:

(First time connecting to this computer)

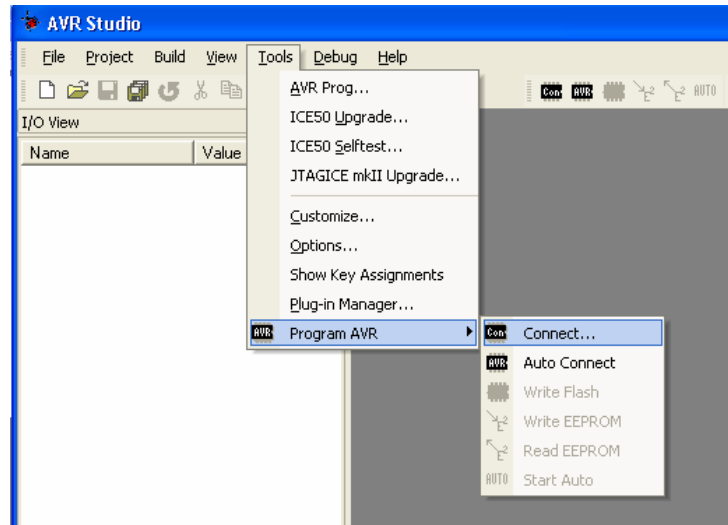
Click **Tools >> Program AVR >> Connect...**

Step 5:

(Previously connected to this computer)

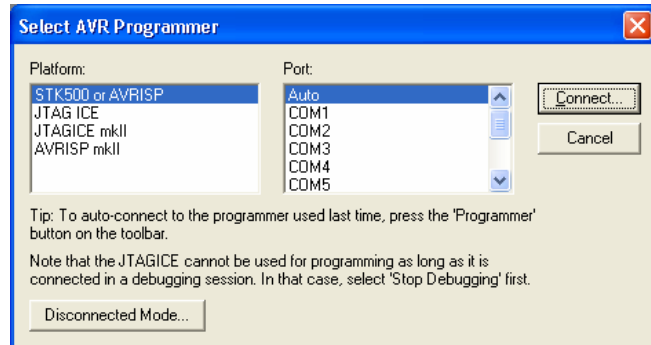
Click **Tools >> Program AVR >> AutoConnect...** then skip to step 6.

A more detailed guide is available from Atmel on how to connect to a device, this is a shortened version.



Step 6:

In the Platform listbox choose **STK500 of AVRISP** then in the Port listbox choose **AUTO** as shown. (See picture on right).



Step 7:

Once you have made these selections push the **Connect...** button. A window titled **AVRISP** or **STK500** will appear.

Step 8:

Set the device to **AT90S2313** and check both checkboxes for *Erase Device Before Programming* and *Verify Device After Programming* as Shown.

Step 9:

Please save your old AGD software just in case you need or want to restore it later. To do this press the Read button and select the location to save it. Do this for both the Flash and the EEPROM. If you do not need to save your software skip to step 9.

Step 10:

Press the ... button to browse to the location where you saved the XMOD flash files on your computer. Press the Program button for the Flash first and then for the EEPROM. If you get an error message just press OK and push the Program button again before proceeding. If you did it correct, after you flash the EEPROM it should start to scroll the boot message for XMOD. If you have problems please recheck step 4 and *Troubleshooting* before emailing me.

