Rickety

Mostly about Utah

# Arduino AVR High-Voltage Serial Programmer

March 19, 2010 by paul w — 115 Comments

My son Paul is the author of this guest post.

This Arduino sketch is useful for rescuing ATtiny microcontrollers rendered useless by incorrect fuse settings. It does this by putting the bricked tiny into high-voltage serial programming mode and writing the fuses to safe values.

Connection Diagram
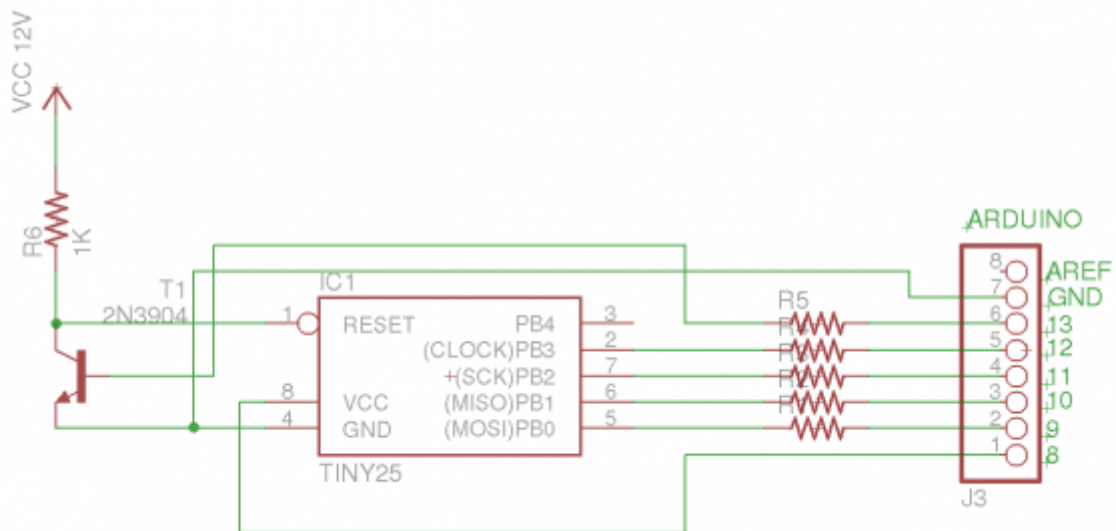
Click to enlarge

The Arduino is connected to the tiny though 1k resistors and a 2N3904 transistor is used to switch 12 volts applied to the tiny's reset pin. After uploading the sketch the Arduino sends "Enter a character to continue." repeatedly until communications are established by sending a byte through the serial monitor. The Arduino then programs the fuses.

Serial Monitor log

Enter a character to continue.

Enter a character to continue.

Enter a character to continue.

1

Entering programming Mode

lfuse reads as 62

hfuse reads as 5F

efuse reads as FF

Writing hfuse

Writing lfuse

lfuse reads as 62

hfuse reads as DF

efuse reads as FF

Exiting programming Mode

Download the program: hv_serial_prog.pde

Based on work by Jeff Keyzer.

Let me know if it works for you.

Filed Under: How To   Tagged With: ATtiny, Bricked

Comments

Anonymous says
September 15, 2010 at 5:51 pm

R1-R5 = x Ohm ?

Reply

> Paul says
> September 16, 2010 at 4:55 pm
>
> R1-R5 = 1k Ohm