## imall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



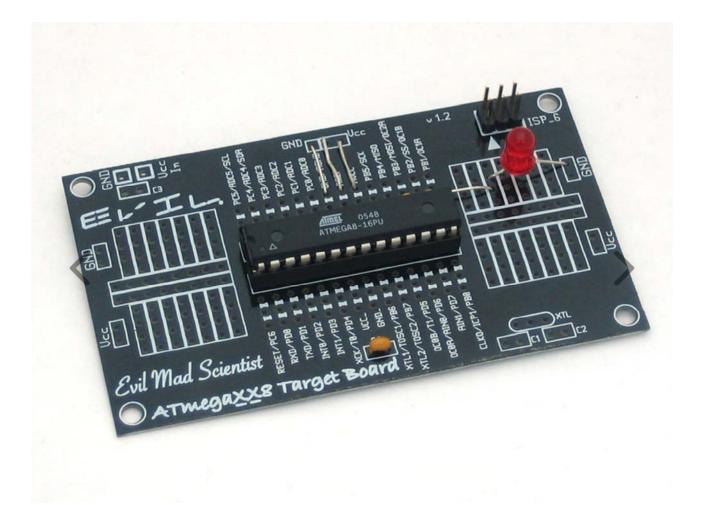
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## Barebones AVR dev. board

PRODUCT ID: 174



## DESCRIPTION

We took the business-card-sized AVR target board from Evil Mad Scientist Laboratories and added a few components to make an AVR dev board that has only the bare minimums! Comes unassembled with:

- Printed circuit board
- Blank ATMEGA328 with internal 1 MHz oscillator selected (default)
- 28-DIP socket
- 6-pin ISP AVR programming header
- 0.1uF ceramic capacitor
- 5mm diffused red LED
- Resistor for LED

We suggest using this board in conjunction with a USBtinyISP programmer (//www.adafruit.com/products/46) (not included), and having the programmer provide USB power to the board. Of course, any programmer can be used, just make sure that you also power the target board somehow.

To get you started, here is a 'hello world' zip file (http://www.ladyada.net/learn/avr/atmega328-1mhz-blink.zip). It contains a C program, compiled .hex file and Makefile for a blinking LED connected to pin PB5. Wire up the board as shown here (//www.adafruit.com/images/large/atmegaxx8targetclose\_LRG.jpg) (don't forget the 3 jumper wires up top, they are essential!) Then install WinAVR or equivalent (http://www.ladyada.net/learn/avr/) and run **make program** in the uncompressed folder to compile and burn the example.

Can easily be turned into a 'Minimal Arduino', simply follow the instructions from TodBot (http://todbot.com/blog/2009/05/26/minimal-arduino-with-atmega8/) (You'll need a programmer like a USBtinyISP or similar to burn the bootloader onto it)