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DC & USB Boarduino Kits

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Soldering Breadboard Arduino Clone

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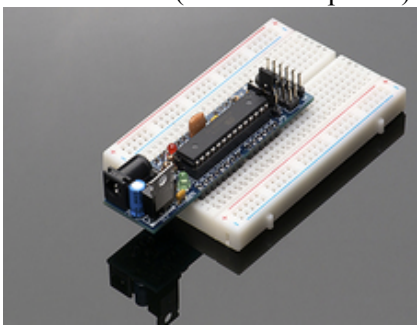
Overview

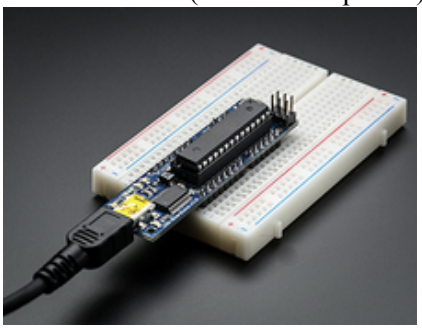
Featured in this Guide

DC Boarduino (Arduino compatible) Kit (w/ATmega328)



$17.50 Add to Cart

USB Boarduino (Arduino compatible) Kit w/ATmega328



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FTDI Friend + extras

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Full sized breadboard

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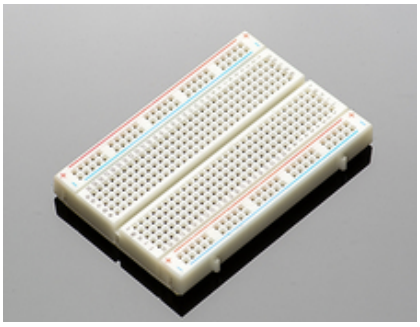
Half-size breadboard



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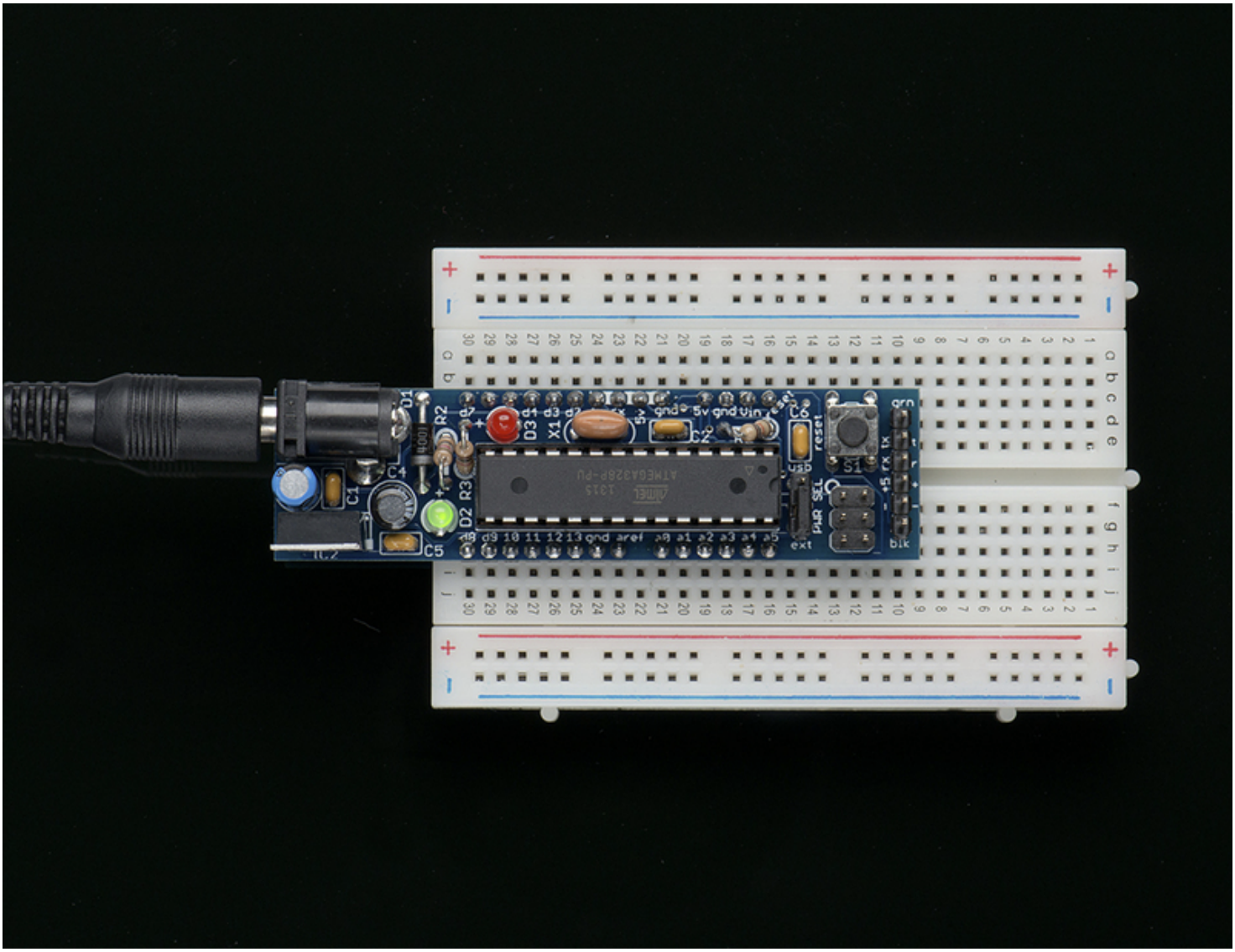
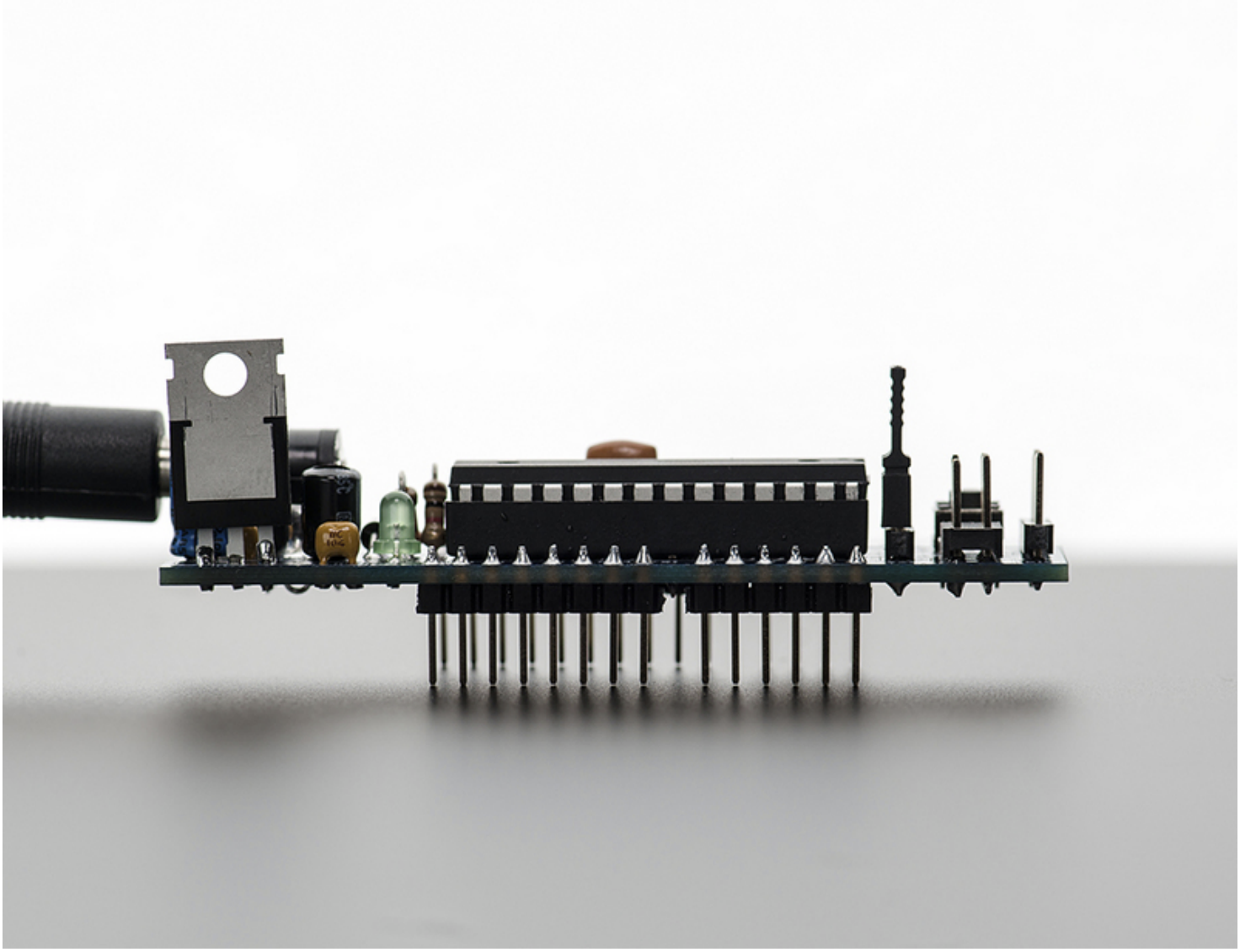


If you've ever struggled to use a solderless breadboard with an Arduino, you understand how frustrating it can be! I designed this Arduino clone to solve this problem in an inexpensive DIY fashion. [Kits with all parts are available in the Adafruit webshop](#).



The Boarduino is an Arduino clone: when programmed with the Arduino bootloader, it can talk to the Arduino software and run sketches just like the original.

There are noticable differences between the Boarduino and the Arduino.

- Shields cannot be used as the form factor is so different
- There are two versions, a DC version and a USB version
  For the DC version there isn't an on-board USB chip. This means you need to use a USB-TTL cable or a MiniUSB (or any other FTDI breakout board) which is not included. There are also no rx/tx LEDs and no rx/tx 1K series resistors.
  For the USB version, there is an on-board USB chip but there isn't a DC jack or 5V regulator, you can power it through the USB jack. There is a rx 1K resistor so you can use this to talk to serial accessories.
- 16.00 MHz ceramic resonator is used instead of crystal, so cycle speed may be off by +- 0.3nS (0.5%). This isn't relevant for UART timing, servo drivers, PWM, etc. but could be an issue if you need nanosecond-precision timing. Note that the Arduino software only provides millisecond-precision timing for general sketches (1 second = 1000ms. 1ms = 1,000,000 ns)

The specifications for the DC boarduino include:

- Designed to plug into a breadboard for easy prototyping
- Petite size, only 3" x 0.8" (75mm x 20mm)
- All 'standard' pins are brought out - Digital 0 thru 13, Analog 0 thru 5, ARef, 5V, Ground, Vin and Reset
- 2 LEDs, green power and red "pin 13" LED just like the Arduino Diecimila
- Standard Reset button

- ATmega328P, running at 16.00 MHz, just like the latest Arduino, the Duemilanove (note that the product photo above hasn't been updated)
- 6-pin standard ICSP header
- Standard 2.1mm DC jack (just like the original Arduino) with 5V regulator to run on 7V-17V power (DC)
- USB or External power, selectable with a jumper (just like original Arduino)
- 1N4001 diode protects against using incorrect wall adapter
- 6-pin header at the end for a USB-TTL cable
- Auto-reset capability when used with a USB-TTL cable
- Available as a low cost kit with standard parts, so its never out of stock
- All through-hole parts are easy to solder

The specifications for the USB boarduino include:

- Designed to plug into a breadboard for easy prototyping
- Petite size, only 2.75 " x 0.8" (75mm x 20mm)
- All 'standard' pins are brought out - Digital 0 thru 13, Analog 0 thru 5, ARef, 5V, Ground, 3.3V and Reset
- 2 LEDs, green power and red "pin 13" LED just like the Arduino Diecimila
- Standard Reset button
- ATmega168, running at 16.00 MHz, just like the NG and Diecimila
- 6-pin standard ICSP header
- Standard mini-USB jack
- USB or external power, selectable with a jumper
- 500mA fuse protects your computer from current overdraw
- Auto-reset capability
- Available as a low cost kit with standard parts, so its never out of stock
- All through-hole parts are easy to solder - SMT chip is presoldered & tested when purchased as a kit

If you have a USB boarduino check this page for instructions!

Make It! >
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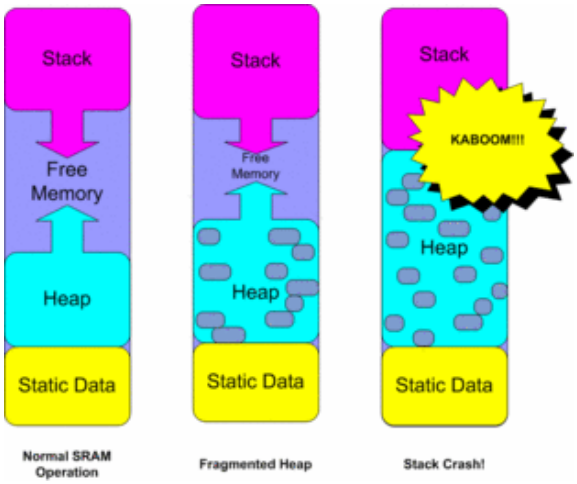
- 

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  How to get the most from your Arduino Memory

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Adafruit Arduino Selection Guide

Which Arduino is Right for Me?

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In 2012, after years of coding tutorials by hand, Limor put together a small team to build a custom tutorial management system from the ground up. The Adafruit Learning System allows us to make a wide range of awesome tutorials fast and efficiently. We hope these tutorials will help you learn something new, and inspire you to make something great!

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