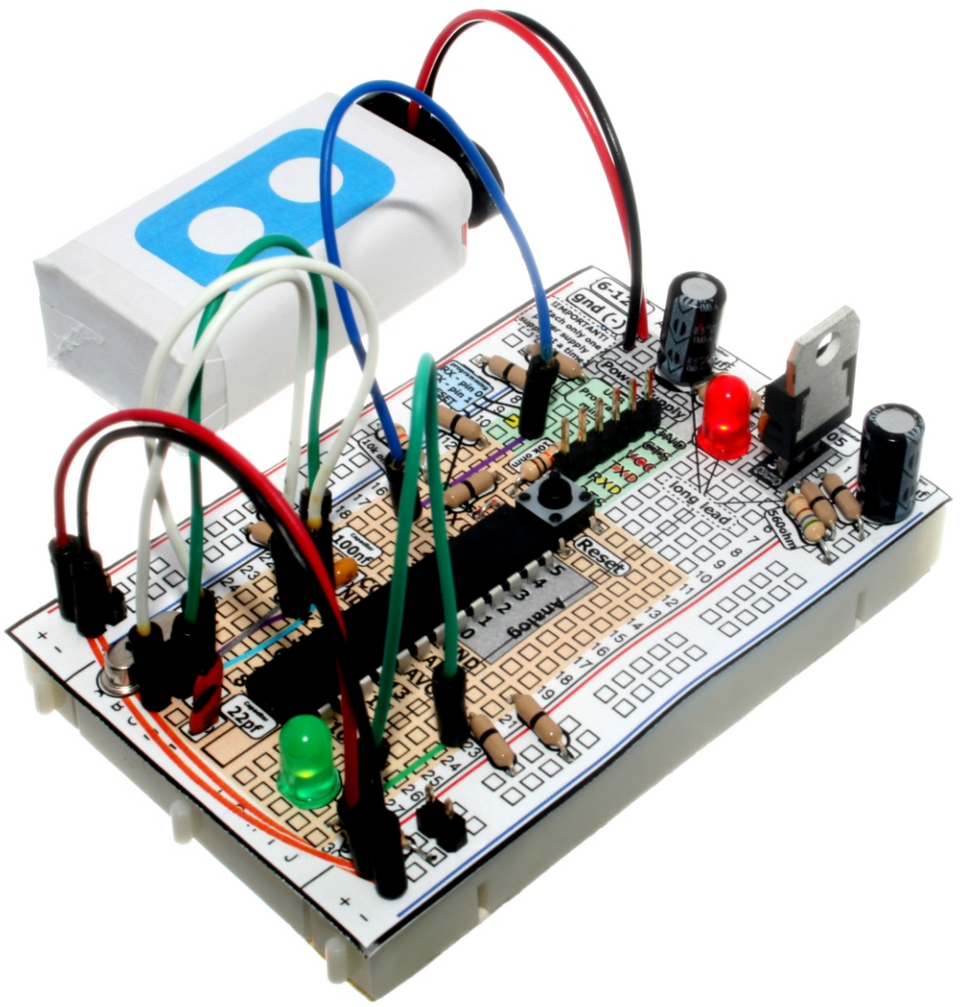
(BBAC)
breadboard arduino compatible

Breadboard Arduino Compatible Assembly Guide



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A Few Words

About this Kit

The pre-made Arduino Duemilanove board is an amazing prototyping platform, but sometimes its fun to make something for yourself. The goal of this kit is to make building your own a fun and easy experience. Collecting all the bits and pieces so you can pop them into place and have a fully functional Arduino compatible to play around with in no time.

About Open Source Hardware

All of .:oomlout:.'s projects are open source. What does this mean? It means everything involved in making this kit, be it this guide, 3D models, or code is available for free download. But it goes further, you're also free to reproduce and modify any of this material, then distribute it for yourself. The catch? Quite simple; it is released under a Creative Commons (By - Share Alike) license. This means you must credit .:oomlout:. in your design and share your developments in a similar manner. Why? We grew up learning and playing with open source software and the experience was good fun, we think it would be lovely if a similar experience was possible with physical things.

(more details on the Creative Commons CC (By - Share Alike) License can be found at)
(http://tinyurl.com/2dkzmd)

About .: oomlout :.

We're a plucky little design company focusing on producing "delightfully fun open source products"

To check out what we are up to

http://www.oomlout.com

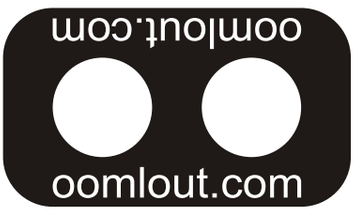
About Problems

We strive to deliver the highest level of quality in each and every thing we produce. If you ever find an ambiguous instruction, a missing piece, or would just like to ask a question, we'll try our best to help out. You can reach us at:

help@oomlout.com

(we like hearing about problems it helps us improve future versions)

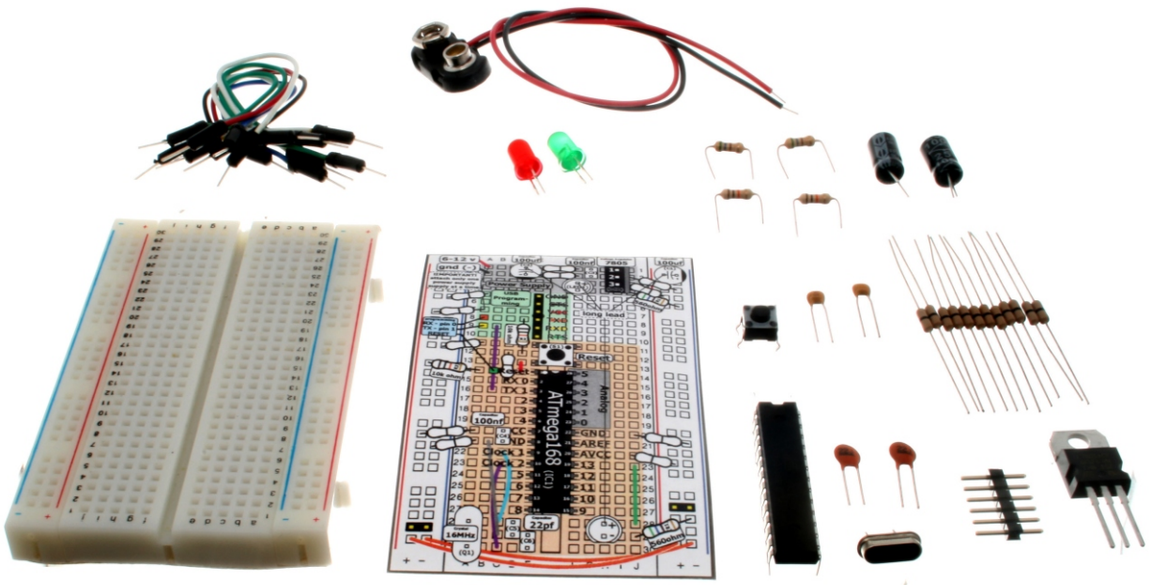
Thanks For Choosing .:oomlout:.



.: Where to Find Everything :.

TBCN
table of contents

.: The Parts Needed for a :.
.: Breadboad Arduino Compatible:.



Capacitors

100 uf -filters the power supply

100 nf - bypass capacitor

22 pf - filters the crystal

Resistors

0 ohm (black)
used as jumper wires

560 ohm (green-blue-brown)
LED current limiting

10k ohm (brown-black-orange)
Pull-ups

Header - (6 pin)

Used for programming with an FTDI cable

Battery Clip - (9v)

For powering the board with a 9v battery

Breadboard

Allows for easy assembly of circuits without soldering

Crystal - (16 MHz)

Provides a clock signal for the ATMega chip

Breadboard Layout Sheet

Place on top of a breadboard to show where components go

Microcontroller - (ATMega168)

A single chip computer that runs your code

Pushbutton - (Reset)

Resets the micro-controller when pressed

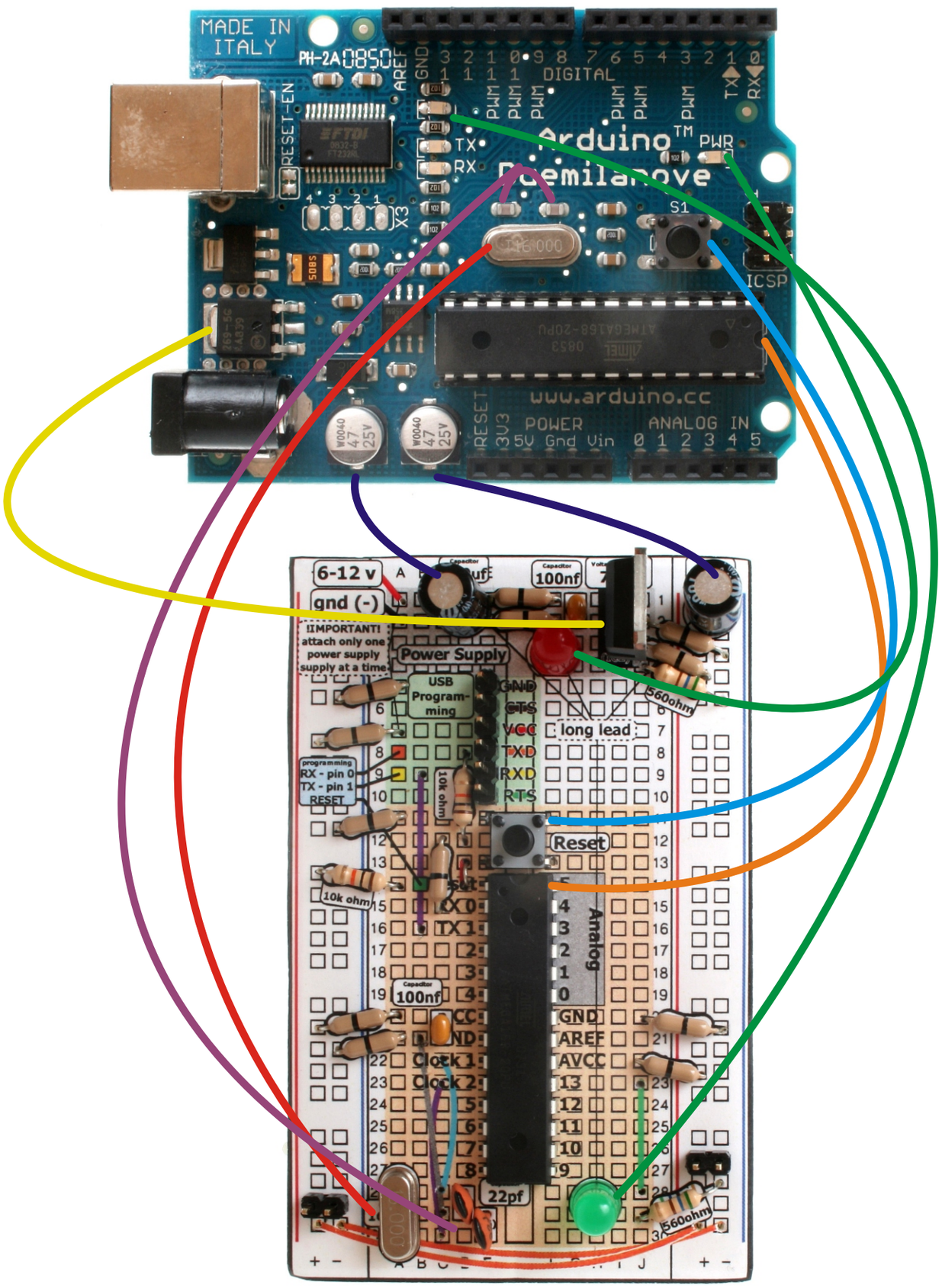
Voltage Regulator - (7805)

Takes in 7-12 volts and outputs 5 volts

LEDs- (Light Emitting Diodes)

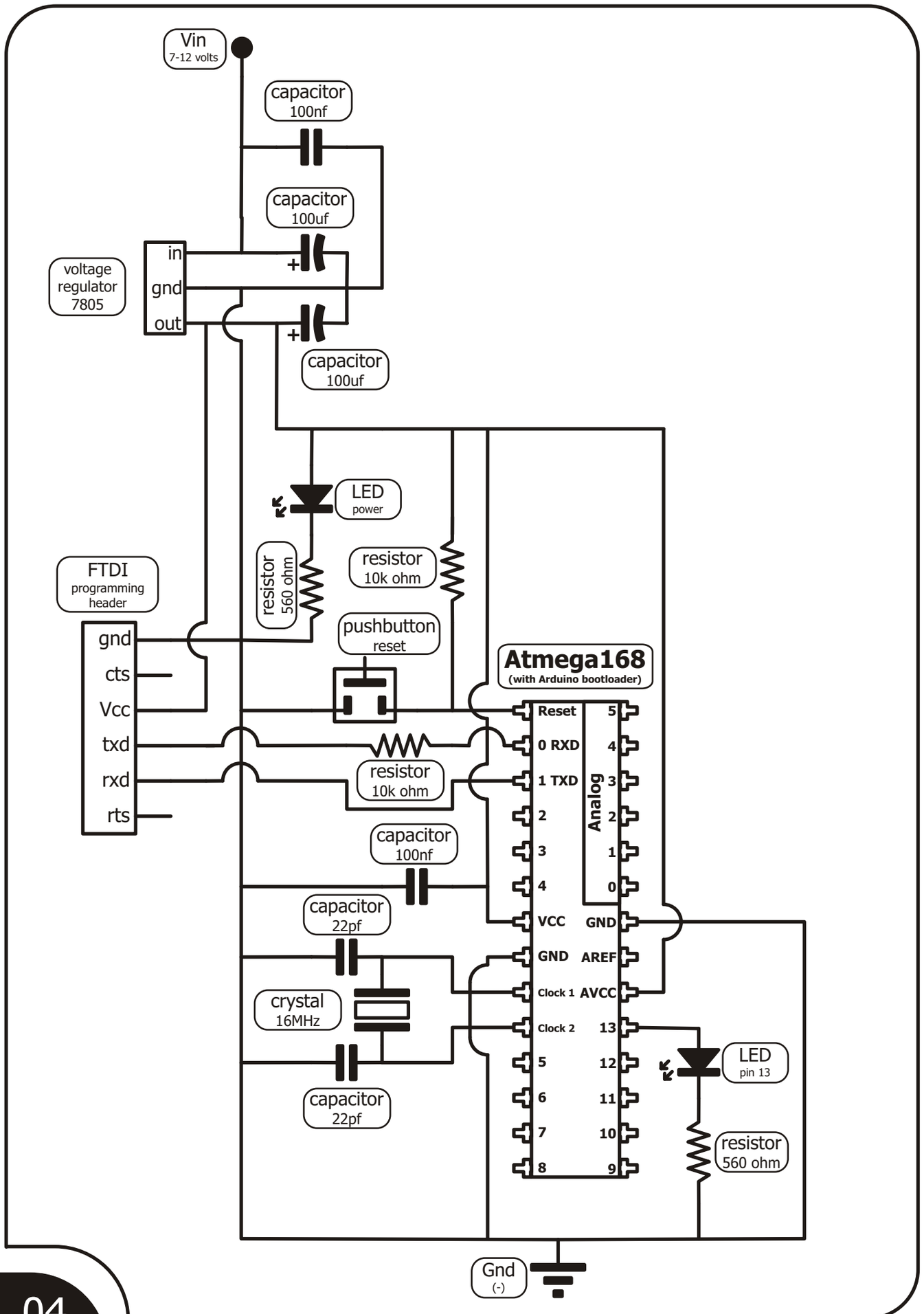
Used as indicators
Red - power
Green - connected to pin 13

.: An Arduino Duemilanove:.
&
.: Breadboard Arduino Compared:.



.: Breadboard Arduino Compatible:.

.:Schematic:.



.: Breadboard Arduino Compatible:.

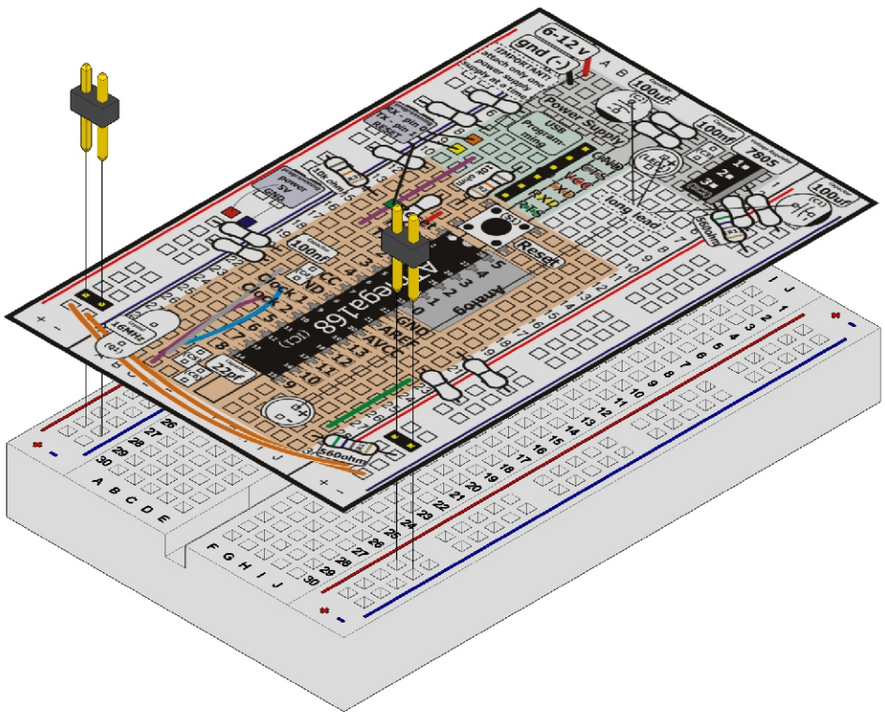
.:Assembly Steps:.

Parts:

Breadboard
x1

Breadboard Layout sheet
x1

2 Pin Header
x2



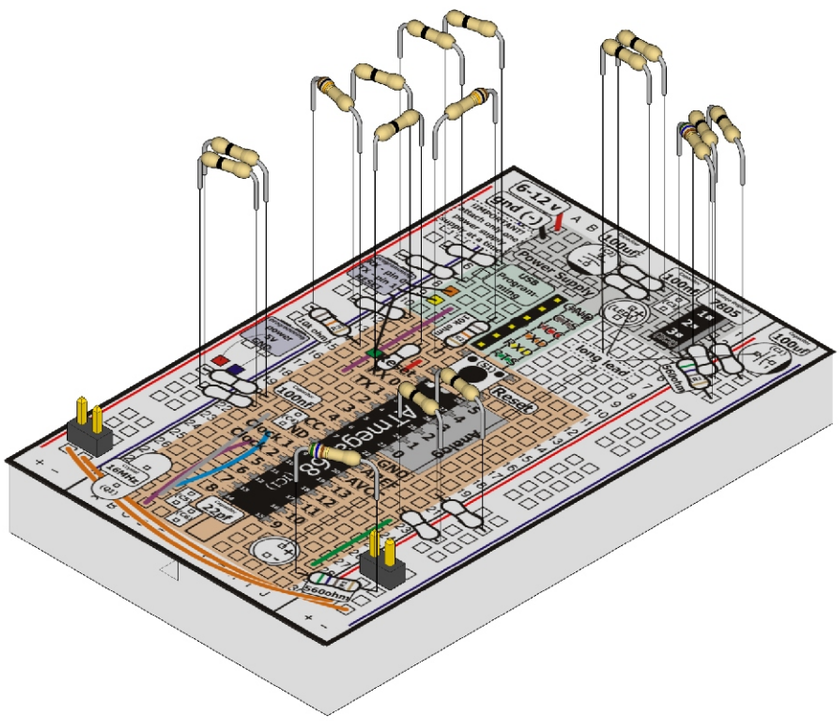
1

Parts:

0 ohm resistor
(black)
x12

560 ohm resistor
(green-blue-brown)
x2

10k ohm resistor
(brown-black-orange)
x2



2

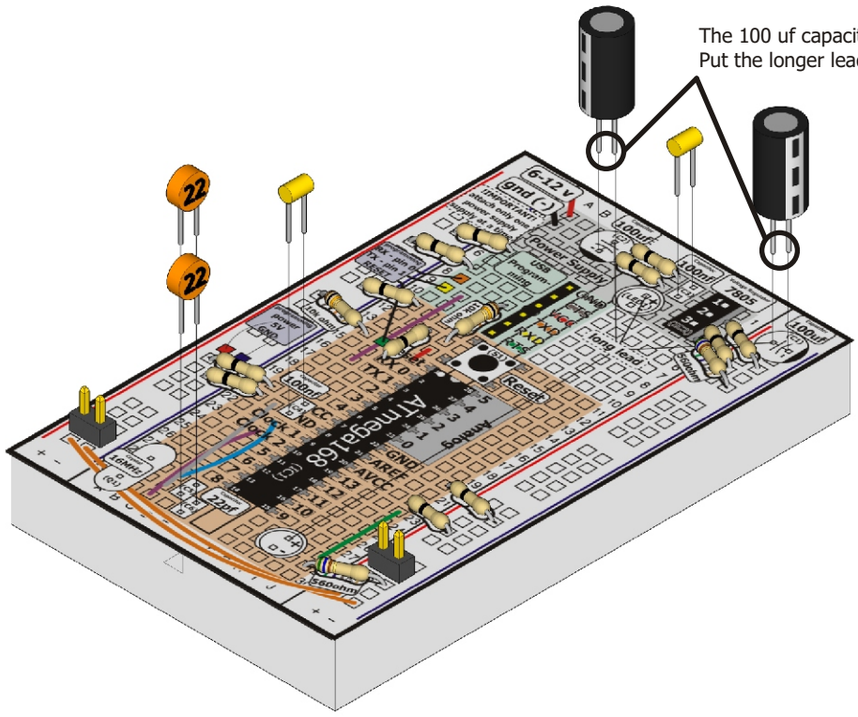
Parts:

Capacitor
100 uf
x2

Capacitor
100 nf
x2

Capacitor
22 pf
x2

The 100 uf capacitors are polarized.
Put the longer lead in the indicated hole



3

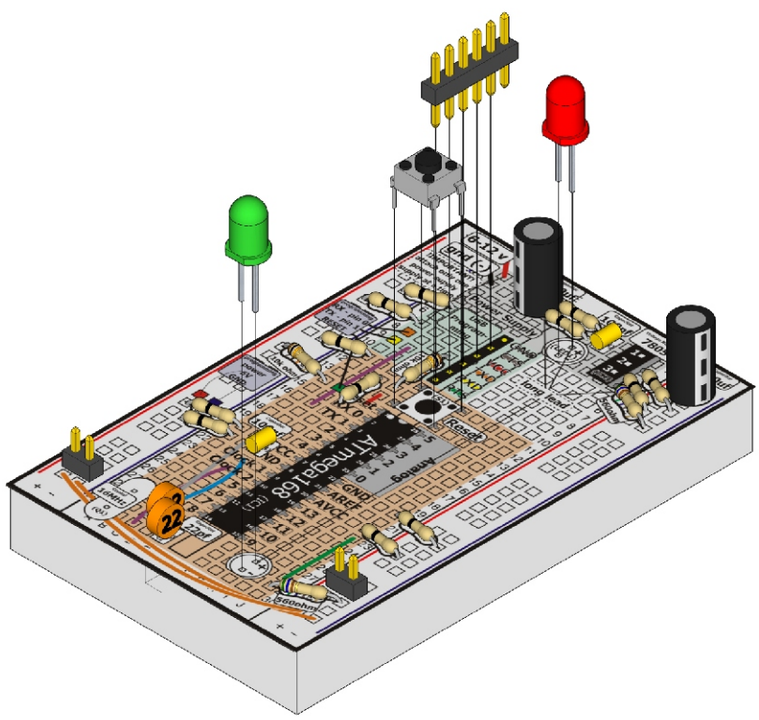
Parts:

Pushbutton
x1

Header (6 pin)
x1

Red LED
x1

Green LED
x1



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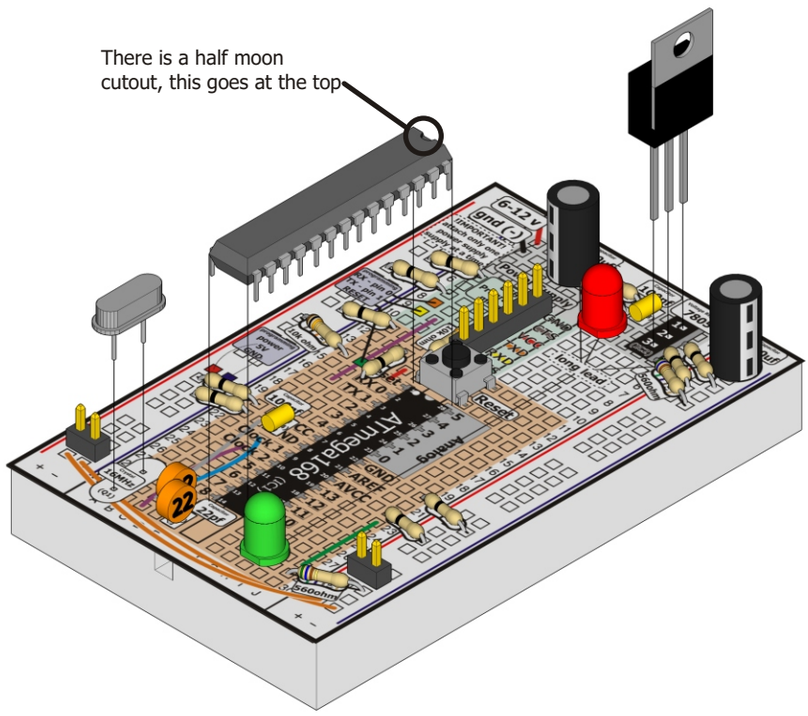
Parts:

Microcontroller
ATMega168
x1

Crystal
(16 MHz)
x1

Voltage Regulator
(7805)
x1



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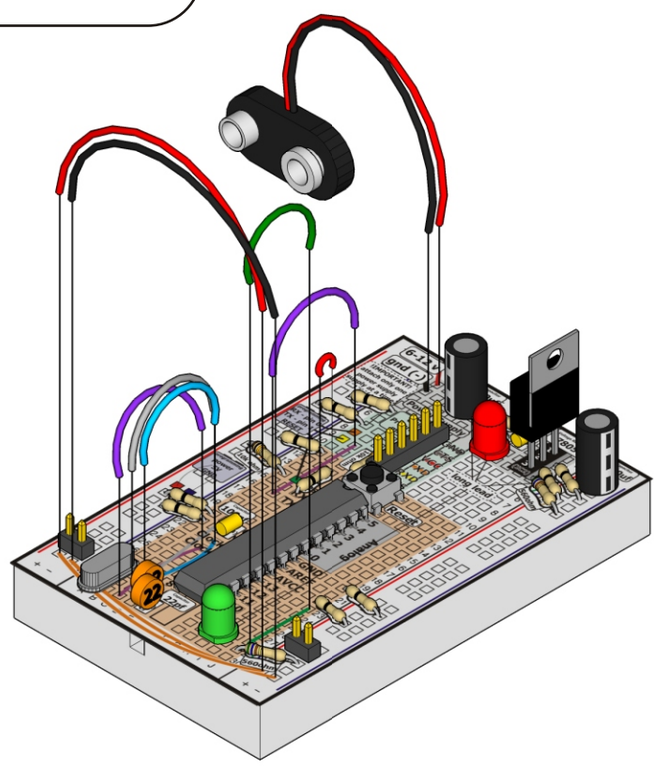
Parts:

Wire

Battery Clip
x1



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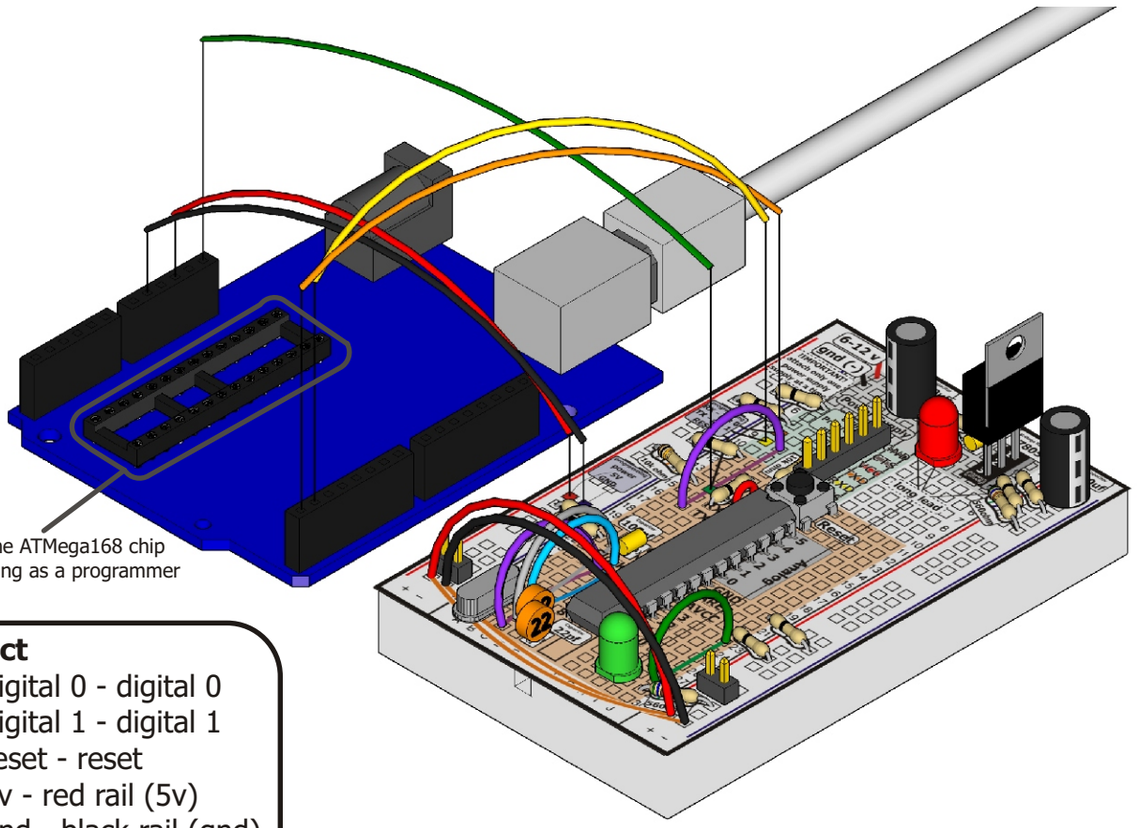
.: Programming Your Arduino Compatible:.

(you can either use an Arduino Duemilanove board or an FTDI USB-Serial cable to program your BBAC)

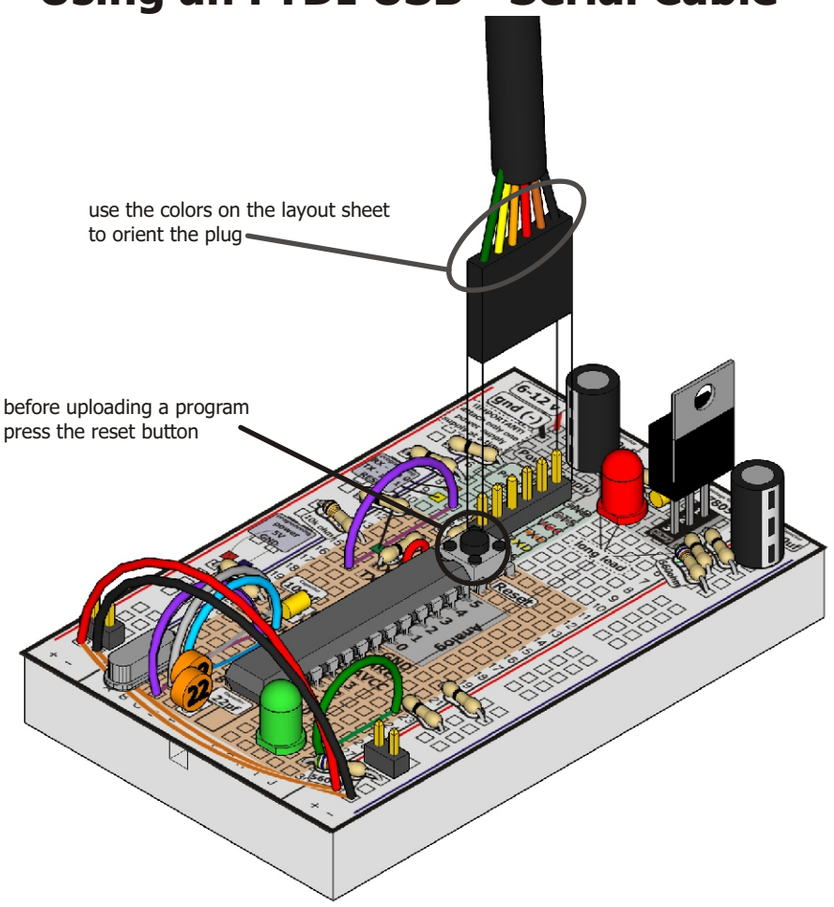
Using an Arduino USB Board



connect

1. digital 0 - digital 0
2. digital 1 - digital 1
3. reset - reset
4. 5v - red rail (5v)
5. gnd - black rail (gnd)

Using an FTDI USB - Serial Cable



.: Notes:.

.:Room for a Few Notes:.

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