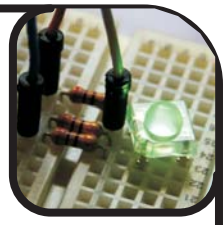


Multi-Color LED Fun (RGB LEDs)



The Pieces

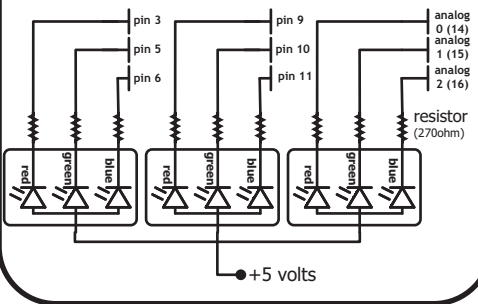


RGB LED
(common anode)
x3

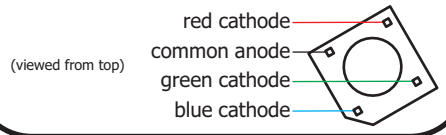


270 ohm Resistor
(red-purple-brown)
x9

The Schematic



The Pin-out



The Theory & Code

RGB LED

An RGB LED is actually three single color LEDs (Red, Green and Blue) combined into a single package. Because of this controlling it is very similar to controlling a single color LED. The one difference is the 3 LEDs share a common anode (long lead (+)).

:: A quick refresher on LED control can be found here tinyurl.com/cm5nh ::

Testing

Plug the LED into the breadboard then connect the common anode to +5 volts (5V). Connect a current limiting resistor to the remaining 3 pins. Connect these resistors to ground (Gnd) to test each color.

:: IMPORTANT: always use a current limiting resistor with the 3 cathodes ::

Digital Test Code

Controlling the RGB LED digitally 7 colors are achievable (see the color truth table below).

:: Download a demo program from <http://tinyurl.com/n36zql> ::

:: For more details visit <http://tinyurl.com/mcw173> ::

Analog Test Code

Controlling the RGB LED using the Arduinos PWM pins allows for almost infinite control of color. For a helping hand see the analog color wheel below.

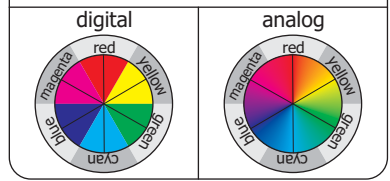
:: Download a demo program from <http://tinyurl.com/nmmd89> ::

:: For More details visit <http://tinyurl.com/nxxbau> ::

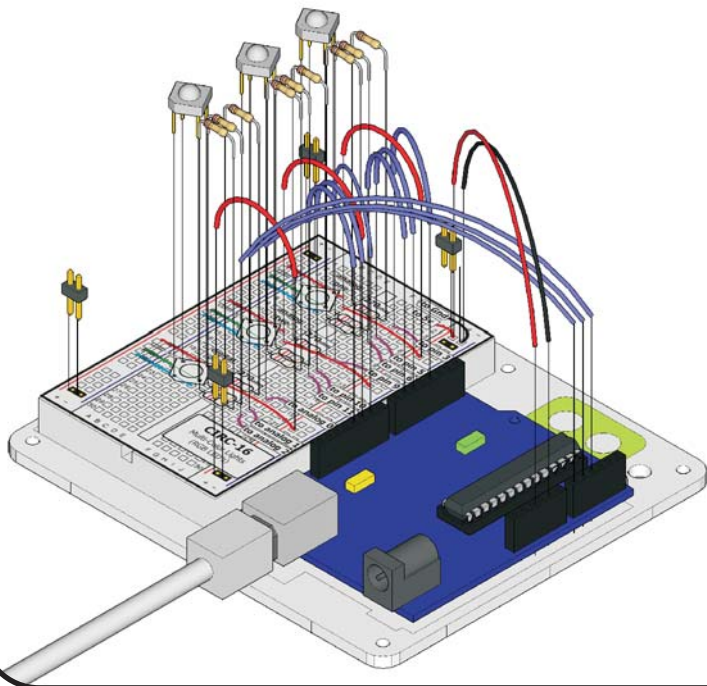
Colour Truth Table

red	green	blue	
ON	ON	OFF	yellow
OFF	ON	ON	cyan
ON	OFF	ON	magenta
ON	ON	ON	white

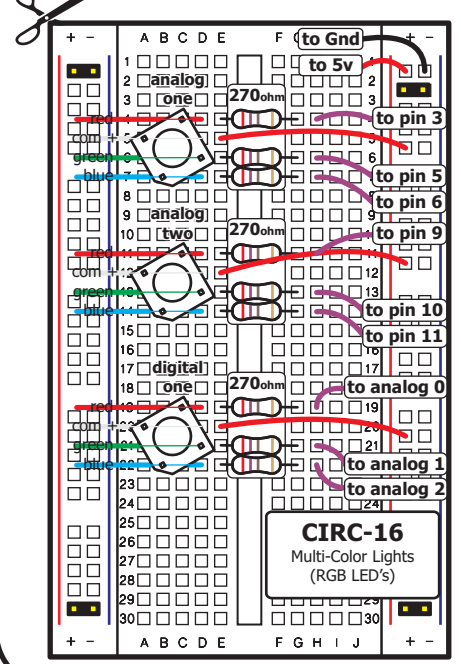
Colour Wheels



The Circuit



The Layout Sheet



:: Instructions: print out, cut out, get making ::
 :: for more details visit: <http://tinyurl.com/mzh3w5> ::