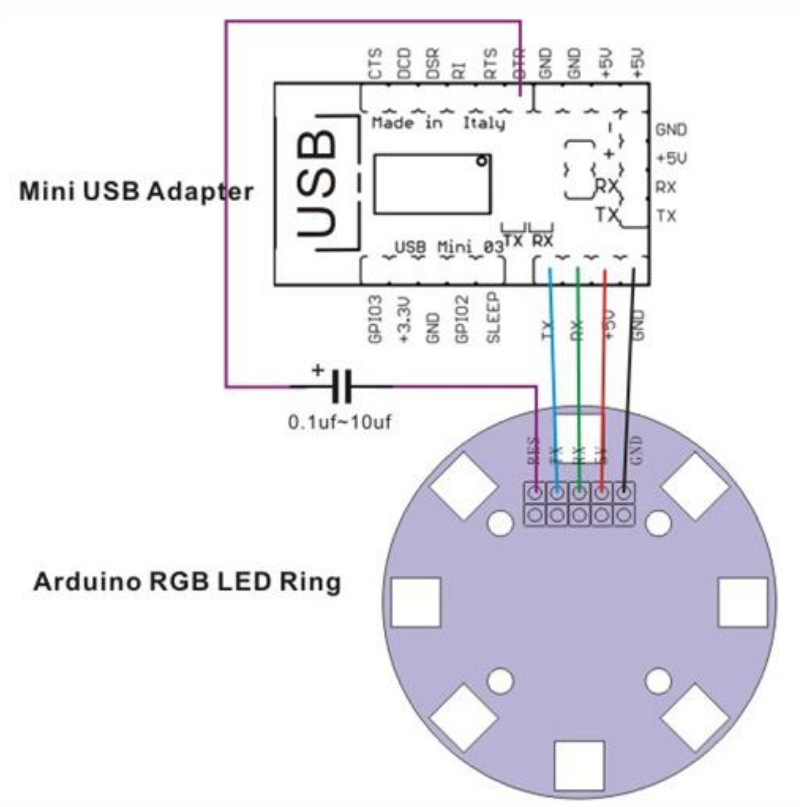
Aruduino RGB Ring

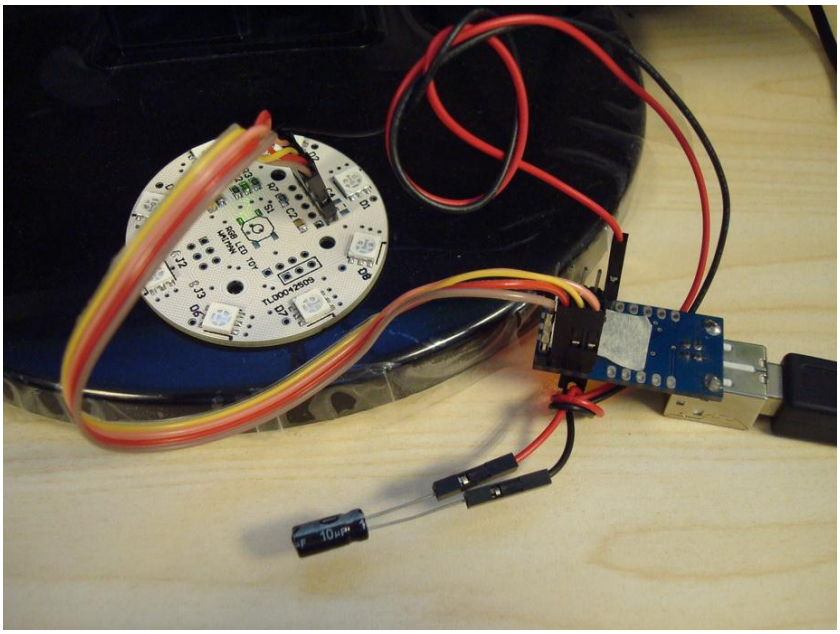
Sometimes we need our project to be colorful. Here it comes.
This module had 8 RGB LEDs, with a core ATMEGA88 chip. The programming to this chip is very simple, as it is Arduino compatible. Also, this module can be controlled by other Arduino Board via UART interface. In this case, the ATMEGA88 functions as a “Display Card”. The command or protocol can be defined by programming ATMEGA88.

Programming This Module

Hardware Connection

To upload the program sketch, you might need a Arduino USB Mini Adaptor. Connect them as shown below:





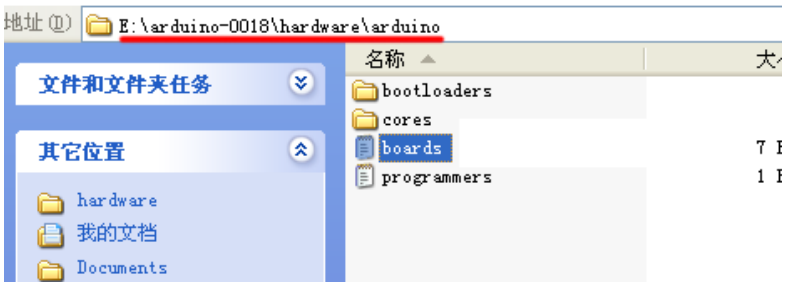
Software

Click here to download the code.

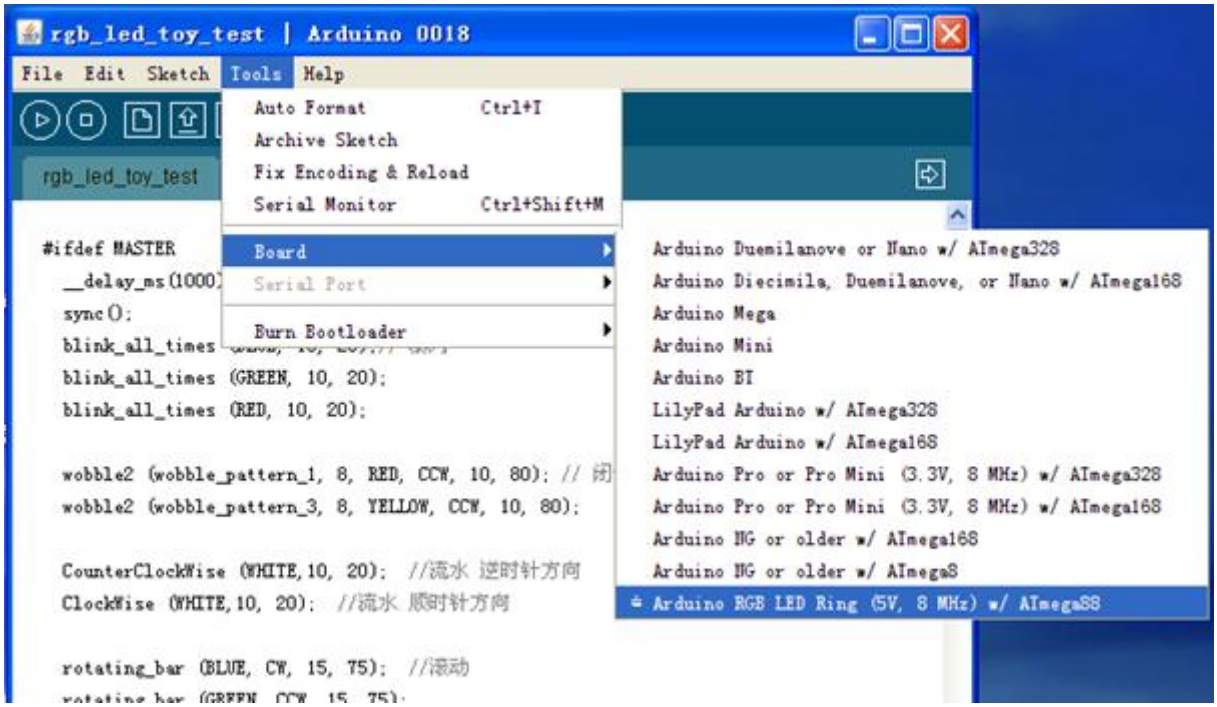
Copy the files (boards.txt and programmers.txt) in /RGB_RING_ATMEGA88/hardware-arduino/

to

/arduino-0021/hardware/arduino/



Restart your Arduino software, then you can find the board:

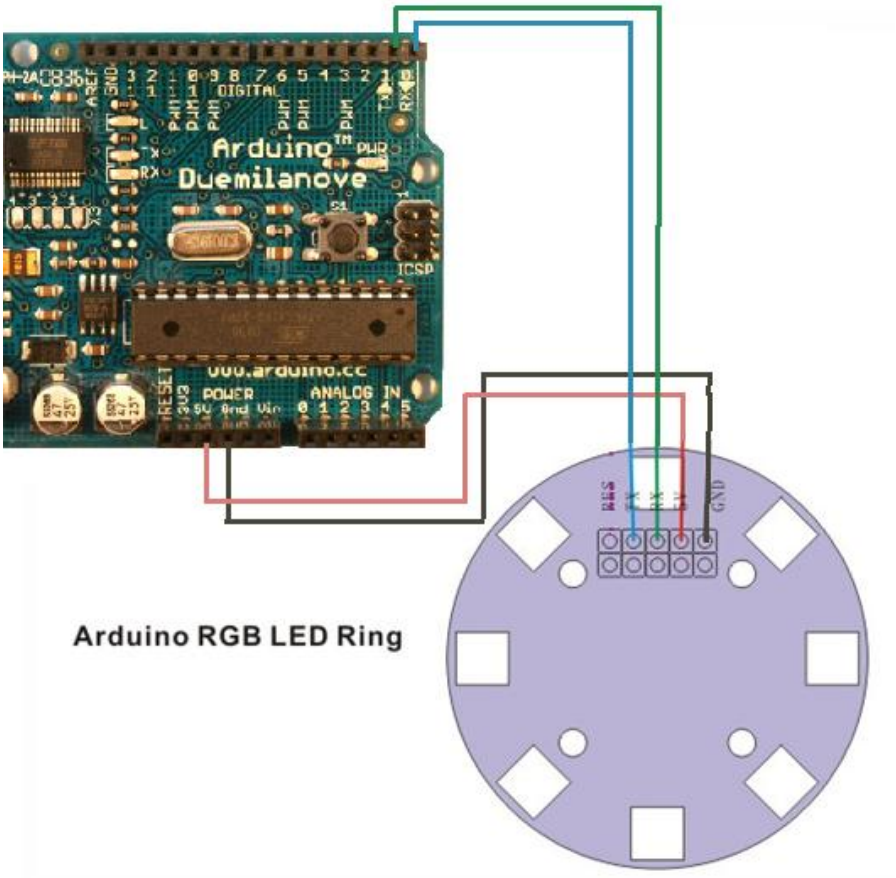


Open the code in /RGB_RING_ATMEGA88/RGBLEDuart/ and upload.

Play with Arduino

As mentioned above, this module can be controlled by Arduino. By default the code has been uploaded to ATMEGA88. Arduino board sends command via UART interface and the RGB Ring displays accordingly.

Hardware connection



Software

Commands supported:

Display	Function Called	UART Data					
		0	1	2	3	4	
OFF		F0	F0				
Flow	ClockWise	F1	color	Direction	Delay	F1	
Rolling	rotating_bar	F2	color	Direction	Delay	F2	
Flash	blink_all	F3	color	Delay	F3		
Sway	wobble2	F4	color	Direction	Delay	Sway Array	F4
Sway Array	Setwobble	F5	8 bit	……	……	……	F5

COLOR	VALUE
RED	0
GREEN	1

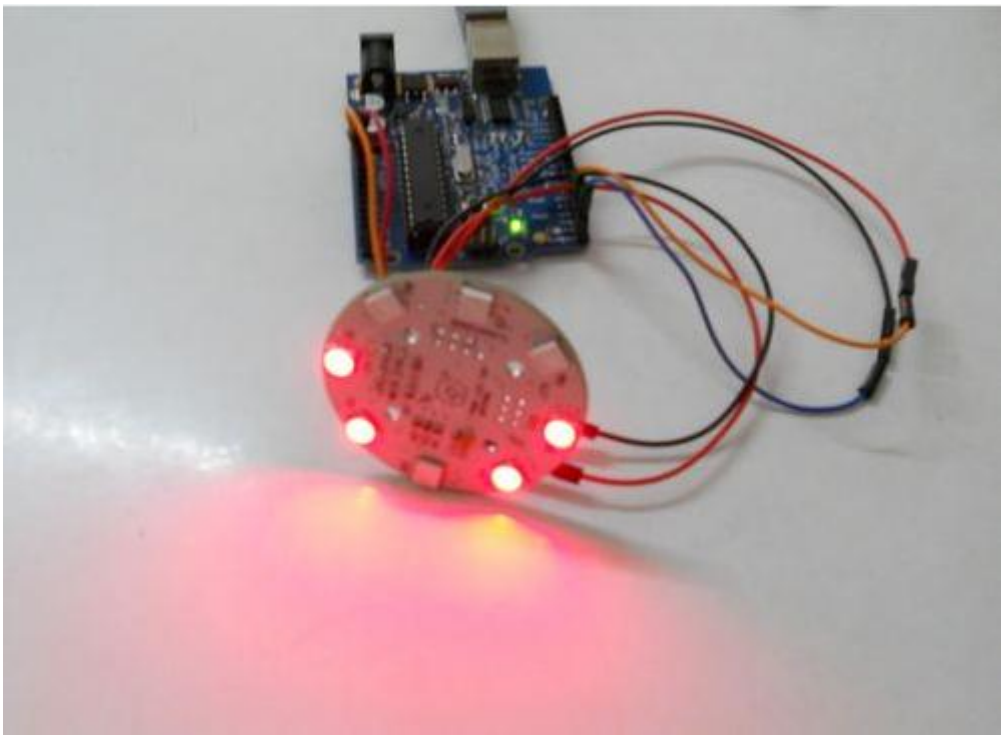
BLUE	2
YELLOW	3
TURQUOISE	4
PURPLE	5
WHITE	6

Test Code:

This program shows 4 kinds of LED flashing.

```
int ledPin = 13;

void setup() {
  Serial.begin(19200);
  pinMode(ledPin, OUTPUT);      // sets the digital pin as output
}

void loop() {
digitalWrite(ledPin, HIGH);
// Flow, color：red, direction：clockwise
Serial.print(0xF1,BYTE);
Serial.print(0,BYTE);
Serial.print(0,BYTE);
Serial.print(0x30,BYTE);
Serial.print(0xF1,BYTE);
delay(5000);

digitalWrite(ledPin, LOW);
// Rolling, color：white, direction：anti-clockwise
Serial.print(0xF2,BYTE);
Serial.print(6,BYTE);
Serial.print(1,BYTE);
Serial.print(0x30,BYTE);
Serial.print(0xF2,BYTE);
delay(5000);

digitalWrite(ledPin, HIGH);
// Flash, color：green
Serial.print(0xF3,BYTE);
Serial.print(1,BYTE);
Serial.print(0x30,BYTE);
Serial.print(0xF3,BYTE);
delay(5000);

digitalWrite(ledPin, LOW);
// sway, color：yellow, direction：anti-clockwise
Serial.print(0xF4,BYTE);
Serial.print(3,BYTE);
Serial.print(1,BYTE);
Serial.print(0x30,BYTE);
```

```
Serial.print(0,BYTE); //by default sway number 0
Serial.print(0xF4,BYTE);
delay(5000);
}
```



Vedio

Youtube: http://www.youtube.com/watch?v=_nR0GcfGSB8