Table of Contents

Controlling WS2812B LEDs Using an Arduino (Part 1) 2

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In this video, I explain how pixel addressable RGB LED's such as the WS2812Bs work, and how you can control them from an Arduino using the FastLED library. I show how to install the FastLED library as well as get started using it with some demos. I go over the advantages as well as limitations of addressable RGB LED's and how we interact with them (data vs clock+data, etc).

This video is the first in my 2 part series on using WS2812B LEDs with an Arduino. Next video will be on writing your own programs and patterns using the FastLED library to control the LEDs, rather then just demos to get up and running.

Components used: - Generic WS2812B 30 LED/m strip - Generic Arduino Uno with Atmel 328p - FastLED library

I won't add any links for purchasing, this video is not sponsored and all components were supplied by myself, but make sure you choose a reputable source for parts!

Links:

Arduino: https://www.arduino.cc

FastLED: http://fastled.io

Supported LEDs: https://github.com/FastLED/FastLED/wiki/Overview

Code/issues: https://github.com/FastLED/FastLED

Timestamps:

00:00 - Intro

00:21 - Note on 2 part series

01:05 - [Overview] Why use addressable LEDs?

02:25 - [Overview] Types of addressable LEDs

03:44 - [Overview] Controlling LEDs: FastLED Library

04:16 - [Overview] Steps/Parts

04:49 - [Overview] Applications

05:24 - [Overview] Limitations

07:12 - [Overview] Power usage

08:58 - [Overview] Extra precautions

09:30 - [Hardware] Parts needed

10:23 - [Hardware] Other LED strip options

11:10 - [Hardware] Data direction close up

11:50 - [Hardware] Arduino board options

13:17 - [Hardware] Other misc parts

14:14 - [Hardware] Pinout of LED strip/wires

18:15 - [Hardware] Wiring/hooking it up

19:48 - [Software] Introduction

20:05 - [Software] FastLED library installation

20:48 - [Software] Testing our LEDs

21:34 - [Software] Code examples

24:05 - [Software] Running DemoReel

25:24 - [Software] FirstLight example

26:25 - [Software] ColorPalette example

28:50 - Concluding remarks

29:37 - Credits and links

Music:

Approaching Nirvana:

https://approachingnirvana.com

https://open.spotify.com/artist/3sS2Q1UZuUXL7TZSbQumDl

http://youtube.com/user/approachingnirvana

Song: Worth a Thousand Pictures (Lapse in Time)

If there are any mistakes or bad practices I mentioned in the video, please leave a comment and I'll try to pin a compilation of updates.

Production rants/remarks:

- Sorry for the buzzing microphone through part of the video. I tried using a shotgun microphone for the first time rather then my jankier previous setups, and the combination of zipties to mount the microphone the tripod, and noisy circuitry in the dummy battery I used made it come out buzzy.

- Filmed on a Sony SLT-A33 (and Samsung MiniDV camera). Takstar microphone for A footage, and Fifine condenser microphone for all software shots using OBS.

- A33 does not have a clean HDMI output, so we're stuck with the aperture and shutter speed with the HDMI capture card... (It also doesn't read the sensor at full-res unless filming, but then it overheats)

Watch this video on Peertube:

https://peertube.tonytascioglu.com/videos/watch/24b7e27c-33c0-464e-82a7-8f8bf68d9890

Watch this video on YouTube:

https://youtu.be/JEwKKacCE2k

Thanks for Watching!

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https://tonytascioglu.com

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