

---

# **AdafruitSSD1322 Library Documentation**

*Release 1.0*

**Scott Shawcroft**

**Mar 15, 2020**



---

## Contents

---

<b>1</b>	<b>Dependencies</b>	<b>3</b>
<b>2</b>	<b>Installing from PyPI</b>	<b>5</b>
<b>3</b>	<b>Usage Example</b>	<b>7</b>
<b>4</b>	<b>Contributing</b>	<b>9</b>
<b>5</b>	<b>Documentation</b>	<b>11</b>
<b>6</b>	<b>Table of Contents</b>	<b>13</b>
6.1	Simple test . . . . .	13
6.2	Gamma test . . . . .	13
6.3	adafruit_ssd1322 . . . . .	14
6.3.1	Implementation Notes . . . . .	15
<b>7</b>	<b>Indices and tables</b>	<b>17</b>
	<b>Python Module Index</b>	<b>19</b>
	<b>Index</b>	<b>21</b>



DisplayIO driver for grayscale OLEDs driven by SSD1322



# CHAPTER 1

---

## Dependencies

---

This driver depends on:

- [Adafruit CircuitPython](#)

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the [Adafruit library and driver bundle](#).





## CHAPTER 2

---

### Installing from PyPI

---

---

**Note:** This library is not available on PyPI yet. Install documentation is included as a standard element. Stay tuned for PyPI availability!

---

On supported GNU/Linux systems like the Raspberry Pi, you can install the driver locally [from PyPI](#). To install for current user:

```
pip3 install adafruit-circuitpython-ssd1322
```

To install system-wide (this may be required in some cases):

```
sudo pip3 install adafruit-circuitpython-ssd1322
```

To install in a virtual environment in your current project:

```
mkdir project-name && cd project-name
python3 -m venv .env
source .env/bin/activate
pip3 install adafruit-circuitpython-ssd1322
```



## CHAPTER 3

---

### Usage Example

---

```
import time
import board
import busio
import displayio
import adafruit_ssd1322

displayio.release_displays()

# This pinout works on a Metro and may need to be altered for other boards.
spi = busio.SPI(board.SCL, board.SDA)
tft_cs = board.D6
tft_dc = board.D9
tft_reset = board.D5

display_bus = displayio.FourWire(spi, command=tft_dc, chip_select=tft_cs,
                                 reset=tft_reset, baudrate=1000000)
time.sleep(1)
display = adafruit_ssd1322.SSD1322(display_bus, width=256, height=64, colstart=28)
```



## CHAPTER 4

---

### Contributing

---

Contributions are welcome! Please read our [Code of Conduct](#) before contributing to help this project stay welcoming.



## CHAPTER 5

---

### Documentation

---

For information on building library documentation, please check out [this guide](#).





## 6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/ssd1322\_simpletest.py

```
1 import time
2 import board
3 import busio
4 import displayio
5 import adafruit_ssd1322
6
7 displayio.release_displays()
8
9 # This pinout works on a Metro and may need to be altered for other boards.
10 spi = busio.SPI(board.SCL, board.SDA)
11 tft_cs = board.D6
12 tft_dc = board.D9
13 tft_reset = board.D5
14
15 display_bus = displayio.FourWire(
16     spi, command=tft_dc, chip_select=tft_cs, reset=tft_reset, baudrate=1000000
17 )
18 time.sleep(1)
19 display = adafruit_ssd1322.SSD1322(display_bus, width=256, height=64, colstart=28)
```

## 6.2 Gamma test

Ensure your device works with this simple test.

Listing 2: examples/ssd1322\_gamma.py

```
1 import time
2 import board
3 import busio
4 import displayio
5 import adafruit_ssd1322
6
7 displayio.release_displays()
8
9 # This pinout works on a Metro and may need to be altered for other boards.
10 spi = busio.SPI(board.SCL, board.SDA)
11 tft_cs = board.D6
12 tft_dc = board.D9
13 tft_reset = board.D5
14
15 display_bus = displayio.FourWire(
16     spi, command=tft_dc, chip_select=tft_cs, reset=tft_reset, baudrate=1000000
17 )
18 time.sleep(1)
19 display = adafruit_ssd1322.SSD1322(display_bus, width=256, height=64, colstart=28)
20
21 g = displayio.Group()
22 dimension = min(display.width, display.height)
23 color_count = 16
24 gamma_pattern = displayio.Bitmap(dimension, dimension, color_count)
25 gamma_palette = displayio.Palette(color_count)
26 t = displayio.TileGrid(gamma_pattern, pixel_shader=gamma_palette)
27
28 pixels_per_step = dimension // color_count
29
30 for i in range(dimension):
31     if i % pixels_per_step == 0:
32         continue
33     gamma_pattern[i, i] = i // pixels_per_step
34
35 for i in range(color_count):
36     component = i * 255 // (color_count - 1)
37     print(component)
38     gamma_palette[i] = component << 16 | component << 8 | component
39     print(hex(gamma_palette[i]))
40
41 g.append(t)
42
43 display.show(g)
44
45 time.sleep(10)
```

## 6.3 adafruit\_ssd1322

DisplayIO driver for grayscale OLEDs driven by SSD1322

- Author(s): Scott Shawcroft

### 6.3.1 Implementation Notes

#### Hardware:

- **3.12" Newhaven Display 256x64 Grayscale Blue OLED:** <https://www.newhavendisplay.com/nhd31225664ucb2-p-3622.html>

#### Software and Dependencies:

- Adafruit CircuitPython 5+ firmware for the supported boards: <https://github.com/adafruit/circuitpython/releases>

**class** `adafruit_ssd1322.SSD1322` (*bus*, *\*\*kwargs*)  
SSD1322 driver



## CHAPTER 7

---

### Indices and tables

---

- `genindex`
- `modindex`
- `search`



**a**

`adafruit_ssd1322`, 14





## A

adafruit\_ssd1322 (*module*), 14

## S

SSD1322 (*class in adafruit\_ssd1322*), 15