
AdafruitSSD1608 Library Documentation

Release 1.0

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CircuitPython `displayio` driver for SSD1608-based ePaper displays

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

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-ssd1608
```

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

```
sudo pip3 install adafruit-circuitpython-ssd1608
```

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-ssd1608
```


CHAPTER 3

Usage Example

```
"""Simple test script for 1.54" 200x200 monochrome display.

Supported products:
 * Adafruit 1.54" Monochrome ePaper Display Breakout
 * https://www.adafruit.com/product/4196
"""

import time
import board
import displayio
import adafruit_ssd1608

displayio.release_displays()

# This pinout works on a Feather M4 and may need to be altered for other boards.
spi = board.SPI() # Uses SCK and MOSI
epd_cs = board.D9
epd_dc = board.D10
epd_reset = board.D5
epd_busy = board.D6

display_bus = displayio.FourWire(spi, command=epd_dc, chip_select=epd_cs, reset=epd_
↳reset,
                                baudrate=1000000)

time.sleep(1)

display = adafruit_ssd1608.SSD1608(display_bus, width=200, height=200, busy_pin=epd_
↳busy)

g = displayio.Group()

f = open("/display-ruler.bmp", "rb")

pic = displayio.OnDiskBitmap(f)
```

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```
# CircuitPython 6 & 7 compatible
t = displayio.TileGrid(
    pic, pixel_shader=getattr(pic, "pixel_shader", displayio.ColorConverter())
)
# CircuitPython 7 compatible only
# t = displayio.TileGrid(pic, pixel_shader=pic.pixel_shader)
g.append(t)

display.show(g)

display.refresh()

print("refreshed")

time.sleep(120)
```

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/ssd1608_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  """Simple test script for 1.54" 200x200 monochrome display.
5
6  Supported products:
7  * Adafruit 1.54" Monochrome ePaper Display Breakout
8  * https://www.adafruit.com/product/4196
9  """
10
11 import time
12 import board
13 import displayio
14 import adafruit_ssd1608
15
16 displayio.release_displays()
17
18 # This pinout works on a Feather M4 and may need to be altered for other boards.
19 spi = board.SPI() # Uses SCK and MOSI
20 epd_cs = board.D9
21 epd_dc = board.D10
22 epd_reset = board.D5
23 epd_busy = board.D6
24
25 display_bus = displayio.FourWire(
26     spi, command=epd_dc, chip_select=epd_cs, reset=epd_reset, baudrate=1000000
27 )
```

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```
28 time.sleep(1)
29
30 display = adafruit_ssd1608.SSD1608(
31     display_bus, width=200, height=200, busy_pin=epd_busy, rotation=180
32 )
33
34 g = displayio.Group()
35
36 with open("/display-ruler.bmp", "rb") as f:
37     pic = displayio.OnDiskBitmap(f)
38     # CircuitPython 6 & 7 compatible
39     t = displayio.TileGrid(
40         pic, pixel_shader=getattr(pic, "pixel_shader", displayio.ColorConverter())
41     )
42     # CircuitPython 7 compatible only
43     # t = displayio.TileGrid(pic, pixel_shader=pic.pixel_shader)
44     g.append(t)
45
46 display.show(g)
47
48 display.refresh()
49
50 print("refreshed")
51
52 time.sleep(120)
```

6.2 adafruit_ssd1608

CircuitPython `displayio` driver for SSD1608-based ePaper displays

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6.2.1 Implementation Notes

Hardware:

- Adafruit 1.54" Monochrome ePaper Display Breakout

Software and Dependencies:

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

```
class adafruit_ssd1608.SSD1608 (bus, **kwargs)
    SSD1608 driver
```

CHAPTER 7

Indices and tables

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