
AdafruitL0398 Library Documentation

Release 1.0

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CircuitPython displayio drivers for IL0398 driven e-paper 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

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-10398
```

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

```
sudo pip3 install adafruit-circuitpython-10398
```

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-10398
```


CHAPTER 3

Usage Example

```
"""Simple test script for 4.2" 400x300 black and white displays.

Supported products:
  * WaveShare 4.2" Black and White
  * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper.htm
  * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper-
↪module.htm
"""

import time
import board
import displayio
import adafruit_il0398

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_il0398.IL0398(display_bus, width=400, height=300, seconds_per_
↪frame=20,
                                busy_pin=epd_busy)

g = displayio.Group()
```

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

pic = displayio.OnDiskBitmap(f)
t = displayio.TileGrid(pic, pixel_shader=displayio.ColorConverter())
g.append(t)

display.show(g)

display.refresh()

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/il0398_simpletest.py

```
1  """Simple test script for 4.2" 400x300 black and white displays.
2
3  Supported products:
4      * WaveShare 4.2" Black and White
5      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper.htm
6      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper-
7      ↪module.htm
8      """
9
10 import time
11 import board
12 import displayio
13 import adafruit_il0398
14
15 displayio.release_displays()
16
17 # This pinout works on a Feather M4 and may need to be altered for other boards.
18 spi = board.SPI() # Uses SCK and MOSI
19 epd_cs = board.D9
20 epd_dc = board.D10
21 epd_reset = board.D5
22 epd_busy = board.D6
23
24 display_bus = displayio.FourWire(
25     spi, command=epd_dc, chip_select=epd_cs, reset=epd_reset, baudrate=1000000
26 )
27 time.sleep(1)
```

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```

27
28 display = adafruit_il0398.IL0398(
29     display_bus, width=400, height=300, seconds_per_frame=20, busy_pin=epd_busy
30 )
31
32 g = displayio.Group()
33
34 f = open("/display-ruler.bmp", "rb")
35
36 pic = displayio.OnDiskBitmap(f)
37 t = displayio.TileGrid(pic, pixel_shader=displayio.ColorConverter())
38 g.append(t)
39
40 display.show(g)
41
42 display.refresh()
43
44 time.sleep(120)

```

6.2 Simple test

Ensure your device works with this simple test.

Listing 2: examples/il0398_simpletest.py

```

1  """Simple test script for 4.2" 400x300 tri-color displays.
2
3  Supported products:
4      * WaveShare 4.2" Color
5      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper-b
6      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper/4.2inch-e-paper-c
7      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper-
8      * https://www.waveshare.com/product/modules/oleds-lcds/e-paper-
9      """
10
11 import time
12 import board
13 import displayio
14 import adafruit_il0398
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(

```

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```
26     spi, command=epd_dc, chip_select=epd_cs, reset=epd_reset, baudrate=1000000
27 )
28 time.sleep(1)
29
30 display = adafruit_il0398.IL0398(
31     display_bus,
32     width=400,
33     height=300,
34     seconds_per_frame=20,
35     highlight_color=0xFF0000,
36     busy_pin=epd_busy,
37 )
38
39 g = displayio.Group()
40
41 f = open("/display-ruler.bmp", "rb")
42
43 pic = displayio.OnDiskBitmap(f)
44 t = displayio.TileGrid(pic, pixel_shader=displayio.ColorConverter())
45 g.append(t)
46
47 display.show(g)
48
49 display.refresh()
50
51 time.sleep(120)
```

6.3 adafruit_il0398

CircuitPython displayio drivers for IL0398 driven e-paper displays

- Author(s): Scott Shawcroft

6.3.1 Implementation Notes

Hardware:

Software and Dependencies:

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

```
class adafruit_il0398.IL0398 (bus, **kwargs)
    IL0398 driver
```


CHAPTER 7

Indices and tables

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

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[adafruit_il0398](#), 15

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