
AdafruitL91874 Library Documentation

Release 1.0

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CircuitPython `displayio` driver for IL91874-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-191874
```

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

```
sudo pip3 install adafruit-circuitpython-191874
```

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-191874
```


CHAPTER 3

Usage Example

```
"""Simple test script for 2.7" 264x176 Tri-Color display shield

Supported products:
 * Adafruit 2.7" Tri-Color ePaper Display Shield
 * https://www.adafruit.com/product/4229
"""

import time
import board
import busio
import displayio
import adafruit_il91874

displayio.release_displays()

spi = board.SPI()
epd_cs = board.D10
epd_dc = board.D9

display_bus = displayio.FourWire(spi, command=epd_dc, chip_select=epd_cs,
↳baudrate=1000000)
time.sleep(1)

display = adafruit_il91874.IL91874(display_bus, width=264, height=176, highlight_
↳color=0xff0000, rotation=90)

g = displayio.Group()

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

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

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```
)  
# 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

Documentation

API documentation for this library can be found on [Read the Docs](#).

CHAPTER 5

Contributing

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

CHAPTER 6

Documentation

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

7.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/il91874_simpletest.py

```
1 # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2 # SPDX-License-Identifier: MIT
3
4 """
5     Simple test script for 2.7" 264x176 Tri-Color display shield
6     Supported products:
7     * Adafruit 2.7" Tri-Color ePaper Display Shield
8       https://www.adafruit.com/product/4229
9
10    This program only requires the adafruit_il91874 library in /lib
11    for CircuitPython 5.0 and above which has displayio support.
12 """
13
14 import time
15 import board
16 import displayio
17 import adafruit_il91874
18
19 # Used to ensure the display is free in CircuitPython
20 displayio.release_displays()
21
22 # Define the pins needed for display use on the Metro
23 spi = board.SPI()
24 epd_cs = board.D10
25 epd_dc = board.D9
26
27 # Create the displayio connection to the display pins
```

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```

28 display_bus = displayio.FourWire(
29     spi, command=epd_dc, chip_select=epd_cs, baudrate=1000000
30 )
31 time.sleep(1) # Wait a bit
32
33 # Create the display object - the third color is red (0xff0000)
34 display = adafruit_il91874.IL91874(
35     display_bus, width=264, height=176, highlight_color=0xFF0000, rotation=90
36 )
37
38 # Create a display group for our screen objects
39 g = displayio.Group()
40
41 # Display a ruler graphic from the root directory of the CIRCUITPY drive
42 with open("/display-ruler.bmp", "rb") as f:
43     pic = displayio.OnDiskBitmap(f)
44     # Create a Tilegrid with the bitmap and put in the displayio group
45     # CircuitPython 6 & 7 compatible
46     t = displayio.TileGrid(
47         pic, pixel_shader=getattr(pic, "pixel_shader", displayio.ColorConverter())
48     )
49     # CircuitPython 7 compatible only
50     # t = displayio.TileGrid(pic, pixel_shader=pic.pixel_shader)
51     g.append(t)
52
53     # Place the display group on the screen (does not refresh)
54     display.show(g)
55
56     # Show the image on the display
57     display.refresh()
58
59     print("refreshed")
60
61     # Do Not refresh the screen more often than every 180 seconds
62     # for eInk displays! Rapid refreshes will damage the panel.
63     time.sleep(180)

```

7.2 adafruit_il91874

CircuitPython `displayio` driver for IL91874-based ePaper displays

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7.2.1 Implementation Notes

Hardware:

- Adafruit 2.7" Tri-Color ePaper Display Shield

Software and Dependencies:

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

class `adafruit_il91874.IL91874` (*bus*, ***kwargs*)
 IL91874 display driver

CHAPTER 8

Indices and tables

- `genindex`
- `modindex`
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