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

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```
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/il91874_simpletest.py

```
1  """
2  Simple test script for 2.7" 264x176 Tri-Color display shield
3  Supported products:
4  * Adafruit 2.7" Tri-Color ePaper Display Shield
5  https://www.adafruit.com/product/4229
6
7  This program only requires the adafruit_il91874 library in /lib
8  for CircuitPython 5.0 and above which has displayio support.
9  """
10
11 import time
12 import board
13 import displayio
14 import adafruit_il91874
15
16 # Used to ensure the display is free in CircuitPython
17 displayio.release_displays()
18
19 # Define the pins needed for display use on the Metro
20 spi = board.SPI()
21 epd_cs = board.D10
22 epd_dc = board.D9
23
24 # Create the displayio connection to the display pins
25 display_bus = displayio.FourWire(
26     spi, command=epd_dc, chip_select=epd_cs, baudrate=1000000
27 )
```

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```

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

```

6.2 adafruit_il91874

CircuitPython `displayio` driver for IL91874-based ePaper displays

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6.2.1 Implementation Notes

Hardware:

- Adafruit 2.7" Tri-Color ePaper Display Shield

Software and Dependencies:

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

• Adafruit's Bus Device library: https://github.com/adafruit/Adafruit_CircuitPython_BusDevice # Adafruit's Register library: https://github.com/adafruit/Adafruit_CircuitPython_Register

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

CHAPTER 7

Indices and tables

- `genindex`
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