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# Adafruit Pixie Library Documentation

*Release 1.0*

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# CHAPTER 1

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## Dependencies

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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](#).





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### Installing from PyPI

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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-pixie
```

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

```
sudo pip3 install adafruit-circuitpython-pixie
```

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-pixie
```



## CHAPTER 3

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Usage Example

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## CHAPTER 4

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### Contributing

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



## CHAPTER 5

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### Documentation

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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/pixie\_simpletest.py

```
1  # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2  # SPDX-License-Identifier: MIT
3
4  import time
5  import board
6  import busio
7  import adafruit_pixie
8
9  # For use with CircuitPython:
10 uart = busio.UART(board.TX, rx=None, baudrate=115200)
11
12 # For use on Raspberry Pi/Linux with Adafruit_Blinka:
13 # import serial
14 # uart = serial.Serial("/dev/ttyS0", baudrate=115200, timeout=3000)
15
16 num_pixies = 2 # Change this to the number of Pixie LEDs you have.
17 pixies = adafruit_pixie.Pixie(uart, num_pixies, brightness=0.2, auto_write=False)
18
19
20 def wheel(pos):
21     # Input a value 0 to 255 to get a color value.
22     # The colours are a transition r - g - b - back to r.
23     if pos < 0 or pos > 255:
24         return 0, 0, 0
25     if pos < 85:
26         return int(255 - pos * 3), int(pos * 3), 0
27     if pos < 170:
```

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```

28     pos -= 85
29     return 0, int(255 - pos * 3), int(pos * 3)
30 pos -= 170
31 return int(pos * 3), 0, int(255 - (pos * 3))
32
33
34 while True:
35     for i in range(255):
36         for pixie in range(num_pixies):
37             pixies[pixie] = wheel(i)
38             pixies.show()
39         time.sleep(2)
40     pixies[0] = (0, 255, 0)
41     pixies[1] = (0, 0, 255)
42     pixies.show()
43     time.sleep(1)
44     pixies.fill((255, 0, 0))
45     pixies.show()
46     time.sleep(1)
47     pixies[::2] = [(255, 0, 100)] * (2 // 2)
48     pixies[1::2] = [(0, 255, 255)] * (2 // 2)
49     pixies.show()
50     time.sleep(1)

```

## 6.2 adafruit\_pixie - Pixie LED driver

- Author(s): Damien P. George, Limor Fried, Kattni Rembor

**class** `adafruit_pixie.Pixie` (*uart*, *n*, \*, *brightness=1.0*, *auto\_write=True*)  
 Pixie LEDs.

### Parameters

- **uart** – The UART object.
- **n** (*int*) – The number of Pixies in the chain.
- **brightness** (*float*) – Brightness of the pixels between 0.0 and 1.0.
- **auto\_write** (*bool*) – True if the Pixies should immediately change when set. If False, *show* must be called explicitly.

Example for two Pixie LEDs chained:

### **brightness**

Overall brightness of the pixel

### **fill** (*color*)

Colors all pixels the given **\*color\***.

### **show** ()

Shows the new colors on the pixels themselves if they haven't already been autowritten.

## CHAPTER 7

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### Indices and tables

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- `modindex`
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