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# **AdafruitSlideshow Library Documentation**

*Release 1.0*

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CircuitPython helper library for displaying a slideshow of images on a display.



# 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-slideshow
```

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

```
sudo pip3 install adafruit-circuitpython-slideshow
```

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-slideshow
```



## CHAPTER 3

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### Usage Example

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```
from adafruit_slideshow import PlayBackOrder, SlideShow
import board
import pwmio

# Create the slideshow object that plays through once alphabetically.
slideshow = SlideShow(board.DISPLAY, pwmio.PWMOut(board.TFT_BACKLIGHT), folder="/",
                      loop=False, order=PlayBackOrder.ALPHABETICAL)

while slideshow.update():
    pass
```



## 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/slideshow\_simpletest.py

```
1 # SPDX-FileCopyrightText: 2021 ladyada for Adafruit Industries
2 # SPDX-License-Identifier: MIT
3
4 """Basic demonstration script will create a slideshow
5 object that plays through once alphabetically."""
6 import board
7 from adafruit_slideshow import PlayBackOrder, SlideShow
8
9 # use built in display (PyPortal, PyGamer, PyBadge, CLUE, etc.)
10 # see guide for setting up external displays (TFT / OLED breakouts, RGB matrices, etc.
11 ↪)
12 # https://learn.adafruit.com/circuitpython-display-support-using-displayio/display-
13 ↪and-display-bus
14 display = board.DISPLAY
15
16 # pylint: disable=no-member
17
18 slideshow = SlideShow(
19     board.DISPLAY,
20     None,
21     folder="/images/",
22     loop=False,
23     order=PlayBackOrder.ALPHABETICAL,
24     dwell=10,
25 )
26
27 while slideshow.update():
```

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`pass`

## 6.2 adafruit\_slideshow

CircuitPython helper library for displaying a slideshow of images on a display.

- Author(s): Kattni Rembor, Carter Nelson, Roy Hooper, Melissa LeBlanc-Williams

### 6.2.1 Implementation Notes

#### Hardware:

- Adafruit Hallowing M0 Express

#### Software and Dependencies:

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

**class** `adafruit_slideshow.HorizontalAlignment`

Defines possible horizontal alignment orders.

**class** `adafruit_slideshow.PlayBackDirection`

Defines possible slideshow playback directions.

**BACKWARD** = -1

The next image is before the current image. When alphabetically sorted, this is towards A.

**FORWARD** = 1

The next image is after the current image. When alphabetically sorted, this is towards Z.

**class** `adafruit_slideshow.PlayBackOrder`

Defines possible slideshow playback orders.

**ALPHABETICAL** = 0

Orders by alphabetical sort of filenames

**RANDOM** = 1

Randomly shuffles the images

**class** `adafruit_slideshow.SlideShow` (*display*, *backlight\_pwm=None*, \*, *folder='/'*, *order=0*, *loop=True*, *dwell=3*, *fade\_effect=True*, *auto\_advance=True*, *direction=1*, *h\_align=1*, *v\_align=1*)

Class for displaying a slideshow of .bmp images on displays.

#### Parameters

- **folder** (*str*) – Specify the folder containing the image files, in quotes. Default is the root directory, `"/"`.
- **order** (`PlayBackOrder`) – The order in which the images display. You can choose random (`RANDOM`) or alphabetical (`ALPHABETICAL`). Default is `ALPHABETICAL`.
- **loop** (*bool*) – Specify whether to loop the images or play through the list once. `True` if slideshow will continue to loop, `False` if it will play only once. Default is `True`.
- **dwell** (*int*) – The number of seconds each image displays, in seconds. Default is 3.

- **fade\_effect** (*bool*) – Specify whether to include the fade effect between images. True tells the code to fade the backlight up and down between image display transitions. False maintains max brightness on the backlight between image transitions. Default is True.
- **auto\_advance** (*bool*) – Specify whether to automatically advance after dwell seconds. True if slideshow should auto play, False if you want to control advancement manually. Default is True.
- **direction** (*PlayBackDirection*) – The playback direction.
- **h\_align** (*HorizontalAlignment*) – The Horizontal alignment of smaller/larger images
- **v\_align** (*VerticalAlignment*) – The Vertical alignment of smaller/larger images

Example code for Hallowing Express. With this example, the slideshow will play through once in alphabetical order:

```
from adafruit_slideshow import PlayBackOrder, SlideShow
import board
import pulseio

slideshow = SlideShow(board.DISPLAY, pulseio.PWMOut(board.TFT_BACKLIGHT), folder=
↳"/",
                    loop=False, order=PlayBackOrder.ALPHABETICAL)

while slideshow.update():
    pass
```

Example code for Hallowing Express. Sets dwell to 0 seconds, turns auto\_advance off, and uses capacitive touch to advance backwards and forwards through the images and to control the brightness level of the backlight:

```
from adafruit_slideshow import PlayBackOrder, SlideShow, PlayBackDirection
import touchio
import board
import pulseio

forward_button = touchio.TouchIn(board.TOUCH4)
back_button = touchio.TouchIn(board.TOUCH1)

brightness_up = touchio.TouchIn(board.TOUCH3)
brightness_down = touchio.TouchIn(board.TOUCH2)

slideshow = SlideShow(board.DISPLAY, pulseio.PWMOut(board.TFT_BACKLIGHT), folder=
↳"/",
                    auto_advance=False, dwell=0)

while True:
    if forward_button.value:
        slideshow.direction = PlayBackDirection.FORWARD
        slideshow.advance()
    if back_button.value:
        slideshow.direction = PlayBackDirection.BACKWARD
        slideshow.advance()

    if brightness_up.value:
        slideshow.brightness += 0.001
```

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```
elif brightness_down.value:  
    slideshow.brightness -= 0.001
```

**advance ()**

Displays the next image. Returns True when a new image was displayed, False otherwise.

**auto\_advance = None**

Enable auto-advance based on dwell time. Set to False to manually control.

**brightness**

Brightness of the backlight when an image is displaying. Clamps to 0 to 1.0

**current\_slide\_name**

Returns the current image name.

**direction = None**

Specify the playback direction. Default is `PlayBackDirection.FORWARD`. Can also be `PlayBackDirection.BACKWARD`.

**dwell = None**

The number of seconds each slide displays, in seconds.

**fade\_effect = None**

Whether to include the fade effect between slides. True tells the code to fade the backlight up and down between slide display transitions. False maintains max brightness on the backlight between slide transitions.

**h\_align**

Get or Set the Horizontal Alignment

**loop = None**

Specifies whether to loop through the slides continuously or play through the list once. True will continue to loop, False will play only once.

**order**

The order in which the images display. You can choose random (RANDOM) or alphabetical (ALPHA).

**update ()**

Updates the slideshow to the next image.

**v\_align**

Get or Set the Vertical Alignment

**class** adafruit\_slideshow.**VerticalAlignment**

Defines possible vertical alignment orders.

# CHAPTER 7

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