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# **AdafruitDRV2605 Library Documentation**

***Release 1.0***

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CircuitPython module for the DRV2605 haptic feedback motor driver.



# CHAPTER 1

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## Dependencies

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This driver depends on:

- [Adafruit CircuitPython](#)
- [Bus Device](#)

Please ensure all dependencies are available on the CircuitPython filesystem. This is easily achieved by downloading the [Adafruit library and driver bundle](#).





## CHAPTER 2

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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-drv2605
```

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

```
sudo pip3 install adafruit-circuitpython-drv2605
```

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-drv2605
```



## CHAPTER 3

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### Usage Example

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See `examples/drv2605_simpletest.py` for a demo of the usage.



## 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/drv2605\_simpletest.py

```
1  # Simple demo of the DRV2605 haptic feedback motor driver.
2  # Will play all 123 effects in order for about a half second each.
3  # Author: Tony DiCola
4  import time
5
6  import board
7  import busio
8
9  import adafruit_drv2605
10
11
12  # Initialize I2C bus and DRV2605 module.
13  i2c = busio.I2C(board.SCL, board.SDA)
14  drv = adafruit_drv2605.DRV2605(i2c)
15
16  # Main loop runs forever trying each effect (1-123).
17  # See table 11.2 in the datasheet for a list of all the effect names and IDs.
18  # http://www.ti.com/lit/ds/symlink/drv2605.pdf
19  effect_id = 1
20  while True:
21      print('Playing effect #{0}'.format(effect_id))
22      drv.sequence[0] = adafruit_drv2605.Effect(effect_id) # Set the effect on slot 0.
23      # You can assign effects to up to 7 different slots to combine
24      # them in interesting ways. Index the sequence property with a
25      # slot number 0 to 6.
26      # Optionally, you can assign a pause to a slot. E.g.
27      # drv.sequence[1] = adafruit_drv2605.Pause(0.5) # Pause for half a second
```

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```
28     drv.play()           # play the effect
29     time.sleep(0.5)      # for 0.5 seconds
30     drv.stop()           # and then stop (if it's still running)
31     # Increment effect ID and wrap back around to 1.
32     effect_id += 1
33     if effect_id > 123:
34         effect_id = 1
```

## 6.2 adafruit\_drv2605

CircuitPython module for the DRV2605 haptic feedback motor driver. See `examples/simpletest.py` for a demo of the usage.

- Author(s): Tony DiCola

**class** `adafruit_drv2605.DRV2605` (*i2c*, *address=90*)  
TI DRV2605 haptic feedback motor driver module.

### library

The library selected for waveform playback. Should be a value of:

- `LIBRARY_EMPTY`: Empty
- `LIBRARY_TS2200A`: TS2200 library A (the default)
- `LIBRARY_TS2200B`: TS2200 library B
- `LIBRARY_TS2200C`: TS2200 library C
- `LIBRARY_TS2200D`: TS2200 library D
- `LIBRARY_TS2200E`: TS2200 library E
- `LIBRARY_LRA`: LRA library

See the datasheet for the meaning and description of effects in each library.

### mode

The mode of the chip. Should be a value of:

- `MODE_INTTRIG`: Internal triggering, vibrates as soon as you call `play()`. Default mode.
- `MODE_EXTTRIGEDGE`: External triggering, edge mode.
- `MODE_EXTTRIGLVL`: External triggering, level mode.
- `MODE_PWMANALOG`: PWM/analog input mode.
- `MODE_AUDIOVIBE`: Audio-to-vibration mode.
- `MODE_REALTIME`: Real-time playback mode.
- `MODE_DIAGNOS`: Diagnostics mode.
- `MODE_AUTOCAL`: Auto-calibration mode.

See the datasheet for the meaning of modes beyond `MODE_INTTRIG`.

### `play()`

Play back the select effect(s) on the motor.

**sequence**

List-like sequence of waveform effects. Get or set an effect waveform for slot 0-6 by indexing the sequence property with the slot number. A slot must be set to either an Effect() or Pause() class. See the datasheet for a complete table of effect ID values and the associated waveform / effect.

E.g. 'slot\_0\_effect = drv.sequence[0]', 'drv.sequence[0] = Effect(88)'

**set\_waveform** (*effect\_id*, *slot=0*)

Select an effect waveform for the specified slot (default is slot 0, but up to 7 effects can be combined with slot values 0 to 6). See the datasheet for a complete table of effect ID values and the associated waveform / effect.

**stop** ()

Stop vibrating the motor.

**use\_ERM** ()

Use an eccentric rotating mass motor (the default).

**use\_LRM** ()

Use a linear resonance actuator motor.

**class** adafruit\_drv2605.**Effect** (*effect\_id*)

DRV2605 waveform sequence effect.

**id**

Effect ID.

**raw\_value**

Raw effect ID.

**class** adafruit\_drv2605.**Pause** (*duration*)

DRV2605 waveform sequence timed delay.

**duration**

Pause duration in seconds.

**raw\_value**

Raw pause duration.



## CHAPTER 7

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### Indices and tables

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