AdafruitDRV2605 Library Documentation

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CircuitPython module for the DRV2605 haptic feedback motor driver.

CHAPTER 1

Dependencies

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

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-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

Usage Example

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

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.

CHAPTER 6

Table of Contents

6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/drv2605_simpletest.py

```
# Simple demo of the DRV2605 haptic feedback motor driver.
# Will play all 123 effects in order for about a half second each.
# Author: Tony DiCola
import time

import board
import busio

import adafruit_drv2605


# Initialize I2C bus and DRV2605 module.
i2c = busio.I2C(board.SCL, board.SDA)
drv = adafruit_drv2605.DRV2605(i2c)

# Main loop runs forever trying each effect (1-123).
# See table 11.2 in the datasheet for a list of all the effect names and IDs.
#   http://www.ti.com/lit/ds/symlink/drv2605.pdf
effect_id = 1
while True:
    print("Playing effect #{0}".format(effect_id))
    drv.sequence[0] = adafruit_drv2605.Effect(effect_id)  # Set the effect on slot 0.
    # You can assign effects to up to 7 different slots to combine
    # them in interesting ways. Index the sequence property with a
    # slot number 0 to 6.
    # Optionally, you can assign a pause to a slot. E.g.
    # drv.sequence[1] = adafruit_drv2605.Pause(0.5)  # Pause for half a second
```

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