
AdafruitMAX9744 Library Documentation

Release 1.0

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CircuitPython module for the MAX9744 20W class D amplifier.

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

Usage Example

See `examples/max9744_simpletest.py` for a demo of the usage.

CHAPTER 3

Contributing

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

CHAPTER 4

Building locally

To build this library locally you'll need to install the `circuitpython-build-tools` package.

```
python3 -m venv .env
source .env/bin/activate
pip install circuitpython-build-tools
```

Once installed, make sure you are in the virtual environment:

```
source .env/bin/activate
```

Then run the build:

```
circuitpython-build-bundles --filename_prefix adafruit-circuitpython-max9744 --
↳library_location .
```

4.1 Sphinx documentation

Sphinx is used to build the documentation based on rST files and comments in the code. First, install dependencies (feel free to reuse the virtual environment from above):

```
python3 -m venv .env
source .env/bin/activate
pip install Sphinx sphinx-rtd-theme
```

Now, once you have the virtual environment activated:

```
cd docs
sphinx-build -E -W -b html . _build/html
```

This will output the documentation to `docs/_build/html`. Open the `index.html` in your browser to view them. It will also (due to `-W`) error out on any warning like Travis will. This is a good way to locally verify it will pass.

5.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/mas9744_simpletest.py

```
1  # Simple demo of the MAX9744 20W class D amplifier I2C control.
2  # This show how to set the volume of the amplifier.
3  # Author: Tony DiCola
4  import board
5  import busio
6
7  import adafruit_max9744
8
9
10 # Initialize I2C bus.
11 i2c = busio.I2C(board.SCL, board.SDA)
12
13 # Initialize amplifier.
14 amp = adafruit_max9744.MAX9744(i2c)
15 # Optionally you can specify a different address if you override the AD1, AD2
16 # pins to change the address.
17 #amp = adafruit_max9744.MAX9744(i2c, address=0x49)
18
19 # Setting the volume is as easy as writing to the volume property (note
20 # you cannot read the property so keep track of volume in your own code if
21 # you need it).
22 amp.volume = 31 # Volume is a value from 0 to 63 where 0 is muted/off and
23                # 63 is maximum volume.
24
25 # In addition you can call a function to instruct the amp to move up or down
26 # a single volume level. This is handy if you just have up/down buttons in
27 # your project for volume:
```

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```
28 amp.volume_up()    # Increase volume by one level.
29
30 amp.volume_down()  # Decrease volume by one level.
```

5.2 adafruit_max9744

CircuitPython module for the MAX9744 20W class D amplifier. See examples/simpletest.py for a demo of the usage.

- Author(s): Tony DiCola

5.2.1 Implementation Notes

Hardware:

- Adafruit [MAX9744 Stereo 20W Class D Audio Amplifier](#) (Product ID: 1752)

Software and Dependencies:

- Adafruit CircuitPython firmware for the ESP8622 and M0-based boards: <https://github.com/adafruit/circuitpython/releases>

class adafruit_max9744.**MAX9744** (*i2c*, *, *address*=75)
MAX9744 20 watt class D amplifier.

Parameters

- **i2c** – The I2C bus for the device.
- **address** – (Optional) The address of the device if it has been overridden from the default with the AD1, AD2 pins.

volume_down ()
Decrease the volume by one level.

volume_up ()
Increase the volume by one level.

CHAPTER 6

Indices and tables

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