
Adafruit IRREMOTE Library Documentation

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CircuitPython driver for use with IR Receivers.

Examples of products to use this library with:

- [Circuit Playground Express](#)
- [IR Receiver Sensor](#)

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

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-irremote
```

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

```
sudo pip3 install adafruit-circuitpython-irremote
```

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-irremote
```


CHAPTER 3

Usage Example

```
# Circuit Playground Express Demo Code
# Adjust the pulseio 'board.PIN' if using something else
import pulseio
import board
import adafruit_irremote
pulsein = pulseio.PulseIn(board.REMOTEIN, maxlen=120, idle_state=True)
decoder = adafruit_irremote.GenericDecode()

# size must match what you are decoding! for NEC use 4
received_code = bytearray(4)

while True:
    pulses = decoder.read_pulses(pulsein)
    print("Heard", len(pulses), "Pulses:", pulses)
    try:
        code = decoder.decode_bits(pulses, debug=False)
        print("Decoded:", code)
    except adafruit_irremote.IRNECRepeatException: # unusual short code!
        print("NEC repeat!")
    except adafruit_irremote.IRDecodeException as e: # failed to decode
        print("Failed to decode: ", e.args)

    print("-----")
```


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](#).

6.1 Simple test

Ensure your device works with this simple test.

Listing 1: examples/irremote_simpletest.py

```
1  # Circuit Playground Express Demo Code
2  # Adjust the pulseio 'board.PIN' if using something else
3  import pulseio
4  import board
5  import adafruit_irremote
6  pulsein = pulseio.PulseIn(board.REMOTEIN, maxlen=120, idle_state=True)
7  decoder = adafruit_irremote.GenericDecode()
8
9  # size must match what you are decoding! for NEC use 4
10 received_code = bytearray(4)
11
12 while True:
13     pulses = decoder.read_pulses(pulsein)
14     print("Heard", len(pulses), "Pulses:", pulses)
15     try:
16         code = decoder.decode_bits(pulses)
17         print("Decoded:", code)
18     except adafruit_irremote.IRNECRepeatException: # unusual short code!
19         print("NEC repeat!")
20     except adafruit_irremote.IRDecodeException as e: # failed to decode
21         print("Failed to decode: ", e.args)
22
23     print("-----")
```

6.2 adafruit_irremote

Demo code for Circuit Playground Express:

```
# Circuit Playground Express Demo Code
# Adjust the pulseio 'board.PIN' if using something else
import pulseio
import board
import adafruit_irremote
pulsein = pulseio.PulseIn(board.REMOTEIN, maxlen=120, idle_state=True)
decoder = adafruit_irremote.GenericDecode()

# size must match what you are decoding! for NEC use 4
received_code = bytearray(4)

while True:
    pulses = decoder.read_pulses(pulsein)
    print("Heard", len(pulses), "Pulses:", pulses)
    try:
        code = decoder.decode_bits(pulses)
        print("Decoded:", code)
    except adafruit_irremote.IRNECRepeatException: # unusual short code!
        print("NEC repeat!")
    except adafruit_irremote.IRDecodeException as e: # failed to decode
        print("Failed to decode: ", e.args)

    print("-----")
```

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6.2.1 Implementation Notes

Hardware:

- Circuit Playground Express
- IR Receiver Sensor

Software and Dependencies:

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

class adafruit_irremote.GenericDecode

Generic decoding of infrared signals

bin_data (*pulses*)

Compute bins of pulse lengths where pulses are $\pm 25\%$ of the average.

Parameters *pulses* (*list*) – Input pulse lengths

decode_bits (*pulses*)

Decode the pulses into bits.

read_pulses (*input_pulses*, *, *max_pulse=10000*, *blocking=True*, *pulse_window=0.1*, *blocking_delay=0.1*)

Read out a burst of pulses until pulses stop for a specified period (*pulse_window*), pruning pulses after a pulse longer than *max_pulse*.

Parameters

- **input_pulses** (*PulseIn*) – Object to read pulses from
- **max_pulse** (*int*) – Pulse duration to end a burst
- **blocking** (*bool*) – If True, will block until pulses found. If False, will return None if no pulses. Defaults to True for backwards compatibility
- **pulse_window** (*float*) – pulses are collected for this period of time
- **blocking_delay** (*float*) – delay between pulse checks when blocking

class adafruit_irremote.**GenericTransmit** (*header, one, zero, trail*)
Generic infrared transmit class that handles encoding.

transmit (*pulseout, data*)
Transmit the data using the pulseout.

Parameters

- **pulseout** (*pulseio.PulseOut*) – PulseOut to transmit on
- **data** (*bytearray*) – Data to transmit

exception adafruit_irremote.**IRDecodeException**
Generic decode exception

exception adafruit_irremote.**IRNECRepeatException**
Exception when a NEC repeat is decoded

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Indices and tables

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