

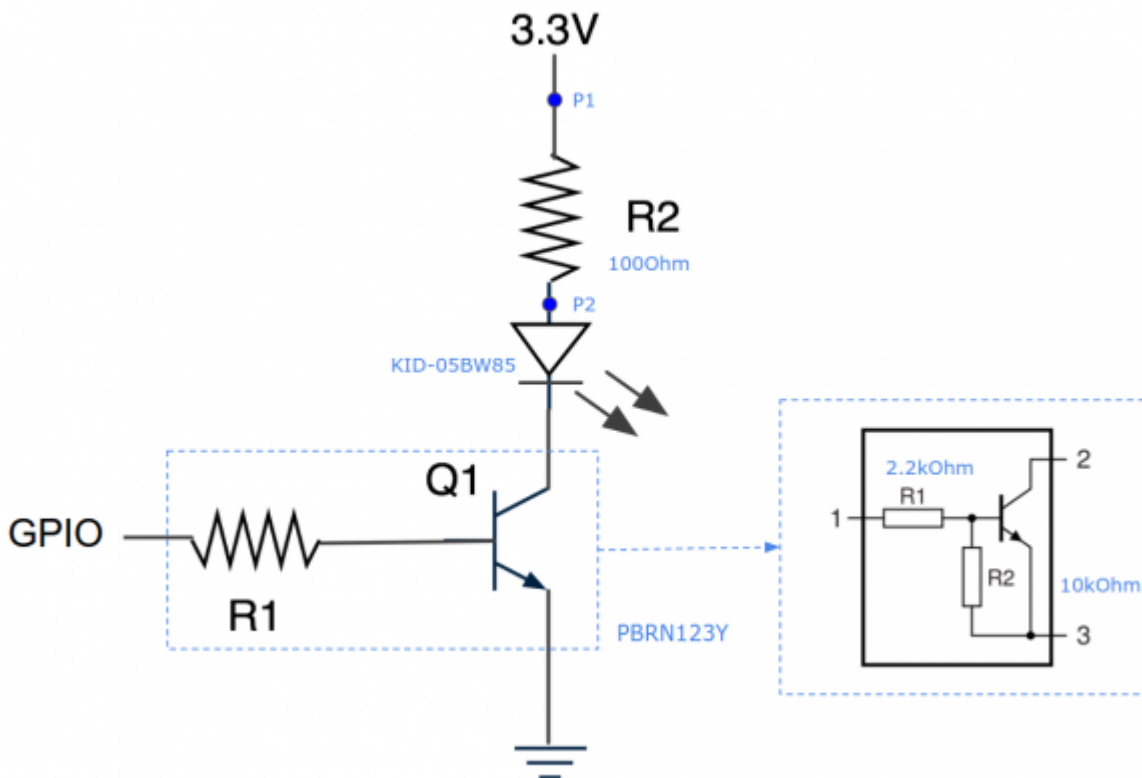
Support GPIO based IR Blaster

This functionality is available on Ubuntu.

- ODROID-C2 : Version should be 3.14.79-94 (Nov 21, 2016) or higher.
- ODROID-C1 : Version should be 3.10.104-175 (Nov 21, 2016) or higher.
- ODROID-XU3/4 : Version should be 4.9.33-42 (Jun 20, 2017) or higher. (available on kernel 3.10 with 3.10.104-126 (Nov 29, 2016))
- ODROID-N2 : A new version including LIRC TX will be released.
- ODROID-C4 : A new version including LIRC TX will be released.

Building and Testing an IR LED Circuit

This is a schematic example for connecting the IR LED to a GPIO output.



The components are not restricted to the parts and values but they can be different, **so please determine R1 and R2 values by checking the capability of IR LED and transistor specifications based on your environment and component parts.**

We use the following components for testing.

- IR LED : KID-05BW85
- NPN Transistor : PBRN123Y
- R1 : None, in case of the test environment, R1 is included in the RET

- R2 : 100Ohm, in case of the test environment, the forward current is 20mA and voltage difference between P1 and P2 is 1.9V. (330hm - 54mA / 100hm - 155mA, It should be specified considering IR LED spec.)

Example for each ODROID Board using Expansion Connector

ODROID-N2

ODROID-N2 using 40Pins Expansion Connector

For example, Pin #15 (GPIO #483) is used and following instructions will be described with the GPIO value.

LED side	Connector
VCC	Pin #1 - 3.3V Power
GND	Pin #6 - Ground
GPIO	Pin #15 - GPIOX.BIT7, GPIO #483

Please refer to this link that describes expansion connectors of ODROID-N2.

[ODROID-N2 Expansion Connectors](#)

ODROID-C4

ODROID-C4 using 40Pins Expansion Connector

For example, Pin #13 (GPIO #480) is used and following instructions will be described with the GPIO value.

LED side	Connector
VCC	Pin #1 - 3.3V Power
GND	Pin #6 - Ground
GPIO	Pin #13 - GPIOX.BIT4, GPIO #480

Please refer to this link that describes expansion connectors of ODROID-C4.

[ODROID-C4 Expansion Connectors](#)

ODROID-C2

ODROID-C2 using 40Pins Expansion Connector

For example, Pin #11 (GPIO #247) is used and following instructions will be described with the GPIO value.

LED side	Connector
VCC	Pin #1 - 3.3V Power
GND	Pin #6 - Ground
GPIO	Pin #11 - GPIOX.BIT19, GPIO #247

Please refer to this link that describes expansion connectors of ODROID-C2.

[ODROID-C2 Expansion Connectors](#)

ODROID-C1/C1+

ODROID-C1/c1+ using 40Pins Expansion Connector

For example, Pin #7 (GPIO #83) is used and following instructions will be described with the GPIO value.

LED side	Connector
VCC	Pin #1 - 3.3V Power
GND	Pin #6 - Ground
GPIO	Pin #7 - GPIO #83

Please refer to this link that describes expansion connectors of ODROID-C1/C1+.

[ODROID-C1/C1+ Expansion Connectors](#)

If 1-wire driver is taking over GPIO Pin 24, you have to unload the 1-wire drivers first. [blacklisting 1-wire drivers](#)

```
$ sudo rmmod wl_gpio
$ sudo rmmod wire
```

ODROID-XU4

ODROID-XU4 using 2x15Pins Expansion Connector

For example, Pin #26 (GPIO #24) is used and following instructions will be described with the GPIO value.

LED side	Connector
VCC	Pin #29 - 1.8V Power
GND	Pin #28 - Ground
GPIO	Pin #26 - GPIO #24

**In case of XU4, voltage level of VDD_IO and GPIO output is 1.8V.
Supposing R2 is 10 Ohm, the actual forward current is around 40mA and voltage difference between P1 and P2 is around 400mV.**

Please refer to this link that describes expansion connectors of ODROID-XU4.
[ODROID-XU4 Expansion Connectors](#)

LIRC Setup and Configurations

LIRC version of Ubuntu 18.04 is higher than Ubuntu 16.04 and related files under `/etc/lirc/` are configured differently.

Select your Ubuntu version first.

- [LIRC Setup with Ubuntu 16.04](#)
- [LIRC Setup with Ubuntu 18.04](#)

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