

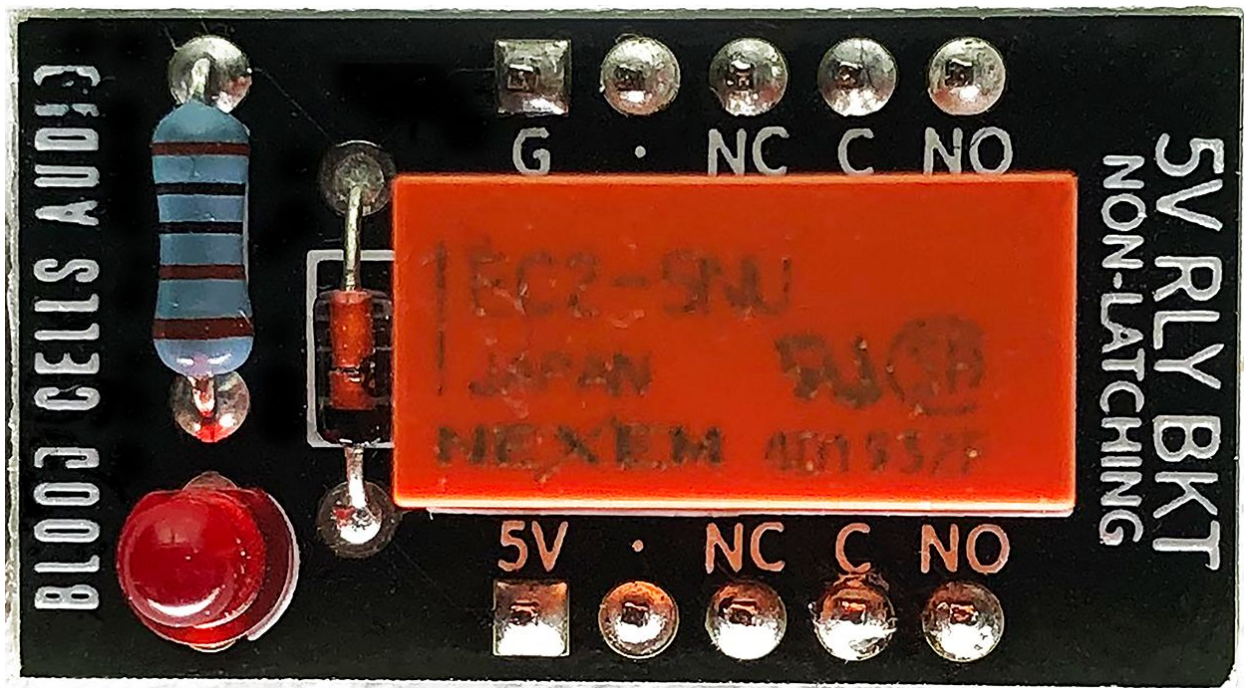
Instructions

Relay Breakout Boards *RB5V-NL-a*, *RB5V-NL* and *RB12V-NL* Non-Latching Relay

Thanks for your purchase! This series of breadboard-ready relay breakout boards was brought about while prototyping audio circuits. I got tired of dealing with the tiny non-breadboard-friendly relays I was testing with, and instead decided to fab some modular options that can be placed neatly on a breadboard or a more permanent protoboard.

This model uses the EC2-5NU, or EC2-12NU, which is a DPDT (Double Pole, Double Throw) single-coil non-latching relay. The relay will always default to a Normally Closed position when the relay coil is not energized.

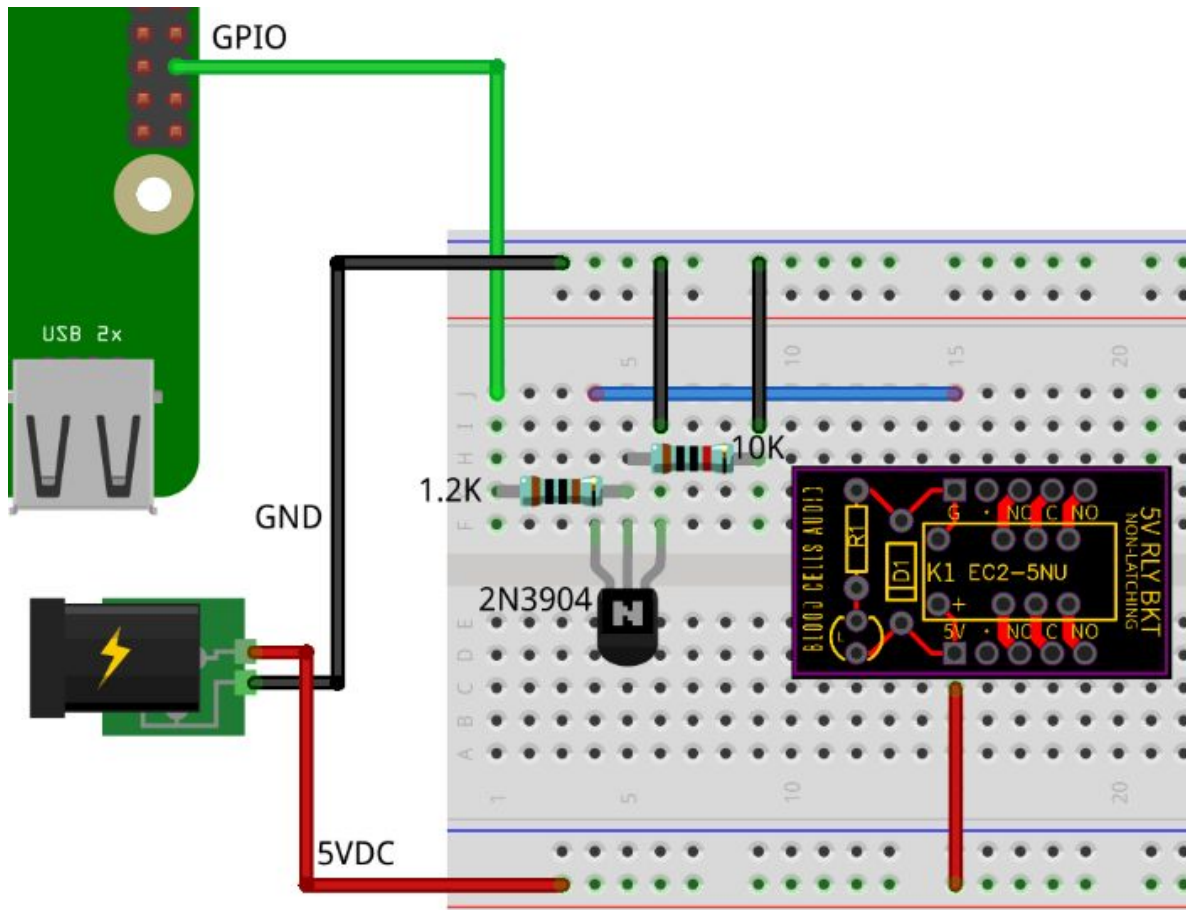
Unlike the Transistor-controlled version (*RVxV-NL-T*), this model leaves it up to you to determine how you want to trigger the relay coil.



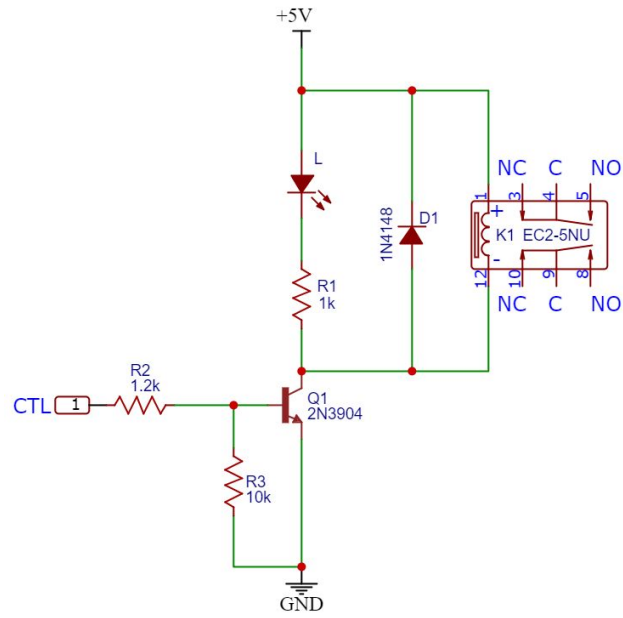
Connections:

- Connect 5VDC to the 5V pin of each coil (use 12VDC for the 12V relay version).
- Connect the signal(s) you want to switch to the C (Common) pins.
- At this point, connecting the G (ground) pin to Ground will trigger the coil. Often this will be connected to the collector of a transistor that is, in turn, driven by a logic level signal. But how you want to drive these relays is ultimately left up to you - an example is below.
- While the coil is energized, the C pins are internally connected to the NO (Normally Open) pins. The LED will also light to give you an active visual of the state.
- When the coil is not energized, the C pins will internally connect to the NC (Normally Closed) pins. The LED will not be lit in this state.

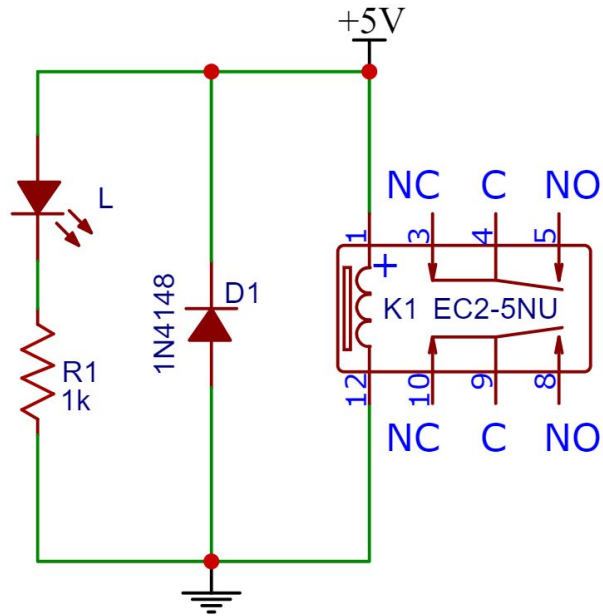
Using a transistor to drive the coil:



Using a transistor to drive the coil:

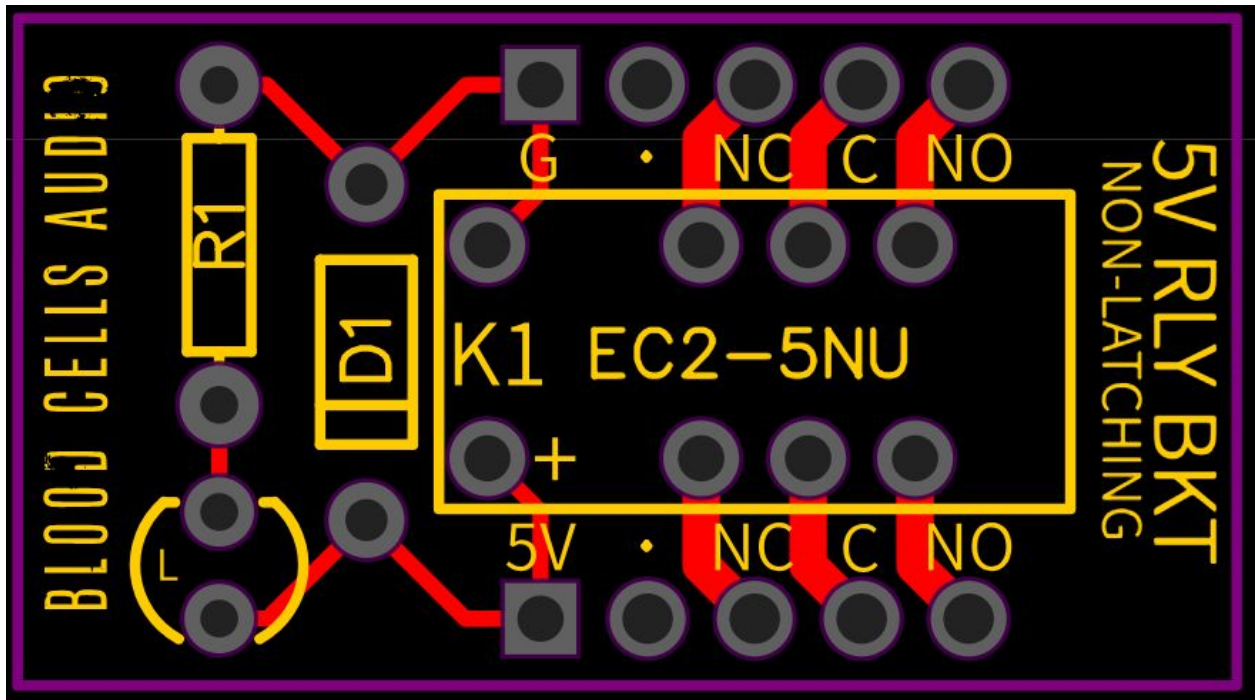


Schematic:



*R1 = 3.32K in 12V Relay version

Board layout:



Additional info:

When held active, the relay coil and LED draws about 31mA in total.

Relay Specs:

EC2-5NU / EC2-12NU

Datasheet

- Maximum Switching Power 60 W, 125 VA
- Maximum Switching Voltage 220 VDC, 250 VAC
- Maximum Switching Current 2 A
- Maximum Carrying Current 2 A

UA2-5NJ

Datasheet

- Maximum Switching Power 30 W, 37.5 VA
- Maximum Switching Voltage 220 VDC, 250 VAC
- Maximum Switching Current 1 A
- Maximum Carrying Current 1 A

Datasheet is available by searching the relay model #, or at

www.bloodcellsaudio.com/relaybreakouts

*****PSA*****

This PCB is built for a *breadboard*. A typical solderless breadboard's contacts are rated for 5V at 1A, or 15 Volts and 333mA. Just because the relay is rated for bigger stuff, doesn't mean you should run big stuff through your breadboard. Don't do it!