

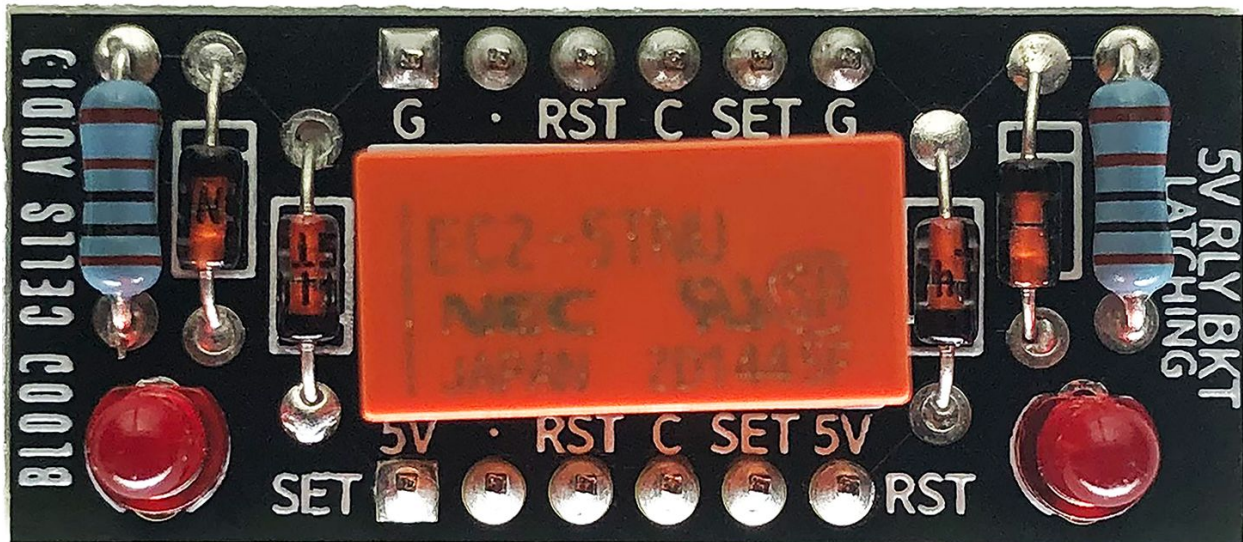
Instructions
Relay Breakout Boards *RB5V-L* and *RB12V-L*
Latching Relay

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 EC2-5TNU, or EC2-12TNU, which is a DPDT (Double Pole, Double Throw) dual-coil latching relay. Because this a latching relay, it only needs a *momentary* pulse (>10ms) to activate either of the coils. The relay will then hold the position of whichever state it was set to last, even through a power-cycle. Not having to actively hold the state will save you power!

Note: The LEDs will light up only during this momentary pulse.

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

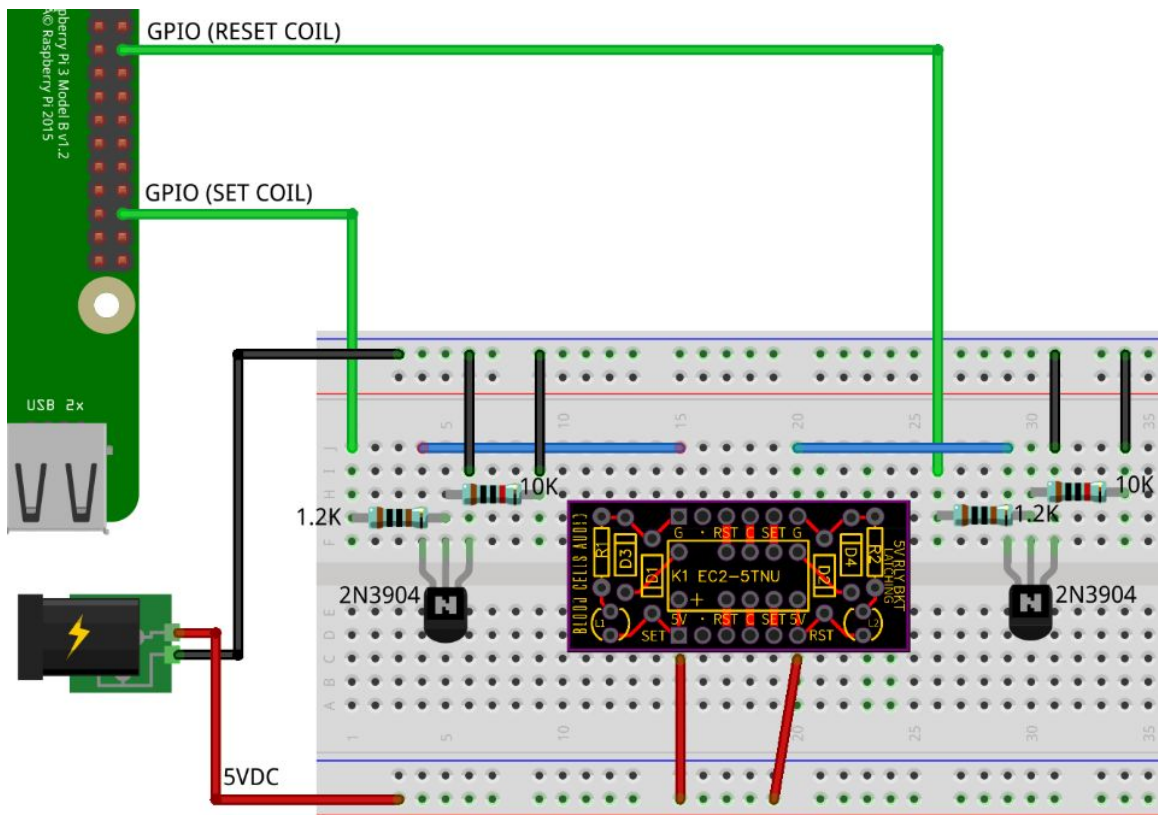


Connections:

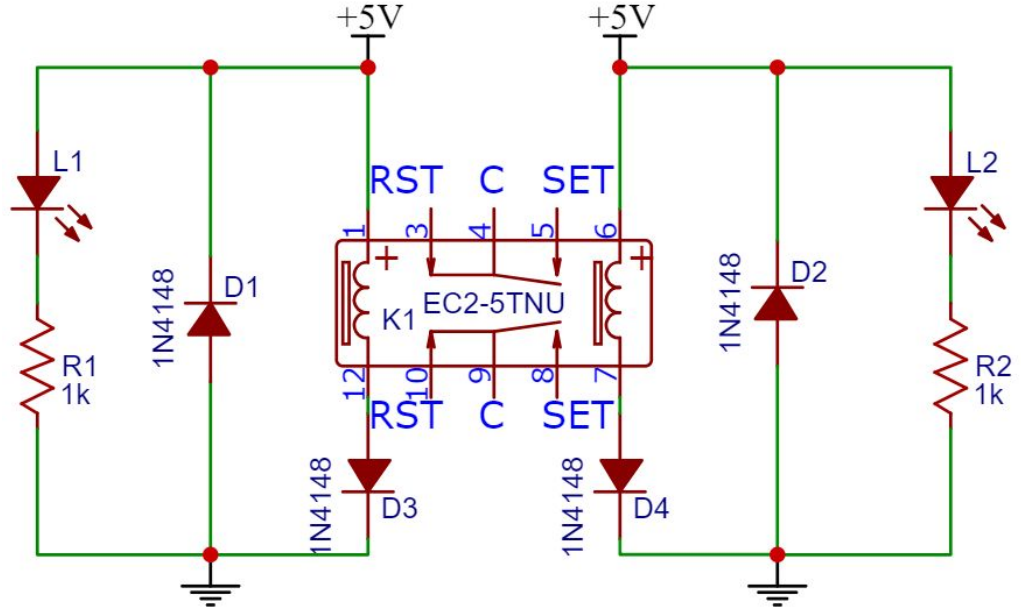
- Connect 5VDC to the 5V pin of each coil (use 12VDC for the 12V relay version).
- Connect the signal(s) you want to switch to the C (Common) pins.
- At this point, connecting the G (ground) pin of either coil to Ground will energize the coil. Often this will be connected to the collector of a transistor 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.
- When the Set coil is pulsed, the C pins are internally connected to the SET pins. The SET LED will also flicker to give you an active visual.
- When the Reset coil is pulsed, the C pins will internally connect to the RST pins (RESET). The RESET LED will also pulse.

Note: to avoid chaos, it isn't recommended to trigger both coils simultaneously.

Using a transistors to drive the coils:

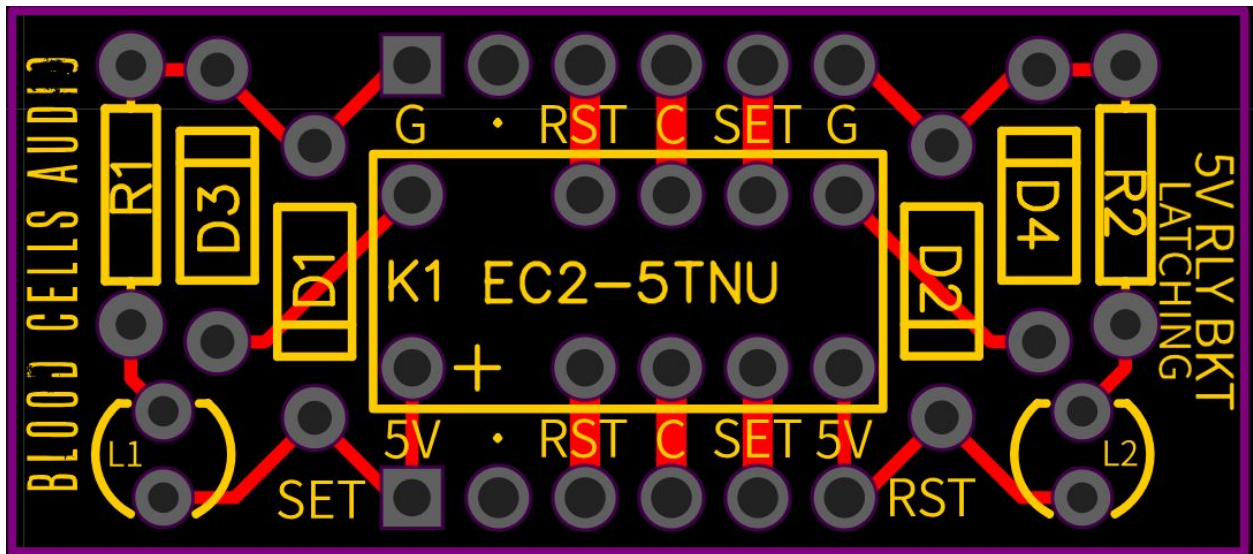


Schematic:



*R1 and R2 = 3.32K in 12V Relay version

Board layout:



Additional info:

When active, a relay coil and LED draws about 15mA in total

Relay: EC2-5TNU / EC2-12TNU

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

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!