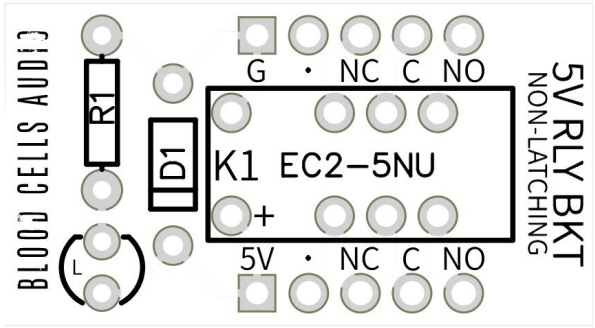
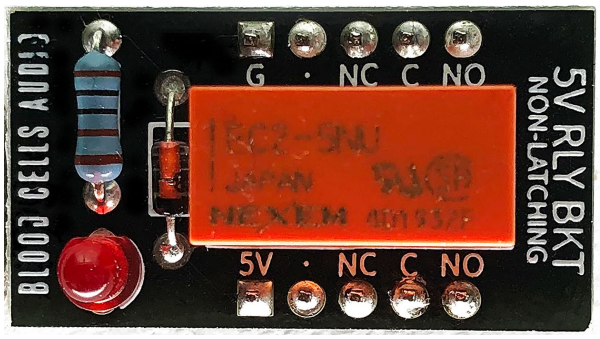
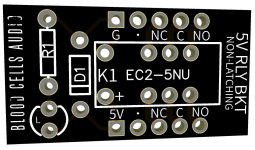
Assembly Guide

Relay Breakout Boards *RB5V-NL and RB12V-NL*

Non-Latching

Unpopulated Board	**Completed**
	

Component	Part# / Value	Qty	Designator
	PCB	1	N/A
	1N4148 Diode	1	D1
	1K Ohm Resistor (**5V Version**) 3.32 K Ohm Resistor (**12V Version**)	1	R1
	Red LED	1	L
	5V or 12V Relay - Non-latching EC2-5NU or EC2-12NU	1	K1
	5-pin Headers	2	N/A

Before you do anything, please verify that you have all the physical parts listed in the table above. If something is missing, please let us know and we'll get it to you ASAP.

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Additional Requirements:

- Soldering Iron
- Solder
- Breadboard (optional, but helpful for final step)

When putting together the board, we'll be starting with the shortest components, then adding taller ones as we go. Something that can help as you populate components is to slightly bend the leads under the board - this makes it easier to flip the board over while keeping things in their proper place. When soldering, be sure the iron is hot enough, and as a general rule, spend as little time heating the component as possible.
There are lots of soldering tutorials out there on YouTube if needed.

1. We'll start with the Diode. Populate it on the board (D1), and be sure that the black band on the diode is facing the same direction as the line on the silk screen. Very critical as the diode is a polarized component - direction matters!

2. Next up is the resistor. Populate R1 onto the board. Also note that resistors are non-polarized, so feel free to align them in any direction that makes you feel good.

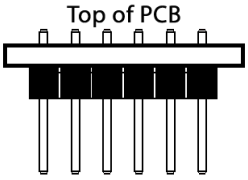
   At this point, flip the board over and solder the diode and resistors. Then clip the leads.

3. Add the LED - the flat side of the LED must match the flat side of the silk screen (L). Ideally you'd want the LED to sit perfectly flat on the top of the board. This might require a little more bending of the leads on the bottom to lock it into place for soldering...go ahead and solder up that puppy now, then clip.

4. Add the relay - this will only fit in one direction. Flip over and solder.

5. Let's deal with the headers! These are the parts that will ultimately be inserted into your breadboard, thus *the long pins will be on the bottom of the board.* This is actually much easier if you have a breadboard handy. Insert the longer pins of one of the headers into the breadboard. 6 breadboard rows below that, insert the other header.

   Place the board on *top* of the headers, and solder them from the top of the board. *Again, be sure the long pins are at the bottom of the board. You should be soldering the shorter pins from the top of the board.*



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