

# STRINGED THINGS

## Breadboard

If you want to try out a circuit without going to the trouble of soldering the components together, a solderless breadboard may be just the ticket for you.

A solderless breadboard allows you to make all of the connections in a circuit, test the circuit, then make corrections and changes very quickly. The breadboard connections are not permanent.

Breadboards may be used to create new electronic circuits or verify a circuit. This is called prototyping. If you're planning to build a project, you may want to breadboard it first to ensure that you know how to connect all of the parts correctly.

If you find a circuit in which you're interested, you can breadboard it and quickly determine if it's worth committing to a permanent project.

In my previous DIY life, I planned to put together a breadboard. However, I lost interest in the hobby for awhile, thanks to the typical demands of life and my tendency to rotate hobbies.

However, I had purchased a small breadboard and a set of jumpers. Those items managed to survive a couple of residential moves. As I returned to the hobby, I renewed the plan to make a breadboard.

The breadboard is just part of the total bread-boarding operation. Ideally, the breadboard is part of a setup that includes a power supply, input and output jacks, a provision for potentiometers, and anything else that might be part of the project.

Just how does a breadboard work? It consists of a pattern of "holes," for want of a better term. The holes are arranged in horizontal rows in a grid pattern. Stiff wires, such as the leads of electronic components, can be placed in the holes.

All of the holes in a row are electronically connected to each other. Depending on the breadboard's design, there may be channels that separate the sections of a row and break the circuit connection.

Jumpers are wires that can be used to connect one row to another. They also can be used to jump a signal across a channel. They are an essential part of breadboarding. They are the equivalent of wire in a permanent circuit.

In a breadboarded project, you will use electronic components as you would in a permanently-soldered project. A breadboard allows you to try different values of components and different semi-conductors in the circuit to find the best combination.

A much more thorough description of a breadboard may be found here:



<https://goo.gl/u3X1Ae>

My personal breadboard is in its preliminary stages of construction. It's far enough along so that I can do some basic circuits with power provided.

My breadboard consists of a small solderless breadboard attached to a piece of lumber that came out of my junk pile. There is an electrical junction box screwed to the board to serve as the mounting point for jacks, potentiometers, power connections and who knows what else.

The box cost me all of \$1.25 plus tax at a home improvement store. It was in the electrical section.

When planning this setup, I wondered how I would mount the solderless breadboard to keep it from moving. Much to my pleasant surprise, I discovered the solderless breadboard had an adhesive backing. So, I just peeled off the paper and stuck it on the lumber in what I hope is a good location.

I drilled several three-eighth-inch holes in the metal box. The box was difficult to drill, even though I used my drill press. I had to ream some of the holes later. I didn't have any grand plan for the holes; I just drilled a bunch of holes that were not too close to each other. I also opened up one of the punch-out holes in the side to have an opening through which to run wires.

I screwed the box vertically onto the piece of lumber. The only thing I've installed in the metal box so far is a power connector. I soldered two wires to it, one red (for positive) and one green (for negative/ground). I also soldered a separate green wire to part of the metal box.

This was enough to handle my first breadboard project. As I try more projects, no doubt this setup will expand!