Tools for electronics

***Fill in the blanks with the following words:***

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| Soldering iron needle nose pliers solder sponge breadboard flux desoldering pump/solder sucker joints [brass mesh](http://www.radioshack.com/product/index.jsp?productId=15693336) digital multi-meter wire-strippers |

+ [\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_](http://www.amazon.com/Solderless-Plug--BreadBoard-tie-points-power/dp/B005GYATUG/ref=sr_1_6?ie=UTF8&qid=1405981896&sr=8-6&keywords=breadboard) - it is absolutely critical that you prototype your projects before you start building and soldering. [\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_](http://www.amazon.com/Solderless-Plug--BreadBoard-tie-points-power/dp/B005GYATUG/ref=sr_1_6?ie=UTF8&qid=1405981896&sr=8-6&keywords=breadboard) are the way to do that. Don't say I didn't warn you. I have several small ones like in the link and then connect them together as I need more space.

+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- I use a 40W iron for nearly everything. That being said, an [adjustable iron](http://www.radioshack.com/product/index.jsp?productId=15725446&filterName=Type&filterValue=Soldering+irons) is probably better as it will give a wide range of temperatures. Parts are not immune to heat, so a higher temperature or smaller part will require less time to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- and avoid damaging the part. An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- that can use assortment of tips isn't a bad idea either (see [this Instructable](https://www.instructables.com/id/Uses-of-Different-Soldering-Iron-Tips/) for a great guide on different soldering tips). If you want to learn to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-, check out the coolest [how-to-solder videos](https://www.youtube.com/watch?v=vIT4ra6Mo0s&list=PL926EC0F1F93C1837) I've ever seen!

+ [\_\_\_\_\_\_\_\_\_\_\_\_](http://www.radioshack.com/product/index.jsp?productId=2062715) and [\_\_\_\_\_\_\_\_\_\_\_\_\_\_](http://www.radioshack.com/product/index.jsp?productId=12582876)- I use a larger diameter (.050"; 1.27mm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- for soldering large bits and smaller diameter (0.032"; 0.81mm) for smaller connections. You don't want to flood a small contact with the large stuff or use up your whole spool of small stuff on a large contact.

+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- - for desoldering parts when you mess up. I use both, the vacuum for large amounts and the wick (a.k.a. desolder braid) for small quantities. You can also get an all-in-one [desoldering iron](http://www.radioshack.com/product/index.jsp?productId=2062731) with a vacuum bulb attached. I personally don't like it. I think it is too difficult to manage the bulb and iron in the same hand, but I'bler bergerab loves his.

+ A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ cleaner is also good to have for cleaning excess solder from the tip, or you can always use a damp \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

+ A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ - one with more functions (ranges) is better, but at least one with voltmeter, ammeter, and ohmmeter. Auto-ranging is also nice if you can get it.

+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - you can get all-in-one style, but I've found that most of the time the cutting portion is less than easy to use since it's between the handles. I prefer to have two tools. I highly recommend the self-adjusting automatic strippers shown in the image. A bit pricey but well worth it.

+ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are your friend. They are great for holding small parts so you can solder, adjust, place, etc. those parts. I