Where To Find Stuff

- Where to Find Components
  - Mouser and Digikey. If you can’t find it at these two places, you probably should rethink your part selection. Great parametric search tools.
  - Newark, Avnet, Arrow, TTI. Where large manufacturers go for parts. Minimum quantities may be a problem. They have a very broad selection however. Websites not near as easy to maneuver and ordering can be wonky.
  - Direct from Manufacturers: Analog Devices, TI, Minicircuits. These offer parts for sale or samples for free directly from their web sites. Don’t be greedy if samples are available.
  - Interesting Places: Marlin P. Jones, All Electronics, Antique Electronic Supply (aka, ”TubesandMore”), Dan’s Small Parts and Kits, Jameco. Many interesting things here. Limited quantities of many items. Great deals are possible with careful looking.
  - SurplusGizmos, Hillsboro, OR. Used to be ”Wacky Willies”. Lots of components, strange stuff, weird stuff. Plan to spend a few hours there if you go.
  - Nuts and bolts, and Hardware: https://www.mwcomponents.com
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  - WinSource (China), LCSC (China). Many hard to find parts. They are reliable, with no counterfeit parts but can be hard to work with.
  - eBay, Amazon. What can’t you find? But, let the buyer beware. This is the wild west of electronic components. Be very careful. Read the forums. Counterfeit parts abound.
  - Alibaba (China). Some really cheap surplus stuff here. Make sure you know what you are getting. Quantities are often very large. Some really great deals, but beware.
  - Adafruit and Sparkfun. Lots of little boards to implement stuff. Many interesting parts and some tutorials. A good place for ideas.
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Finding where parts are available

- Octopart, Findchips. Given a part number these sites will return where the part may be found, quantities, etc. Usually up to date, sometimes not.
- Google. This will often turn up things that cannot be found elsewhere. Google is the engineer’s friend and one of our best tools.

PCB houses

- OSHPARK (Tigard, OR) Purple PCBs, fast, cheap, local. Highly recommended.
- Advanced Circuits. A full service house. They can do almost anything. Use their DFM software (FreeDFM) to verify your PCBs.
Where To Find Stuff

▶ Spice Models, symbols, footprints
  ▶ Google is your friend. Most IC/Semi manufactures have spice macromodels or device models available for most parts.
  ▶ If you are using a simple PCB tool, footprints/symbols are often available which can save you a lot of time. They are not very flexible however.

▶ Schematic/layout tools
  ▶ Use what you feel comfortable with.
  ▶ Highly recommended: KiCad.
  ▶ SnapEDA (via Digikey), EasyEDA
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Getting ideas

- App notes or example circuits are great sources of information.
- Evaluation boards are expensive, but get the data package for them and examine their schematics and part choices.
- Application notes help you understand what to do with unused pins, decoupling capacitors, input and output pin terminations, etc.
- Remember that equivalent circuits or simplified schematics for ICs are not what you should necessarily expect, but are there to give you some insight as to how they operate.
- Spice macro models, are generally simplified for fast execution and are not intended for detailed analyses or non-standard operation.
- Some IC vendors offer both symbols and footprints for popular schematic and PCB tools.