



## How to get Started Home Brewing

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The last several articles have been devoted to building blocks that go into ham radio rigs. I have presented simple circuits that I have breadboarded and used for demonstrations at the seminars. It has occurred to me that some of you may want to also breadboard circuits and test them out. I am by no means a design genius. I rely on the ARRL Handbook, an ARRL QRP Classic handbook and some QST articles. I also have some of the lab manuals that I used at both Saddleback and OCC as an instructor. There are many good examples of circuits in those manuals to breadboard and analyze.

The local ham radio store (HRO) has the ARRL Handbooks for sale. You can also buy the handbook directly from the ARRL. If you have a limited budget, try the local used book stores. The handbooks do not have to be the latest version. In fact, I use a 1969 handbook for reference for many things that do not appear in the present day books.

Good equipment is an essential requirement to be able to analyze your circuits. Here is my recommended list to get started;

### Soldering Iron ( Weller Products)

These are available on line at Mouser or Electronix Express  
Look for one at the SOARA auction.

### Digital Multimeter ( Price range \$10.00 to 160.00)

Harbor Freight usually has these for about \$10.00  
Fry's has Fluke meters for up to about \$160.00  
You might also look for one that checks capacitance.

### Oscilloscope ( It is best to shop around for one of these)

Electronix Express has a good selection that range of prices from \$300 to \$1200. The cost goes up as you increase the features.  
I would ask around SOARA to see if anyone has a scope for sale.  
I would also recommend E Bay

### Regulated Power Supply

Since most of the solid state rigs use 13.8V, you can pick up an Astron supply that has about 4 amp capability.  
That will be enough to power a small QRP radio.  
Look for one of these at the SOARA auction.

Solderless breadboards.

These are a must, some come with a collection of jumper wires.

Places like Fry's, Mar-Vac, Or-Vac, and JK Electronics have them on sale for about \$20.00

### Components

Resistor, capacitor and inductor kits are available at a reasonable price. I have used them to get a supply of 1/2W resistors to rebuild my Heath Kit projects. I usually purchase them from either Electronix Express or from Mouser.

Other items like chassis, and solder type proto boards are also available from both the places named above.

If you just need one or two parts to repair a radio, then places like Radio Shack, JK Electronics ( Westminster), and Frys ( Fountain Valley) are good sources of small quantities. I use all three places for my needs.

Mouser will ship almost the same day or the next day. Electronix Express is a little slower shipping.

The other local stores may order for you if they don't have it in stock.

The places that I use have web sites which I will provide in the appendix of this article.

If you get into a specialty project like restoring a piece of Heath Kit equipment, then there is a Yahoo Heath Kit users group. I have a source for manuals from Dave Crowell (KA1EDP)

There are several places that have Heath Kit replacement parts as well as kits to upgrade older rigs.

I have a source for vacuum tubes for that older rig you bought at the SOARA auction.

Well that is a start for the beginner and even for the advanced experimenter. One thing I almost forgot to mention is that having several older handbooks is essential. I found myself referring to my older handbooks for such things as drill sizes for a 6-32 clearance hole. Some of the older ARRL handbooks have that information. I had to refer to my 1969 ARRL Handbook to find instructions for terminating RG-8 cables.

If you have any questions regarding this article, let me know. You can get me at [WB6WXO@SOARA.org](mailto:WB6WXO@SOARA.org).

## Appendix: Sources of Electronic Parts

### Action Electronics:

<http://www.action-electronics.com>  
1300 E. Edinger Ave  
Santa Ana CA 92705-4425  
Phone (800) 563-9405 or (714) 547-5169



### Mar-Vac:

<http://www.marvac.com>  
1-800-655-6686 . 949-650-2001  
2001 Harbor Blvd.  
Costa Mesa, CA 92627



### Frys:

<http://www.frys.com>  
Fountain Valley - 1080 Kalma River Ave  
714-378-4400  
Anaheim - 3370 E. La Palma Ave  
714-688-3000



### JK Electronics:

<http://www.jkelectronics.com>  
[sales@jkelectronics.com](mailto:sales@jkelectronics.com)  
6395 Westminster Blvd  
Westminster, CA 92683  
714-890-4001



### Digi-Key:

<http://www.digikey.com>  
1-800-DIGI-KEY



### Mouser Electronics:

<http://www.mouser.com>  
1-800-346-6873



### Electronic Express:

<http://www.elexp.com>  
E Mail: [electron@elexp.com](mailto:electron@elexp.com)  
1-800-972-2225



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### Antique Electronic Supply:

<http://www.tubesandmore.com>  
E Mail: [sales@tubesandmore.com](mailto:sales@tubesandmore.com)  
1-480-820-5411 ph  
1-800-706-6789 fax

