

Getting On the Air

One of the things that amazes me is the number of ham radio operators that are in the city of Lethbridge. At last count there are 279. Now that includes all the callsigns that have been assigned to hams in the city. So, my question is “where are they?” I seldom hear many of them checking into the nets but the old reliable ones are always around. What’s happened to the rest?

So, after teaching and mentoring a whole bunch of people to become hams over the last number of years, I have discovered that only a few actually take up the hobby. Now wait a minute, why would that be the case? I strongly think that maybe the entry fee is too high. The cost of antennas, radios, accessory equipment, power supplies, coax cable, SWR meters, towers, etc. all cost a bundle and it is a very high price to pay.

When I became a ham in 1965, I had an old short-wave receiver that I converted to have a beat frequency oscillator at 455 kHz so I could copy CW on it, and I built a transmitter around my only crystal at 3520 kHz and got on the air. I built the transmitter with a pi network and matched the antenna with a neon bulb to make sure I was getting the most output I could. The antenna was a random long wire and a waterpipe ground. The receiver cost me about \$5 on the used market and the transmitter cost about \$10 to build and the biggest cost for that was the crystal, I think. All the parts were begged, borrowed and stolen from other projects I had built before, and it worked perfectly. The power transformer was from an old, scrapped radio that I picked up in the lane down from my house and the tubes came from that too. The transmitter was CW only and used a 6V6 as the oscillator. It chirped a bit, but it worked and I was learning fast. My first contact was all the way across town. I was VE6ARF in those days and I worked VE6BPY on CW for my first contact. I was hooked...

The most common question I hear today is what should I buy to get on the air? What kind of equipment should I buy? What is the best antenna to buy? What is the best power supply to buy? What microphone should I buy? What kind of tower should I buy? Where can I buy an SWR meter? Should I buy an antenna analyzer? Where do I buy coax and what kind should I buy?

If you read those questions again you will notice a common thread throughout. The word “buy” is in every one of those questions and therein lies the problem. Why not look up how to build most of it yourself and save a bundle on the costs. The savings can be significant.

You know, as a new ham the only thing you have to buy is a transmitter or a commercial kit to build one. (It needs to be a commercial one to be compliant with your level of certification.) Back in the old days we could build our own but as a rite of passage it must be a commercial one now if you are a Basic with Honours certificate holder. If you want to build transmitters, you can buy a kit and use that to get on the air. Everything else is entirely up to you and doesn’t need to cost you an arm and leg.

Now that cycle 25 is upon us, we can start to see some openings on the HF bands to all over the world. In a few years conditions will be wide open and you'll be able to work the world with a piece of string. Well maybe not a piece of string, but certainly some very simple antennas will be the rule of the day.

So, what's my point, you ask? The point is that you don't have to buy everything in order to get on the air and dump thousands of dollars into new equipment. Part of being a ham is being inventive and the impetus behind that is ... hams are cheap. I know I am, and I know that most of my ham friends are pretty frugal too. Be cheap and only spend money on your hobby if you really need to on a new transmitter. Everything else is negotiable...

There are so many great bargains out there to play with that you can pick up for a song. The idea is to look. My favourite places to look for stuff are on the internet and flea markets. There are great places to pick up some perfectly good stuff that can either be repurposed like that old short wave receiver I rebuilt and only cost me a few bucks or older transmitters that you can get for nearly nothing. Talk to your Elmer and find out what is good and what isn't. Use that information you took so long to acquire on your Basic course and make it even more valuable.

Let's talk about putting a station together from scratch. What do you need to get going?
Here's a list:

1. A receiver – You can find old SW receivers at flea markets for very reasonable prices, but I recommend something like an SDR Play RSP1A. That will give you a sensitive and reliable receiver that attaches to your computer and provides you with all bands and more for less

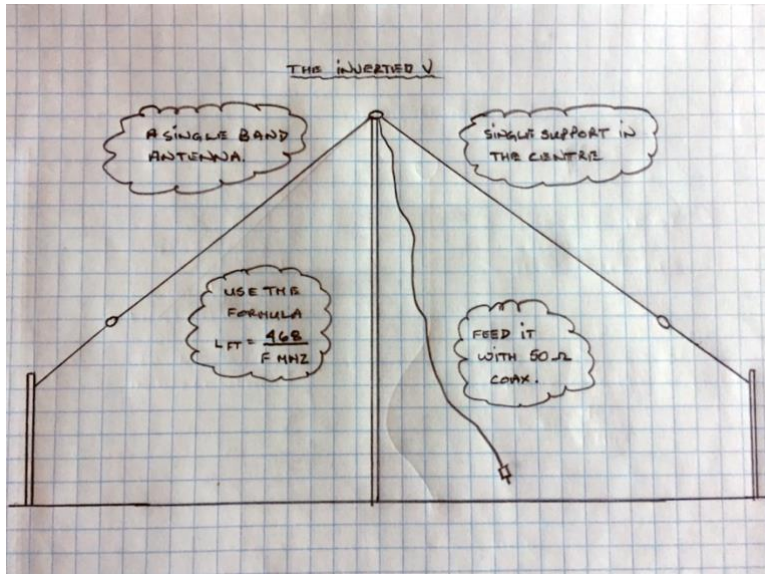


than a couple of hundred bucks. Make sure you protect the front end of it though with a T/R switch. The front ends of these devices are very sensitive to RF, and you need something to protect them. Have a look at my article on

<https://tomnotes.ca/blowingstuffup.pdf> on Tom's Notes. Look up on the internet how to build an effective T/R switch. Here's a good place to start...

<https://www.sdrplay.com/community/viewtopic.php?t=3840>

2. An antenna – This is where you can get really inventive. Antennas are fun to build and see if you can keep it up in the hurricane force winds, we experience in the Lethbridge area or anywhere else, for that matter. The resource of choice for antennas is the Antenna Handbook by the ARRL. See if you can get a used or older copy of this book.



The information is excellent and you will find all sorts of articles on how to not only build them but how to make sure you get the most out of them. I recommend a simple dipole to start on the band you want to work. Feed it with some inexpensive RG8X coax with a home-made balun at the feedpoint and you will have a reliable antenna that will be

resonant on the band you want to work. Building a homebrew 1:1 balun is easy. Have a look at this video on how to build one...

<https://www.youtube.com/watch?v=poqG0IfY8z4>

3. A transmitter – Once again if you want to find a good, old transmitter to use, go to a flea market and take your Elmer with you and ask around to see what's good to start with. You can buy commercial kits for QRP work these days that are inexpensive and a great learning experience for those that are starting out. Here is a list of companies that sell them that someone has put together....

<https://www.hamradiosecrets.com/amateur-radio-kits.html> It looks like a pretty comprehensive list too. The company I like is QRP Labs... <https://grp-labs.com/> However there are lots of others that put out some pretty great products too. Keep looking for what you really want and build something from a commercial kit. Have a look at HF Signals offerings... <https://www.hfsignals.com/> if you are interested in a great kit that provides you with a QRP transmitter that works all bands both receive and transmit on all modes.

4. The power supply – Once again if you don't have a power supply to use that provides the correct voltages to get your transmitter and receiver operating, this is where you can start to put some of that knowledge you gained from your courses. Pick up a copy of an old ARRL handbook to see what it would take to build one and give it a try. You can find old transformers and parts at a flea market or on eBay or buy a brand new one from your local ham radio supplier if you want something reliable. This is where you don't want to skimp. You can also start digging into renewable energy like a deep cycle battery and a controller and solar panel to get some reliable power to run your new station. The sky's the limit in terms of finding suitable equipment to provide reliable power. Keep your eyes open for bargains.

So that's it, folks. Getting on the air requires a receiver, a transmitter, a power supply and an antenna. All the rest of that stuff is fluff, and the journey begins by getting on the air and talking to someone. You can work the world on QRP and by being inventive and taking time to

research and finding the stuff you need; you will be on the air in no time and welcomed to the hobby by hams all over the world. You do not need to load yourself up with commercial equipment at the beginning and I don't recommend that you do except where required by legislation. You simply become an appliance operator that way and the magic of making something work that you have built with your own hands may be lost.

Radio can be a very fun hobby that has so many aspects that people can enjoy, but one of them is not loading yourself down with a lot of expensive equipment at the beginning. The key is to get on the air and start to build on your hobby as you gain experience and sharpen your skills.

73

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