

**Getting started in Radio Scouting & Ham Radio**  
By Grant Laughlin – W5XJ – Extra Class Licensee – Radio Scouter – BSA ASM



Introduction to Radio Scouting for Scouts and Scouters

Welcome to a great journey, the journey of ham radio as a radio scouter. As a scout you can earn the Radio Merit Badge in your Scout troop or Venture Crew. Did you know that ham radio plays a major part in emergency preparedness and relief worldwide? Ham radio is one way you can truly be prepared in the case of an emergency. Visit <http://www.arrl.org/emergency-communications> to learn more about it. Did you know that many Boy Scout Councils have ham radio stations setup waiting to be used by scouts and scouters in your area? In addition radio scouting teams in your area are available to provide ham radio demonstrations to you, your pack, den, troop or crew. Did you know that every year in October a worldwide scouting event called JOTA takes place? To learn more about JOTA check out <http://www.k2bsa.net/> the premier BSA Radio Scouting website for all the info. Ham radio, like scouting, is fun, with a purpose.

You will have a lot of fun learning as you advance in license class and in your ability to work new contacts on all the various modes you prefer. The main Modes include voice (phone), morse code (CW) and digital (PSK31, among others). There are 3 license classes, technician, general and extra. Each advancement in class gives you more privileges than the other, extra class is the top level. Morse code (CW) is no longer required to earn any license class, some folks had trouble with this mode so in many ways making CW redundant is good but you can still try your hand at CW and see if you can do it.

The newer digital modes have much in common with CW since the info is conveyed digitally rather than in analog fashion via typical voice (phone) mode. CW or Digital modes can get through when voice cannot due to noise, interference, etc. Digital modes use an everyday PC, MAC or other computer running Windows, Apple, Linux, etc to send the data on the radio by working together. Digital modes are much like texting on your phone since you are typing your message which is sent out over the HF radio to the world to “hear” and decode. The receiving station or stations then send their own typed message out over the air that you can decode and further respond to. Unlike a cell phone text message sent to only one phone your digital mode call goes out to the world and can be read or decoded by any HAM capable of digital mode operation. Your call could be received by someone from a few miles to many thousands of miles away – not possible with cell phones. Many modern radios have a USB port that can be plugged into your PC to control your radio and send the data.

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HF involves operating on the bands from 6 meters to 160 meters - the bands most known for DX or long distance communications. As a general class licensee you will have access to the 20 meter band where there is always some action going on. Many hams use a simple (and cheap do-it-yourself) wire antenna and a starter HF radio to get on the air. You can build the dipole antenna yourself and get on the air easy, at home in the backyard, in a park, in your car, rooftop of your high rise, parking lot, etc. Many hams start out with a used radio and you can find many for sale on ebay and craig's list, etc. More experienced hams use directional or beam antennas to work DX. You can also put up vertical antennas as well but these need ground radial wires but can be put up on the ground or on rooftops.

You can try all the modes to see which one you prefer and hone your skills on your favorite. Making contacts via HAM radio is fun because you never know who will come back to your call and you meet interesting people on the air and can learn a lot about distant lands. Most HAMs are very friendly and eager to make new contacts and share their knowledge of radio, culture, language, etc.

Many hams start out with a hand held UHF/VHF (H/T) radio before they get their first HF radio. Hams in cities large & small setup a network of repeaters that make their H/T's operate over great distances. Chances are this will be the first call you make as a new HAM. A repeater is a fixed base radio that hears your call on one frequency and simultaneously retransmits it on another adding range to your call. For example, on your H/T you transmit on channel "A" and listen on channel "B". The repeater listens on channel "A" and transmits on "B". This is similar to how a cell phone works using its low power signal to reach a cell tower which is high up running more power making the range longer. More on this is the recommended texts.

While there are many ways to study for your exam the author believes that the best way to do it is to study to pass the test and then spend your time learning how to operate from doing it, talking to other hams, and by using operating manuals, etc. You first have to earn your technician license then you can move ahead to general and extra. After you earn your tech you can study for the general and extra and take both exams the same day. I am not an engineer or rocket scientist by any means but I have some experience with electronics. I passed my tech license in March 2009, my general in June 2009 and my extra class in March 2010. If I can do it **so can you!**

### Studying for the exams

You are welcome to study anyway you like with whatever materials suit your needs; however, I recommend that you only use the Gordon West series of study books. They have some good technical info in them and they teach the **right** answer so you'll easily pick out the right answer on the multiple choice test. The tests are given by hams that volunteer their time, they are known as VE's – short for volunteer examiners. Ham clubs and the ARRL organize the tests and below I have a link so you can see where the exam is offered in your area.

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For your tech license start with this book [http://www.w5yi.org/catalog\\_details.php?pid=69&sort=4](http://www.w5yi.org/catalog_details.php?pid=69&sort=4)  
If you want an audio CD of it to listen to on your ipod or computer or stereo in your car  
you can buy this one [http://www.w5yi.org/catalog\\_details.php?pid=71&sort=4](http://www.w5yi.org/catalog_details.php?pid=71&sort=4)

The same setup is offered for general [http://www.w5yi.org/catalog\\_details.php?pid=58&sort=4](http://www.w5yi.org/catalog_details.php?pid=58&sort=4)  
and extra [http://www.w5yi.org/catalog\\_details.php?pid=65&sort=4](http://www.w5yi.org/catalog_details.php?pid=65&sort=4) with audio cd's too.

As you study each level take the practice exam on line for free at <http://www.eham.net/exams/>  
once you can pass it three times in a row then you are ready to take the real exam at a VE  
session. Remember that the Test questions in the book and on the practice test are exactly  
what you will see in your VE exam.

You will learn some theory & operations in the process of studying for your test. Focus  
on learning what you need to pass the test. Once you have your license you can learn the  
theory and operating by reading the following materials, being active, joining a club, etc:

Antennas (the HAM bible) <http://www.arrl.org/shop/The-ARRL-Antenna-Book/>

Entry level operating guide <http://www.arrl.org/shop/Getting-Started-with-Ham-Radio>

Operating Guide <http://www.arrl.org/shop/The-ARRL-Operating-Manual/>

Intro to ham radio <http://www.arrl.org/new-to-ham-radio> and <http://www.hello-radio.org/>

Testing locations:

[http://www.arrl.org/exam\\_sessions/search](http://www.arrl.org/exam_sessions/search) (ARRL) [http://www.w5yi.org/exam\\_locations\\_ama.php](http://www.w5yi.org/exam_locations_ama.php) (W5YI)

plug in your info and either a list of test locations appears (ARRL) or you get a list of examiners in your  
area to contact about tests (W5YI)

Ham radio band plan <http://www.icomamerica.com/en/downloads/Default.aspx?Category=181>

General resources are at [www.qrz.com](http://www.qrz.com) and [www.eham.net](http://www.eham.net)

Once you are licensed get involved with a club in your area, you can locate clubs in your  
area via this link: <http://www.arrl.org/find-a-club>

Some starter radios you may wish to consider include the following:

H/T – KG-UV2D <http://www.wouxun.us/>

HF + UHF/VHF Radio - <http://www.universal-radio.com/catalog/hamhf/0700.html> this radio replaced the

venerable <http://www.universal-radio.com/catalog/hamhf/3450.html> that you may find on the used market

HF Radio - <http://www.universal-radio.com/catalog/hamhf/0718.html>

Have fun and good luck studying, taking your test and getting on the air. There are many  
scouter hams out there ready to help you get started. I hope to hear you on the bands one  
day soon! Feel free to call or email me with any questions you may have. And remember  
to be prepared!

Grant Laughlin / W5XJ

214-908-6355

[W5XJ@arrl.net](mailto:W5XJ@arrl.net)