

# How to Become a Ham

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## Find a ham radio club in your area and attend some meetings

Find a local radio club and rub shoulders with people who are hams. They know the ropes and are anxious to help. A little time spent at club meetings saves hours of study and research. So find a club and make some new friends.

*The Valencia County Amateur Radio Association (VCARA) is located in Belen, NM. Visit their web site at [www.kc5our.com](http://www.kc5our.com) for more information and click on the How To Join/Pay My Dues link.*

## You must have a license

Hams talk on radios. It's a hobby, not their profession and they do not get paid for it. That is why they are called amateur radio operators – hams for short. Not just anyone can talk on a ham radio. You must have a license issued by the Federal Communications Commission (FCC). Each license requires a test. There are currently three license classifications Technician, General and Amateur Extra. The higher you go the more you can do on the air.

- Will I have to learn the Morse Code? No. You are no longer required to learn the code. It was removed as a requirement to obtain a license in 2007.
- Is there an age limit to becoming a ham? No. Anyone who can pass the test can become a ham.
- Aren't ham radios expensive? Not really. There are plenty of used ones for sale over the internet, or at local ham fests. Some clubs even have loaners.
- Is this like CB or the Family Radio Service? Not really. Hams have a proud tradition spanning over 100 years. They have to pass an exam to operate a radio so they tend to self-regulate more than the unlicensed radio services.
- I do not have a background in electronics or engineering. Does that matter? Not in the least. A large number of hams no longer build their own equipment. They are in the hobby for the social, recreational and educational experience – and just to have fun. Many want to assist their community. Where do you fit in?

Several years ago FCC decided to qualify certain hams to conduct tests on their behalf. There are several national organizations that coordinate these volunteer examiners (VE's). The American Relay League (ARRL) is a well-known VE Coordinator (VEC). There are others including W5YI. These two use different methods of testing. The ARRL uses written tests whereas W5YI tests with computers. Which is the best method to choose? It depends on how you learn. Most people find it is better to be tested using the same method you used when studying. If you are shy around computers then study with written materials and find an ARRL testing session. If you are comfortable with computers then the W5YI testing may be best for you. Both organizations must use test questions from the FCC approved question pool so the content is the same, only the way

you take the test differs. Be aware that the question pool changes every few years for each license level. So always be certain you study from materials using the latest question pool. The cost to take a test is under \$15.

Here are two links to websites where you can obtain test materials:

<http://www.arrl.org/licensing-education-training>

<http://w5yi.org/> and click on the Amateur Radio links

The first test, Technician, consists of 35 multiple-choice questions chosen from a pool of about 400 questions. You must correctly answer at least 26 to pass. You can go on-line and find tests taken from the Technician question pool so you can test yourself before the official exam. Once you pass it takes about a week to get your license. With this license comes your first call sign. It is unique to you and identifies you while on the air. As soon as you receive your license you can begin transmitting on certain ham radio bands.

*The Valencia County Amateur Radio Association (VCARA), located in Belen, NM conducts classes on becoming a ham and holds W5YI VE exam sessions every 6 weeks on a Saturday. Check [www.kc5our.com](http://www.kc5our.com) for testing schedules. The VCARA can also conduct ARRL VE exams if you prefer a written test. Contact a club officer to find out more. The Club also has some good quality used radios members can obtain free when you get your Technician license so you can join us on our weekly over-the-air net.*

## **OK, I got my license, now what?**

Once you pass your Technician test why not keep your momentum going and get your General license? With the Technician license you can talk on local repeaters (automated radio devices that make your signal travel further) but your limited privileges prevent you from accessing radio bands that enable you to communicate by voice across the country and around the world. That is why some of us advance to the higher license classes. We want to talk with hams in foreign countries or participate in radio-sport contests where you earn award recognition.

But no matter what license classification you hold the world of ham radio is open to you. Interested in helping your community in the event of an emergency? Why not become involved in the Amateur Radio Emergency Services (ARES) organization and learn how to handle emergency communications? Interested in building a radio or a weird kind of antenna? Hams are known for their tinkering and electronic gadgetry. Now-a-days they connect computers to radios and send digitally encoded messages and can even talk to people around the world with satellite transponders (a repeater that is in orbit) and communicating with astronaut-hams aboard the International Space Station. Or how about participating in a fox hunt – where the fox is a hidden transmitter and you hunt with a directional hand-held ham radio? Or how about joining us at our annual Field Day, an event where thousands of hams across the US conduct radio communications under portable, emergency-type conditions? Or maybe you would like to become a VE and help with license testing. All this and more is possible once you are licensed.

*If you are like many of us you will find your local ham radio club to be an indispensable source of information and inspiration. The VCARA has a spacious comfortable clubhouse where we meet monthly to socialize, have a short business meeting and a presentation on some topic of interest to hams. We are also in the process of setting up a first-class radio station, capable of communicating with other hams world-wide. We often hold special trainings and events on Saturdays. Check the Club calendar on our website.*

## **Terms you are likely to hear as you hang out with hams**

- ARRL:** The American Radio Relay League, the organization and advocate for hams in the US. Membership is voluntary. Dues help preserve existing ham radio bands from encroachment by commercial radio and TV interests. The ARRL is one of several organizations that coordinate volunteer examiners.
- Call Sign:** A ham is uniquely identified on-the-air by his/her call sign. When you obtain your first license the FCC assigns you a unique call sign for your license class and your geographic region. As you obtain advanced licenses you can get a new call sign for that license class or keep your old one. For a small fee you can even select a “vanity” call sign from a pool of unused calls. Your license must be renewed every ten years and requires no additional testing.
- CW:** Literally “Continuous Wave” from the mode of communication that uses Morse Code.
- DX:** A long distance communication, typically outside of the US.
- Elmer:** A ham who helps newcomers.
- Field Day:** An annual event held the last full weekend of June. In Belen, NM we gather at the Willie Chavez park on River Rd. Non-hams are welcome to participate and can get on-the-air under the direction of a licensed ham.
- Frequency:** The number of electromagnetic waves (cycles) that pass a given point in one second. Designated as KHz (thousands of cycles per second) or MHz (millions of cycles per second)
- Ham:** Synonymous with amateur radio operator. No one seems to know where the term originated.
- Ham Fest:** Occasional gatherings of hams wanting to sell or purchase used radio equipment – often held in parking lots on cold windy days.
- Ham Radio Band:** A portion of the electromagnetic spectrum designated for use by hams. These bands are often designated either by wavelength or frequency and thus can be confusing. Simply put, at radio frequencies electromagnetic energy travels in waves. The length of a wave in a particular band is called the wavelength and for ham use is designated in meters or centimeters. The number of individual waves (one cycle) that travel past a given point in one second is called its frequency and is measured in Hertz. So frequency and wavelength are related. For example: hams speak of the 2-meter band which refers to frequencies from 144.0 MHz to

148.0 MHz where MHz is millions of cycles each second. And you may be familiar with the commercial FM band where frequencies vary from 88 to 108 MHz. Ham bands vary from long to short wavelengths. Longer wavelengths generally travel further than short wavelengths.

- HT: A hand-held transceiver. A transceiver is a radio consisting of both a transmitter and a receiver. HTs typically cover one or more bands, often the 2-meter and 70-centimeter bands (144 to 148 MHz and 420 to 450 MHz respectively). A transceiver that transmits on two bands is called a dual-bander.
- QSO: A QSO is an on-the-air contact between hams. This is one of several Q-codes in common use among hams. They were originally designed to help shorten conversations in Morse Code (as in today's *texting*), but have slipped over into voice conversations as well.
- Repeater: A remotely located automatically controlled radio receiver and transmitter system that is used to re-transmit your low power radio signal so it can be heard over a greater distance. A cell-phone tower is similar to a repeater.
- Shack: A ham shack is where ham radios are located – another term for ham radio station.
- W5YI: An organization that like the ARRL coordinates volunteer examiners.
- Wavelength: The length of an individual electromagnetic wave. Hams usually refer to wavelength as its length measured in meters or centimeters. A radio that operates only on frequencies within the band of 144 to 148 MHz is called a 2-meter radio because the 2-meter band includes those frequencies.

## Additional References

[http://wireless.fcc.gov/services/index.htm?job=service\\_home&id=amateur](http://wireless.fcc.gov/services/index.htm?job=service_home&id=amateur) FCC Site  
[http://en.wikipedia.org/wiki/Amateur\\_radio](http://en.wikipedia.org/wiki/Amateur_radio) Excellent overview of ham radio

*If you have further questions about becoming a ham you are welcome to contact me at [president@kc5our.com](mailto:president@kc5our.com). You can also search the internet and find volumes of information about this fascinating hobby. Do not be put off by all the jargon you may run into. Any hobby has its share of buzz words and ham radio is no exception. Luckily the shock wears off rather rapidly.*

### About The Author

Cliff Pulis was first licensed as Wn1LPE at age 12 in the 1950s in Concord, MA. He currently holds an Extra Class license as KE0CP and enjoys working DX and occasional CW contacts when he's not otherwise engaged as the VCARA newsletter editor and club president. Cliff and his wife Margette, also an Extra (KF5MIQ), are retired in New Mexico.