

# What Is Ham Radio?

“Ham Radio” or Amateur Radio is a licensed service under the auspices of the Federal Communications Commission (FCC). In its charter its purpose is clearly defined as:

- (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing *emergency communications*.
- (b) Continuation and extension of the amateur's proven ability to contribute to the *advancement of the radio art*.
- (c) Encouragement and improvement of the amateur service through rules which provide for *advancing skills* in both the communications and technical phases of the art.
- (d) *Expansion* of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- (e) Continuation and extension of the amateur's unique ability *to enhance international goodwill*.

Amateur Radio operators have a Code of Conduct that is very similar to the Boy Scout Oath. It was written by Paul M. Segal in 1928.

The Radio Amateur is:

***CONSIDERATE...***

Never knowingly operates in such a way as to lessen the pleasure of others.

***LOYAL...***

Offers loyalty, encouragement and support to other amateurs, local clubs and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

***PROGRESSIVE...***

With knowledge abreast of science, a well-built and efficient station and operation above reproach.

***FRIENDLY...***

Slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

***BALANCED...***

Radio is an avocation, never interfering with duties owed to family, job, school, or community.

***PATRIOTIC...***

Station and skill always ready for service to country and community.

There are about one-and-a-half million hams throughout the world having fun while communicating in some way with each other using radio as the principal medium. About half of all hams live in the United States. Many people use the Internet every day to communicate using email, but hams can do email without the Internet or any phone lines. This makes them a very valuable resource in emergencies when traditional methods of communications have been destroyed.

If you ask 100 hams about what ham radio is you will get 100 different answers. That is a great feature of Amateur (Ham) Radio. There are so many different things that you can do in this hobby that it would take a single individual 10 lifetimes to do them all. If you got tired of doing one thing there would always be another thing you could do that would be very interesting.

### **Kids and Ham Radio**

There is no minimum age for obtaining a ham license. Kids can participate alongside adults. We have had twelve year old hams help out at public events and end up participating in actual emergency medical incident responses, so age is not a barrier to providing service to the public. This is a great way to practice social communications skills and help build self esteem in young people. Kids can build their own radios, participate in public service events, talk to an astronaut on the International Space Station, and all other ham activities just like adults. Ham Radio is a great way for teachers to introduce technology to their students.

### **Who We Are**

We come from all walks of life. Many of us are not technically oriented: men, women, children, teachers, clerks, accountants, lawyers, police officers.....you name it.

### **Qualifications**

The FCC regulates ham radio. You must pass a simple test to obtain a license. The test is geared for a 10 year old's skill set. An adult can pass the test in a week of casual study. Many children depending on their age can pass the test after about three weeks of study. The license manual is normally \$33 including shipping, but our club sells them for \$20. We have some available now. Knowing Morse code is no longer a requirement for licensing.

### **Contact information**

The South Texas Amateur Radio Club (STARC) meets on the fourth Thursday of every month except November (3rd Thurs.) and December at the Mount Olive Lutheran Church, 5101 Saratoga, at 7 pm. Call Steve, W2MY first. He can be reached at 361-949-7632, or steven (atsign) pituch (dotsign) net. STARC has a nice website with a lot of good information at: [www.n5crp.org](http://www.n5crp.org). STARC also has weekly on-the-air meetings.

The ARRL (American Radio Relay League) is the voice of Amateur Radio in the USA. They have study materials to help people obtain a ham license. They also have teaching aides for teachers wanting to use ham radio in the classroom. They are at: [www.arrl.org](http://www.arrl.org).

### **Things that Hams Do**

This is just a short list of activities. There are thousands of others also.

### **Emergency Preparedness**

The Internet, police trunking systems, cell phone systems, etc, all have one thing in common. They require a lot of modern equipment and maintenance to run, and can take many months to establish. We call all of this: "Infrastructure". The problem with these "modern" communication systems is

that they rely on a large amount of infrastructure, and when they are damaged or destroyed, they can take months to reestablish. This is where Amateur Radio comes into play. The systems that hams use require very little infrastructure to establish. Typically a ham can set up a communications link within one hour with a suitcase full of modest equipment. These communication links are just as effective as your cell phone or Internet, except these other systems will likely not be available after a disaster. If the DPS (State Police) needs to send a casualty list to Austin, or the Red Cross needs blood, the request will likely be transmitted via Ham Radio. This has been proven many times after a disaster such as the Haiti earthquake, Hurricanes Katrina, Dolly, and Ike, the tsunami that affected the Andaman and Nicobar Islands, and the Oklahoma City Federal Building, and World Trade Center bombings. Often ham radio is the only means of communication for many weeks after such an event.

The amount of equipment needed to do this kind of emergency preparedness work is not necessarily very expensive. Hams practice for real emergencies during training exercises. Locally hams help the DPS, the Corpus Christi Office of Emergency Management, Driscoll Children's Hospital, the Salvation Army, the Red Cross, and the federal government (FEMA) and we provide HF (high frequency) email communications for the Texas State Guard through the Military Auxilliary Radio System (MARS).

### **Field Day**

This is an annual event that has been taking place since about 1932. Hams assemble their stations in the field and use emergency power to contact as many other hams as possible in a 24 hour period. It is in the form of a contest, but its purpose is for us to practice our skills for real emergencies. Much of the equipment that you will see at Field Day is what is used during disaster relief work.

### **Public Service**

With all the emergency preparedness practice, hams also like to practice in real situations. So they volunteer to provide communications for bike races like the MS 150, foot races like the Beach to Bay Run here in Corpus Christi, and other public events. Hams often are the ones who report injuries and transmit the victim's essential medical information from the first responders at the incident to medical authorities. This is a great way to give back to the community, and have a lot of fun doing it since you are using your hobby to help others.

### **Ragchewing**

"Chewing the Rag" just means having a good time talking with another ham on your radio. With Ham Radio you can contact hams throughout the world without any wires or the Internet. You can do this at any time as there is always a ham somewhere in the world looking for a contact. See the cards in this display for countries I have contacted hams in. I have talked to sheep ranchers in Western Australia 200 miles from a phone, UN workers in Rwanda and Lebanon, hams in Iceland, and Ascension and Mauritius Islands. You learn a lot of geography being a ham, and how people throughout the world are really the same as you and me. Ham Radio becomes a great equalizer and teaches one respect for other cultures all over the world. When I was young and the Cold War was in full swing as a child like many I was afraid of the Russian Communists. But my father who was a ham would communicate with Russian soldiers on the Manchurian border. Ham radio tends to be a brotherhood that transcends the political differences that countries' governments sometimes have.

### **Contesting**

During a radio contest tens of thousands of hams get on their radios and try to contact as many other hams as possible during an allotted time period. There are many kinds of contests. Some stress

emergency preparedness such as Field Day. Some stress the number of different states or countries that you contact. Some stress using as little power as possible. All are fun. At the end of the contest you submit your log sheet to the event coordinator. Prizes or awards are often given to those with the highest scores.

### **Awards Chasing**

Awards chasing is making radio contacts with the goal of achieving the minimum requirement for a certain certificate. For example, you can get certificates for contacting hams in all 50 states, or contacting hams in 100 countries, or in all 3143 US counties. This can become a long term goal as some of these certificates can require years of radio operation in order to obtain the necessary contacts.

### **QSL Cards**

How do you verify that you have made a valid contact for an award? Hams usually ask for confirmation in the form of a signed post card. This is called a QSL card. This card also has the specific information on the card about the contact. Examples of these cards are shown throughout this exhibit. Did you know that Bailiwick of Guernsey is a ham radio country? Do you know where it is? (Find the card on the display!) You learn a lot of things you would ordinarily not know when you are a ham.

### **QRP**

QRP is a “Q” sign, or abbreviation, used in Morse code to indicate to you to reduce your transmitted power. Often 5 Watts of transmitted power is sufficient for making a contact, and using 100 Watts is wasteful. A large group of hams like to operate QRP, where they use no more than 5 Watts of transmitted power. This can be fun. You can make your own QRP radio cheaply since the cost of a radio is proportional to its output power. You could build an entire 5 Watt radio station with antenna for less than \$100. Then you could contact other hams with it throughout the world. The radio could be small enough to fit inside an Altoids candy tin and weight less than two ounces.

### **Modes**

Hams have many ways (modes) in which they can communicate. Voice is the most common mode, but Morse code is still very popular even after it was no longer a licensing requirement. A Morse code radio can be made very cheaply and small, and are popular with backpackers. There are also many digital modes. To use a digital mode you connect your PC to your radio via the PC's soundcard. You type on the keyboard what you want to transmit, and receive the others station's text on the computer screen. It is sort of like the old teletype systems, but with the PC, digital communications has been made very inexpensive and reliable. The most popular mode for emergencies is wireless email. The Internet can be destroyed all around a ham but he can connect to it by way of another radio thousands of miles away. There are other more unusual modes like orbiting communications satellite and moon bounce.

### **Radios**

The cost of radios start at about \$100. On VHF (Very High Frequency) FM you can talk to others on a small handi-talkie, or use a mobile version in your car. With FM VHF repeaters you can communicate within about a 50 mile radius of the repeater. Corpus Christi has many amateur radio repeaters that you can use.

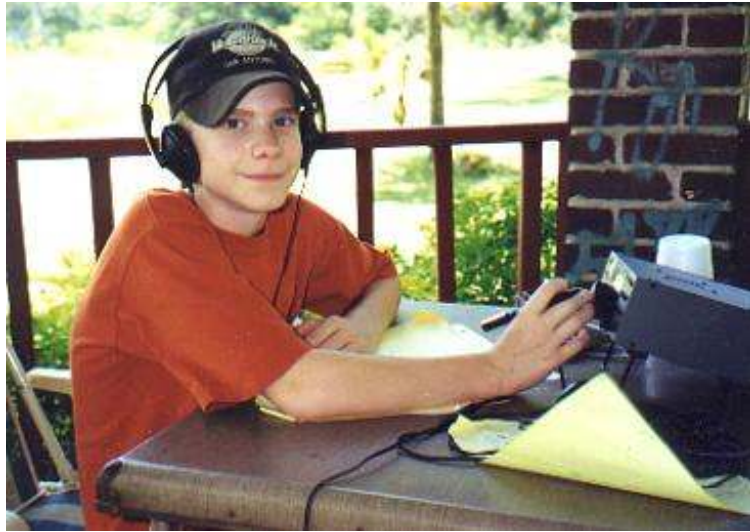
With a 5 to 100 Watt HF, high frequency, (world band) radio you can talk to other hams world wide. QRP (5 Watt) HF (High Frequency) radios can fit inside a shirt pocket.

**Summary**

Ham Radio is a great hobby for kids and adults alike. It is potentially a great technology, civics, geography, communications, and human relations teaching tool in our schools, and in our adult lives. It is also a great way to do some public service for your community and have fun doing it.

**Follow Up**

If you have any questions about ham radio, please contact Steve, W2MY, at 361-949-7632, or steven (atsign) pituch (dotsign) net.



## Kids and Ham Radio

**Left:** Making contacts world wide during Amateur Radio Field Day.

**Right:** Operating an HF world band radio (48 states confirmed).



**Left:** Building an HF radio from a kit of parts.

**Right:** Providing communications at a checkpoint during a running race.

