

What Is Amateur Radio?

Amateur Radio is a very general term. There are about as many descriptions for Amateur radio as there are ways to do it. You can use VHF/UHF (very high frequency/ultra high frequency) radios to talk to people locally either directly, or through repeaters. You can use HF (high frequency) radios to communicate around the world. You can operate an RTTY (Radio teletype) station and chat with your friends on a computer like you would on the internet. You can set up your own television station, or even talk to astronauts on the shuttle, or international space station. Yes there are many things you can do with "HAM" Radio, but the best part is that there are no age restrictions for any of it. Lets talk a little bit about the radios we are using here today.

The radios you will see shortly are HF (High frequency) radios. These radios are used to talk to people around the world. The name HF is a little bit deceiving. These are some of the lowest frequency radios we as amateurs use. The reason they are called HF radios is because they use frequencies that have been named by the FCC (federal communications commission) the high frequency range. You also have the VHF (very high frequency), UHF (Ultra High Frequency), and SHF (Super High Frequency) ranges to choose from when using a radio to talk to others. Each range has its good and bad points. Lets focus on HF radios.

When we use HF radios, we are using radios that operate in one of the lowest frequency ranges used for communications. The reason we do this is because lower frequencies will tend to bounce off the earth atmosphere. This is called propagation. The sun ionizes, or charges the earths atmosphere increasing how reflective it is. The more charged it is, the better it reflects our radio waves. You see an example of this in the picture to the right. If station "A" is trying to talk to station "B" the operator sends his radio waves "C" up toward the sky. If the atmosphere is charged enough it will reflect them like a mirror dose a light. As you can see the waves may bounce several times before they get to another station. Now you may ask, "Why don't you just

Point your waves at the station you want to talk to?" When we are close enough, about 50 to 70 miles, we do that. The problem comes up when you want to talk farther than that. If the earth was flat we could do that, but because it's not it makes it a little bit harder. Radio waves travel in a straight line and are not affected by gravity. You see, if you transmit a radio wave straight out from your station along the surface of the earth, it would eventually end up in the atmosphere or in space because earth's curve will bend away from it and gravity can not bend it along with the earth's curve. That's why we use frequencies that can be reflected by the atmosphere when we want to talk to far away stations. To learn more about HAM Radio, please feel free to ask any of the operators here as many questions you want. You can also visit www.arrl.com, or our club web site www.w8vtd.org. One thing that most people do not realize about this hobby is that it's not just about talking to other people. HAM Radio operators use their skills, knowledge, and equipment to help others. In times of need, we will work with police, fire, the red cross, and many other groups to help with communications, rescue efforts, and anything else were asked to do. This is especially true during disasters like tornados, hurricanes, and terrorist acts. Many Hams are trained storm spot-

Who chase tornados, and thunderstorms so that the community can know what is going on and if they should take shelter. We are generally not seen, or praised when were doing this. The Radar systems that the forecasters use are not able to see below the clouds. When you see a report on the news that a tornado is on the ground, that report most like came from a HAM operator. During times of floods we may be called upon to help evacuate people, or to coordinate communications. We have even been called out to help set up a mobile command post when a 911 center flooded and had to be evacuated. Hams also donate their time when there are public events such as races, or parades. Our club has provided communications for several races. Our job was to report on the progress of contestants, and alert the paramedics if medical attention is needed.

Yes, Amateur radio is a hobby, but it is also a great help to the communities these hams serve. Amateur radio teaches teamwork, leadership, and social interaction, as well as honing math and science skills. The hobby encourages you to take something that works, and make it work better, or to take an idea and make it happen. Most modes of operation have been developed by other amateurs. Most amateurs even make their own antennas. It is a hobby of fun and thought. It is most importantly though a hobby of interaction.