

and on any given weekend, and sometimes during the week, you can find a test session being conducted nearby. There may be a small fee (\$15 or so) collected at the exam to cover the cost of administering it. That is the only cost of obtaining an Amateur Radio license.

Q: HOW MUCH DOES THE EQUIPMENT COST?

A: You can get started with a hand held radio that operates on VHF and UHF for \$100 or less, brand new. Such a radio will allow you to make use of the popular FM frequencies that make up the bulk of local communications these days.

If you want to operate HF (“shortwaves”), that will require a larger investment, but perfectly good used equipment can be had for several hundred dollars that can get you on the air.

Beyond that, the sky is literally the limit. Some people spend tens of thousands of dollars on equipment, while others of us do with less. It’s debatable whether the amount of enjoyment and satisfaction is in any way linked to the amount of money spent.

Q: WHERE CAN I FIND OUT MORE INFORMATION?

A: The best source of information about the local Amateur Radio scene is, of course, the local ham radio club.

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Here in Alamance County, that would be the **ALAMANCE AMATEUR RADIO CLUB**. We maintain an up-to-date website that lists our activities, including regular meetings and special operating events. We can be found at:



www.k4eg.com

At the national level, the American Radio Relay League (ARRL) is the national association for Amateur Radio(TM). They offer a great number of publications and services to help you succeed in your new avocation of ham radio. They can be found at:



www.arrl.org

THANKS AND “73” *

* “Best regards” in ham speak!

Q: WHO ARE YOU AND WHAT ARE YOU DOING?



A: We’re members of the **ALAMANCE AMATEUR RADIO CLUB**, an organization of Amateur, or “ham” radio operators based in Alamance County, North Carolina, and we’re doing a communications exercise in which we test our ability to make contact with other Amateur Radio stations, either within North Carolina, across the USA or around the world. We can sometimes talk to astronauts in orbit aboard the International Space Station, too, if it happens to be overhead.

Q: IS THAT LEGAL?

A: Each of us is licensed by the Federal Communications Commission and is authorized to use the equipment on these radio frequencies by virtue of having passed examinations that demonstrate our knowledge and good intent.

Not only is what we do legal, it’s encouraged! We are expected to serve our communities by providing emergency communications “when all else fails.”

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in addition to emergency communications, we also promote international goodwill, advance the state of the art of radio science through experimentation, and we help promote education in the fields of science, technology, engineering and mathematics (“STEM”).

We also have a lot of fun making friends over the air, both locally and internationally.

Q: IS THIS LIKE “CB” RADIO?

A: Well, yes and no. Amateur Radio and CB Radio both use two-way radio equipment for communications, but the similarity pretty much ends there.

CB radio is unlicensed and uses 40 fixed channels located in one band with a limit of five watts transmit power.

Amateur Radio allows the use of many different bands across the entire radio spectrum, beginning with frequencies close to the standard AM broadcast band and continuing up through VHF and UHF. We also have frequency allocations in the microwave region and can even communicate using infrared and visible lightwaves.

In addition we also communicate via outer space by means of our own fleet of earth orbiting satellites, by bouncing our signals off the ionization trails of meteorites, and by reflecting our signals from the moon.

Although we are authorized to transmit using kilowatt-level power, many of us enjoy the challenge of worldwide communications with less transmit power than a common incandescent night light.

Q: HOW FAR CAN YOU TALK?

A: It depends. Many factors determine this, including the frequency band being used, the time of day or night, whether it's summer or winter, and where we happen to be in the eleven year sunspot cycle. Space weather, such as solar storms and meteor showers can be influences, too, and at very high frequencies, atmospheric temperature inversions can sometimes “duct” signals for hundreds of miles.

Q: ISN'T HAM RADIO OBSOLETE?

A: The universal availability of cellphones and the ease of using them has lulled people into a false sense of security. Cellphone towers can only provide a limited number of connections at any given time, and it's been observed over and over again that the cellphone network is easily overloaded in times of a disaster, which is just when you'd need it most!

Q: WHAT ABOUT COMPUTER AND INTERNET TECHNOLOGIES?

A: Ham radio operators were some of the earliest adopters of home computers, beginning in the mid-1970s. At first, we used them to keep track of the contacts we made, and then we wrote programs that allowed our computers to send and receive Morse code.

Once we had perfected voice over Internet protocol (VoIP), we began linking Amateur Radio stations in networks all around the world.

Today it's easy to talk to other hams in England,

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Japan, or anywhere for that matter, using a hundred dollar hand held radio linked via the Internet. Apps for smart phones, such as Echolink, allow us to do Amateur Radio without even having a radio!

So, while we do not need infrastructure such as the Internet in order to communicate, we can make use of it when it's available. And when it isn't available, we can use the earth itself, and its ionosphere, as our medium of communication.

Q: HOW DO I GET LICENSED?

A: It's ridiculously easy! The basic entry-level license, called the “Technician” class license, can be had by passing a 35 question multiple choice examination. This license authorizes you to operate on the most popular VHF and UHF bands, and also permits you to use certain HF (“shortwave”) bands that allow worldwide communications.

The Technician exam concentrates on basic radio electronics theory and basic operating procedures. Recently, a five-year-old here in North Carolina successfully passed his Tech.

The next level, the intermediate “General” class license, is also a 35 question test. It delves a little more deeply into radio theory and practice and grants operating privileges on more bands.

The highest level, the “Extra” class license, is a 50 question test that focuses on advanced theory and practice.

MORSE CODE IS NO LONGER A REQUIREMENT FOR AMATEUR RADIO LICENSING.

Hams conduct their own license examinations,

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