

Introduction to Amateur Radio

The Amateur Radio Service as defined by the Federal Communications Commission is "a radio communication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest."

Five Principles of the Amateur Radio Service:

1. 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.
2. Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
3. Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communications and technical phases of the art.
4. Expansion of the existing reservoir within the amateur radio service of trained operators, technicians and electronics experts.
5. Continuation and extension of the amateur's unique ability to enhance international goodwill.

An Amateur operator is a person holding a valid license to operate an amateur radio station. In the United States, the Federal Communications Commission issues amateur radio licenses.

Here's your invitation to a friendly, high-tech hobby that's got something fun for everyone! You can become an Amateur Radio operator--no matter what age, gender or physical ability. People from all walks of life pass their entry-level exam and earn their Amateur (ham) Radio license. They all share the diverse world of activities you can explore with ham radio.

You never know who you'll run into when communicating with Amateur Radio: Young people, retirees, teachers and students, engineers and scientists, doctors, mechanics and technicians, homemakers...



And astronauts...

Listen to an astronaut talk to students using ham radio.



And even
entertainers!

Joe Walsh WB6ACU

A FUN Hobby...



Listen to a Morse Code transmission in
RealAudio.

What Can Amateur Radio Operators Do?

Ham radio operators use two-way radio stations from their homes, cars, boats and outdoors to make hundreds of friends around town and around the world. They communicate with each other using voice, computers, and Morse code. Some hams bounce their signals off the upper regions of the atmosphere, so they can talk with hams on the other side of the world. Other hams use satellites. Many use hand-held radios that fit in their pockets.

Hams exchange pictures of each other using television. Some also like to work on electronic circuits, building their own radios and antennas. A few pioneers in Amateur Radio have even contributed to advances in technology that we all enjoy today. There are even ham-astronauts who take radios with them on the International Space Station and thrill thousands of hams on earth with a call from space!

With a SERIOUS Side...



Using even the simplest of radio setups and antennas, amateurs communicate with each other for fun, during emergencies, and even in contests. They handle messages for police and other public service organizations during all kinds of emergencies including:

- Hurricanes
- Earthquakes
- Tornadoes and floods
- Motorist accidents
- Fires and chemical spills
- Search and rescues



Where Do I Start?

It's Easy to Get Started

The most popular license for beginners is the Technician Class license, which requires only a 35 multiple-choice question written examination. The test is written with the beginner in mind. Morse code is not required for this license. With a Technician Class license, you will have all ham radio privileges above 30 megahertz (MHz). These privileges include the very popular 2-meter band. Many Technician licensees enjoy using small (2 meter) hand-held radios to stay in touch with other hams in their area. Technicians may operate FM voice, digital packet (computers), television, single-sideband voice and several other interesting modes. You can even make international radio contacts via satellites, using relatively simple equipment.

Amateur Radio License Levels and Requirements

The rules for earning an Amateur Radio license varies depending on which country you live in.

In the US, there are three license levels, or "license classes" which are Technician class, General class and Extra Class. The Federal Communications Commission (FCC) grants these licenses. With only 3 License Classes, getting started in ham radio has never been easier!

STEP 1: Technician Class License

- EXAM REQUIREMENT: 35-question Technician Written Exam (Element 2); No Morse Code Exam
- PRIVILEGES: All VHF/UHF amateur bands (frequencies above 30 MHz). Limited operations in certain HF bands.
- LICENSE STUDY MATERIALS

The most popular license for beginners is the Technician Class license, which requires only a 35 question multiple-choice written examination. The test is written with the beginner in mind. The exam covers basic regulations, operating practices, and electronics theory, with a focus on VHF and UHF applications. Morse Code is not required for this license. With a Technician Class license, you will have all ham radio privileges above 30 megahertz (MHz). These privileges include the very popular 2-meter band. Many Technician licensees enjoy using small (2 meter) hand-held radios to stay in touch with other hams in their area. Technicians may operate FM voice, digital packet (computers), television, single-sideband voice and several other interesting modes. You can even make international radio contacts via satellites, using relatively simple station equipment. Technician licensees now also have additional privileges on certain HF frequencies. Technicians may also operate on the 80, 40, and 15 meter bands using CW, and on the 10 meter band using CW, voice, and digital modes.

STEP 2: General Class License (upgrade from Technician)

- EXAM REQUIREMENTS: 35-question General Written Exam (Element 3); No Morse Code Exam
- PRIVILEGES: All VHF/UHF amateur bands and most HF privileges (10 through 160 meters).
- LICENSE STUDY MATERIALS

Technicians may upgrade to General Class by passing a 35-question multiple-choice written examination. The written exam covers intermediate regulations, operating practices, and electronics theory, with a focus on HF applications. Non-licensed individuals must pass Element 2 and Element 3 Written Exams to earn a General License. The FCC grants exam element 3 credit to individuals that previously held certain older types of licenses. Valid Forms of Examination Element Credit can be found on the Web.

The General Class is a giant step up in operating privileges. The high-power HF privileges granted to General licensees allow for cross-country and worldwide communication. Some people prefer to earn the General Class license as their first ticket, so they may operate on HF right away. In addition to the Technician privileges, General Class operators are authorized to operate on any frequency in the 160, 30, 17, 12, and 10 meter bands. They may also use significant segments of the 80, 40, 20, and 15 meter bands.

STEP 3: Extra Class License (upgrade from General)

- EXAM REQUIREMENT: 50-question Extra Written Exam (Element 4)
- PRIVILEGES: All amateur privileges.
- LICENSE STUDY MATERIALS

General licensees may upgrade to Extra Class by passing a 50-question multiple-choice examination. No Morse code test is required. In addition to some of the more obscure regulations, the test covers specialized operating practices, advanced electronics theory, and radio equipment design. Frankly, the test is very difficult, but others have passed it, and you can too. Non-licensed individuals must pass Element 2, Element 3 and Element 4 Written Exams to earn an Extra License. The FCC grants exam element 3 credit to individuals that previously held certain older types of licenses. Valid Forms of Examination Element Credit can be found on the Web.

The HF bands can be awfully crowded, particularly at the top of the solar cycle. Once one earns HF privileges, one may quickly yearn for more room. The Extra Class license is the answer. Extra Class licensees are authorized to operate on all frequencies allocated to the Amateur Service.

Amateur Radio is a friendly, high-tech hobby that's got something fun for everyone!

The ARRL VEC Test Fee for 2007 is \$14.00. The ARRL Ham Radio License Manual- \$24.95

Getting started in Amateur Radio has never been easier. Contact Bill Welch at W1AHP - Abba's House Amateur Radio Club Amateur Radio Club (401-413-2665).

Training Class schedule: Technician Class License starts Jan. 14, 2008 at 6:00 PM

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