

Get Your HAM Radio License Chuck Stewart N0PRZ

Without communication tools, you can only communicate as far as your shouted voice can carry. Since communication is vital in a disaster, getting your Ham Radio license could go a long way in giving you up-to-date information during the emergency. The amateur radio service, also known as Ham radio, can give you access to hundreds of different frequencies and the opportunity to communicate in a number of different modes including Morse code (CW or continuous wave), voice, digital modes, and even TV. Amateur radio frequencies can allow communication down the block, across the town, across the United States, with other countries, be bounced off of the moon, or even bounced off of lightning bolts.

Before you can get on the air, you'll need to know the rules and pass a written test to legally transmit with a Ham Radio. But don't worry—getting a Ham Radio license is easier than you may think. Check out these six steps for getting your license and learning how to use your radio.

1. Decide what type of Ham license you want to try for. The Ham Radio airwaves are regulated by the Federal Communications Commission (FCC), and they have created the operator test. There are three types of Ham license tests you can take—Technician, General, or Extra. Each license gives you different privileges on the waves. You have to get the Technician license first before you can get the General and Extra licenses. (If you are a study fiend, technically, you can take the technician test, followed by the General test, and finally the Extra test all on the same day. It won't be easy... I took the General test and the Extra test on the same day, so I've never had a General license.... My wife (AKA N9TMD) took several months to get Amateur Extra after successfully earning her General Class license.) Depending on your background and memory, most students pass easily after 10 hours for the Technician (entry-level) class license exam. General will probably take at least 20 hours. The Extra class license exam will take 30 hours or more and requires some fairly decent knowledge of electronics theory.

- **Technician:** The entry-level Ham Radio license. You must take a 35-question multiple choice exam (Element 2), which is relatively simple. Each question comes from a pool of 400 questions. The pool of questions gets changed every few years, so be sure you have an up-to-date reference. If you're only interested in talking locally (city, town, community, etc.), you'll only need a Technician's license.
 - **Privileges: All VHF/UHF [Amateur bands](#) (frequencies above 30 MHz).**
 - These are the bands for 'repeater' use
 - These are also the bands for talking to the space station or EME (bouncing the signal off of the moon Earth-Moon-Earth)
 - Limited operations in certain HF bands.
 - These are the bands that are generally used for talking to another country or across the United States

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- **General:** The secondary-level license. You must take a 35-question multiple choice exam, which is of moderate difficulty. Each question comes from a pool of 500 questions. *This license is the one you'll want for general emergency communications.* Having a General license will help you and emergency crews to communicate by using Ham frequencies when local lines are down.
 - **Privileges:** All VHF/UHF [Amateur bands](#) and most HF privileges (10 through 160 meters).
 - You will be able to talk across the state, the nation, and to other countries with relative ease.
- **Extra:** This is the most advanced license and the most difficult to obtain. You must take a 50-question multiple choice exam. Each question comes from a pool of 700 questions. With this license, you'll have all the privileges of the Ham Radio network. You can communicate locally, nationally, and internationally.
 - **Privileges:** All [Amateur bands](#) with HF privileges (10 through 160 meters) on all available bands and all VHF/UHF frequencies.
 - Easily obtained operating privileges in other countries.

2. Study for the test. We'll focus on studying for the Technician license, because you'll have to take that license test in order to obtain the other two. The Technician test requires you to know some frequencies, general operating rules, knowledge of basic safety, and electronic principles, along with some basic arithmetic.

Once you pass the Technician test, you'll be able to access frequencies above 30 megahertz, which allows you to communicate locally. This license also gives you limited privileges on the high frequency bands (also called shortwave) bands.

All the questions and answers for each licensing exam are published online or in books, and many of these study materials are free. Here's a list of some websites and resources that can help you study:

- [American Radio Relay League](#): At this site, you can purchase books to study for the test. The Amateur Radio Relay League provides organization to the hobby and represents the Ham in Washington. ARRL: Course review site: <http://www.arrl.org/examreview> ARRL: Find a course: <http://www.arrl.org/find-an-amateur-radio-license-class>
- [QRZ](#): Ham Radio News, look-up who is a Ham in your neighborhood, and a lot of other useful tools
- [Hamstudy.org](#): A complete and free course with progress through Amateur Extra. Sponsored by one of the major manufacturers: Icom. Keeps track of your studying, ensures that you see all 500 questions that may possibly come up on the 35-question exam.

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- [Dcasler.com](#): A complete and free video course is available online. The instructor uses the ARRL Technician study manual, but you don't need the manual if you use the free resources listed here.
- [Kb6nu Ham Radio Blog](#): "No Nonsense Study Guides"
- [Practical Amateur Radio Podcast](#): Great for listening to the course while jogging, gardening, or doing other activities.
- **Join a Local Ham club.** Local clubs offer classes to help you study for the test, and may sponsor tests at a local site. Joining a club or talking to a local amateur operator is helpful because they can help you find study resources, and they can teach you about radio lingo and equipment. Find your local club at the American Radio Relay League (ARRL) website (<http://www.arrl.org/find-a-club>).

3. Take the test. In most places, the cost for taking the exam is \$15 dollars, and exam sessions are available monthly in most states. Again, you'll want to contact a local Ham Radio club or look on the ARRL website to find out what the cost of the test is and when exam sessions are held in your state. ARRL web site can show you where to find a test site: <http://www.arrl.org/find-an-amateur-radio-license-exam-session>. Your examiners are going to be fellow amateur radio operators. The FCC has given all testing to amateur radio organizations. (I'm a Volunteer Examiner for the Amateur Radio Relay League (the organization that speaks most for the amateur radio operator.))

Once you get your license, it is valid for 10 years. After passing the test, you'll be assigned a "call sign" by the FCC (it's like a code name or identifying marker that you use over the waves. My call sign is N0PRZ, Kathleen is N9TMD.

4. Get a radio. Taking the exam doesn't cost much, but where you'll really spend money is on the radio itself (as to be expected). The price range changes depending on experience, what you plan to use the radio for, and where you plan to use it. If you plan to purchase a radio, but don't know where to start, talk to club members.

Kathleen and I have prepared a list of starter equipment that can get you effectively on local communications for less than \$100. You can download that list at: <http://www.moljinar.com/page6/files/Rescue%20Radio%20Package%20v1.1.pdf> This equipment will get you on the airwaves with your local 2 meter (144mHz) and 440 mHz repeaters.

If you want to talk longer distances there are multiple opportunities to purchase used equipment at club sales, often called hamfests. These can be found in amateur radio-themed magazines such as QST (the official publication of ARRL, free with membership) and CQ magazine. There are many subsets of amateur radio operators, including QRP (low power radio communication), EME (earth-moon-earth) and satellite communication, contests, Emergency Communications (EMCOMM), home-brew radios, and digital radios. Amateur TV stations exist (point to point, not broadcast) and amateurs own part of the WiFi channels as their frequency allotments cover a few of the WiFi channels.

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5. Learn the rules of the waves. Just like any other community, there are established procedures and behavioral expectations when you are transmitting with a Ham Radio. You need know what others expect of you on the air. Your best source for this information is through the classes and meetings offered by a club or discussion with a helpful senior licensed amateur (often termed an Elmer). Unlike CB, swearing is simply not tolerated and is a violation of FCC rules. You are not allowed to transmit in code or obscure the meaning of your communications. You are also not allowed to deliberately interfere with other's communication, whether it's the neighbor's TV reception, another amateur, or a commercial radio operation.

We highly recommend that you take at least the beginning level EMCOMM (Emergency Communications) course available from local clubs and ARRL: <http://www.arrl.org/emergency-communications-training>. Joining the Amateur Radio Emergency Service can give you official opportunity to use your skills in a real disaster.

6. Practice, practice, practice. The military often says: Proper Prior Planning Prevents Poor Performance. They also say that sweat in training prevents bleeding in combat. The same applies to Ham Radios. If you want to become an operator, you can't just use your radio once and expect to know how to use it in an emergency. Ham Radios can be difficult to use because you have to learn the various combinations of buttons and dials to set frequencies, offsets, and connect with a repeater. Time of day, weather, rainfall can all make a difference in how your set functions. You need to practice and know how to use your radio when it matters most. You need to know it well enough to improvise when all else fails.

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