



WHAT IS HAM RADIO?

Ham, or amateur, radio describes the use of part of the radio frequency spectrum that the Federal Communications Commission (FCC) has reserved for non-commercial communication. **Emergency communication** is an important use of amateur radio. When power outages make telephone (land line or cell) and internet communication impossible, communication by amateur radio is still feasible. The FCC regulates the use of amateur radio frequencies and requires that radio operators be licensed. There are three license classes: Technician, General, and Amateur Extra. Testing is required to obtain licenses at each level. Knowledge of Morse Code is not required for any of the license classes.

Technician License. Technician (Element 2) licensees are granted use of Ultra High Frequency (UHF) and Very High Frequency (VHF) regions of the radio spectrum. Amateur radio operators often refer to frequency ranges as bands, based on the length of the radio waves. The two most heavily used bands are the 2-meter (144 megahertz, VHF) and 70-centimeter (420 megahertz, UHF) bands. These two bands are commonly used for emergency communications. The distance over which VHF and UHF signals can be received is limited to slightly beyond line of sight but can be extended by repeaters, automatic radios that receive and retransmit radio signals with greater power. Digital VHF and UHF radios can link to the internet and transmit worldwide. Radios designed for VHF and UHF communications can be very portable and include handheld radios and mobile radios that can be installed in cars and trucks or go-kits.

General License. General (Element 3) license holders can access all of the frequencies available to the Technician class and lower frequencies that can be transmitted worldwide. These frequencies, commonly referred to as HF (High Frequency), require larger antennas and are transmitted with more powerful mobile and base-station radios.

Amateur Extra License. Amateur extra (Element 4) licensees can use all of the frequencies available to the General class and additional regions of HF bands. The additional frequencies available to the “Extras” are popular with ham hobbyists dedicated to making connections with distant radio operators.