



Radio Communication Systems



Radio Service	Band	License Required	Mode	Max Power in Watts	Frequency	Handhelds available	Cost	Comments
Family Radio Service (FRS)	UHF	N	FM	0.5 - 2	462.5 to 462.75mhz	Y	\$	22 channels. Power channel dependant
General Mobile Radio Service (GMRS)	UHF	Y	FM	50	462.5 to 462.75mhz	Y	\$\$	Same Channels as FRS
Citizens Band (CB)	HF	N	FM, SSB	4	27mhz	Y	\$\$	40 Channels
Multi-use Radio Service (MURS)	VHF	N	FM	2	151 to 154mhz	Y	?	5 channels
Maritime Mobile Service	VHF	N	FM	25	156 to 162mhz	Y	\$\$	97 channels. License required for boats over 300 Tons
Amatuer Radio Service (HAM)	ULF, HF, VHF, UHF, SHF, EHF	Y	AM, FM, SSB, Digital, RTTY, CW	200-1500	More than can be listed here	Y	\$\$ - \$\$\$...	Max power is band dependent. Frequencies and bands are also dependent on class of license held. Handhelds availabe for HF, VHF, UHF bands.

Antenna, antenna height, band, power and mode control the range that you can be heard. The HF bands can go around the world without aid (depending on ionospheric conditions). Most handheld (HT) power goes from 1 to 7 watts. HTs can communicate from half to 20 miles or more depending on band, power and topography. Repeaters located on high ground (if you have permission to use them) can extent that range considerably or if connected to the internet, globally. FRS radios are cheap but work best line of sight, don't work as well when you have buildings and other obstacles in the way and are generally short range. Which ever system you decide to use, experience is the key to success. Buying a radio (any radio) and throwing it in a pack and never using it will guarantee that 1) your batteries will probably be dead and/or useless and 2)when you really need your radio you won't know what works and what doesn't (or how to work it at all).