

What is the Difference Between a CB Radio and a Two Way Radio?

CB (Citizen's Band) radios and two way radios are both methods of communicating over public airwaves. Although seemingly similar in many ways, there are some major differences between the two types.

CB Radios

CB radios are used primarily in vehicles for communicating with other mobile radios, or for communicating with a home-based unit. Even the most compact hand held CB radio can be quite bulky compared to a two way radio. For that reason, CB radios are usually mounted in a vehicle or home. No FCC license is required to own or operate a CB radio.

Most CB radios are designed to be connected to an external antenna, which generally provides a much greater range than is afforded by two-way radios. Portable, magnetic antennas are easily attached to the roof of a vehicle, or permanent antennas can be mounted to the vehicle body. Depending on terrain, buildings, or other interference, the external antenna boosts the range of a CB radio to several miles.

For emergency applications, CB radios are superior to two way radios. Often, emergency responders monitor CB channel 9 for distress calls.

CB channels are open to the public, meaning no conversation should ever be regarded as completely private. Any CB radio within receiving range can monitor any channel. Over the road truck drivers and private motorists alike have found channel 19 to be the best channel to provide up-to-date road conditions, police reports, and detours.

CB radios are limited in power output to a maximum of 5 watts AM or 12 watts PEP (in single sideband/SSB mode). They operate in the 27 MHz band, using any one of 40 channels assigned by the FCC.

Two Way Radios

Two way radios, commonly referred to as "walkie-talkie" radios, are usually hand held, and can be extremely compact in size. This allows them to be used as portable radios without the necessary need for an external antenna.

Conversations on two way radios also cannot be regarded as completely private, but they are afforded more *perceived* privacy than CB radios. Features such as unique privacy codes on two way radios can filter out general transmission of conversations, making it appear as though the transmission is secure.

Two way radios operate in two modes, FRS (Family Radio Service) or GMRS (General Mobile Radio Service). No FCC licensing is required to operate a two way radio in FRS mode. This mode, operating on channels 1-14, was designed to be used by family and friends over a short distance. They are limited to 0.5 watts of power and must have non-

detachable antennas. Because of their low power, they usually are limited in transmission distance to less than one mile.

Two way radios operating in GMRS mode require a license from the FCC to operate. The power output is usually in the 1.0 to 5.0 watt range, but is limited to 50 watts maximum allowable power. The range of GMRS radios is normally stated as "up to 5 miles", but again is usually limited by terrain and other interference to around 2 miles. GMRS radios operate on channels 15-22.