

What's the range of these radios?

That's the number one question we get from those either new to the communication's hobby or those now considering getting into the hobby. While the question sounds simple, an accurate answer takes additional explanation.

First, because there are so many variables to consider. These radios all have removeable antennas and higher power levels than you are used to (vs. FRS or the Family Radio Service), both variables of which can greatly affect range.

Second, your height above average terrain will greatly affect your signal, as will what is surrounding you while you transmit (like the metal shielding from your car doors and roof). Sitting vs. standing will affect range, for example.

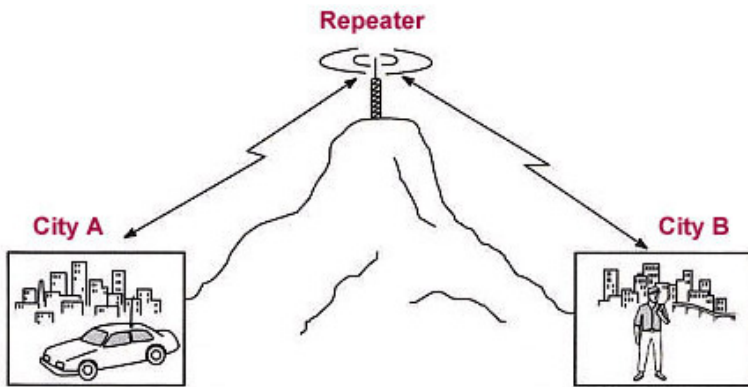
Third, who you are trying to communicate with, what their radio system consists of, antenna height, power, etc.?

To give you at least some kind of idea of what you can reasonably expect, we made a chart that estimates what range you'll normally get using a 5W handheld radio with a standard or stock antenna talking to another user with the same (or similar) radio setup. Remember, your range could vary greatly with any change(s) to antenna type, power level, height, etc. A better antenna will also increase the range of your radio, but elevation and obstructions are two key factors in determining actual radio communication distances that can reasonably be expected. Maximum range from the radio will require a FCC Amateur Radio License (as shown below). Fortunately that's now very easy to obtain, ask us for more information on our "you'll pass or your money back" guarantee with our internet based training class priced at only \$22.50 (a 10% discount).

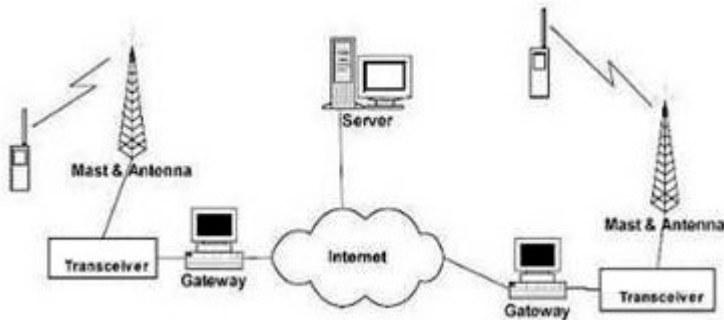
Operation Type	Environmental Surroundings	Approximate Range	Brief Range Info
Inside Car / Inside Car	Average	< 1/2 Mile	The car(s) involved act as metal shields, blocking most of the radio signal.
Radio / Radio	Metro Area	2-3 Miles	Range is primarily limited due to obstructions and building heights.
Radio / Radio	Suburbs	4-6 Miles	Range is primarily limited due to the height of trees and amount of foliage.
Radio / Radio	Flat Desert	11-12 Miles	Range is primarily limited due to the line of sight to the horizon.
Radio / Radio	Mountain Top to Mountain Top	35-50 Miles	Range is primarily limited due to the height of the mountains. An 8,000 ft. tall mountain provides longer range than a 4,000 ft. tall mountain.
Radio to Repeater (requires a license)	Average	30-100 Miles	Range is primarily limited due to the height of the repeater. If you are 30 miles from the repeater, the machine will re-broadcast your signal for 360 degrees, meaning your range will extend (normally) to double (30 miles to the repeater and 30 miles past it).
Radio to Linked Repeater (requires a license)	Connected to other Linked Repeater(s)	100+ Miles	Distance is determined based on the pre-determined linked repeaters, which can reach hundreds of miles.
Radio to IRLP / EchoLink Repeater or Node (requires a license)	Connected to other Linked Repeaters via the Internet	No Limit on Distance	Distance is solely determined by the internet connection, you can talk to stations on the other side of the world.
Radio / Radio via Amateur Satellite (requires a license)	Clear path to Orbiting Satellite	***	Distance is determined based on the altitude of the satellite above your location during it's pass.
Radio to International Space Station (requires a license)	Clear path to International Space Station	***	Distance is determined based on the altitude of the International Space Station above your location during it's pass.



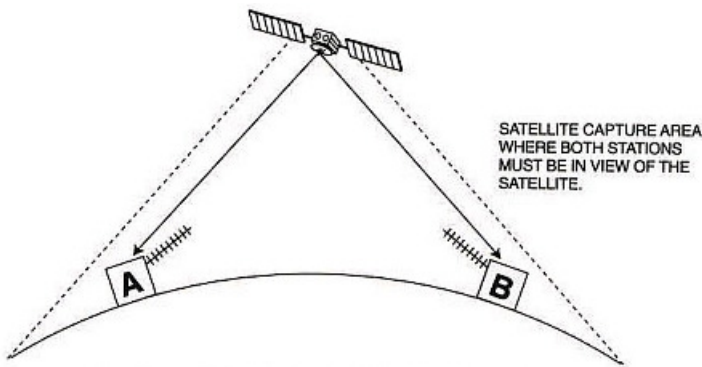
Elevation & obstructions are the two key factors in determining expected distance. A better antenna will also increase the range of your radio. Your elevation & lack of obstructions will normally determine the overall distance you can achieve. Trees & buildings are not your friends when trying to reach great distances.



A repeater is a two-way radio system that listens to one frequency & automatically rebroadcasts what it hears on another frequency simultaneously. Where the terrain prevents direct communications, a repeater greatly extends the overall coverage (or range) available for your contacts.

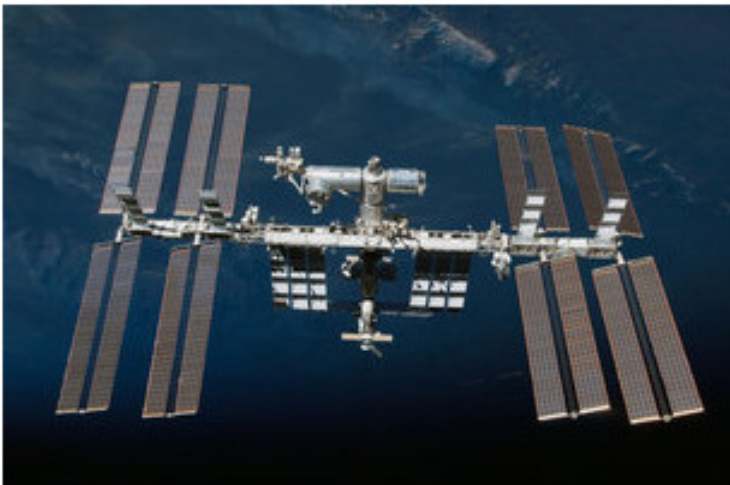


If we take the repeater concept one step farther, we can connect the repeater to an internet gateway. Now, using two radios connected via a gateway, these radios can communicate anywhere the internet can go.



Don't forget Satellite Communications or communications with the ISS, which brings a whole different aspect of the hobby. The distance achieved is determined by the altitude of the satellite(s) or the International Space Station.

Successful Earth-to-Satellite Communications



Contact Info:

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About RF Gear 2 Go:

We're the radio division of **Cybergear**, which was founded in June 1998. We're not claiming to be the largest dealer of radio products, but we understand how difficult it can be for some folks to get started in this great hobby, so we provide an extra level of up-front help.

We also offer radio programming services (so you don't have to spend hours entering frequencies, tones, off-sets, etc.), study guides (to help you get your first license or upgrade your current license), and local frequency lists.

Ask us how we can **customize your new radio** and **eliminate hours of work**, even **adding your call-sign to the start-up LCD screen** of your radio (when available).