

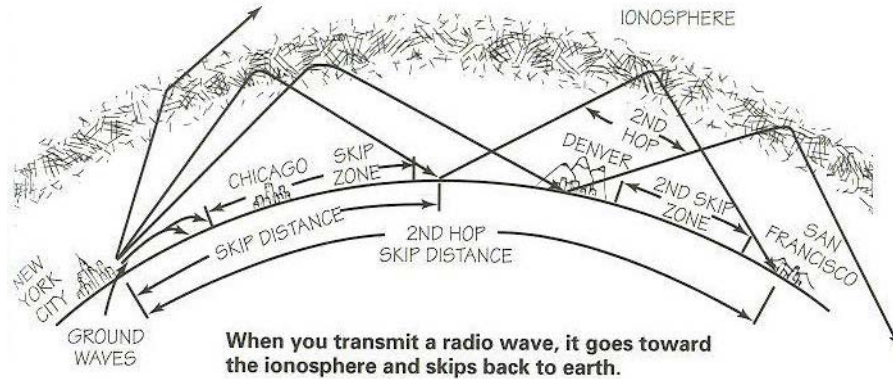
RADIO WAVE PROPAGATION

Introduction

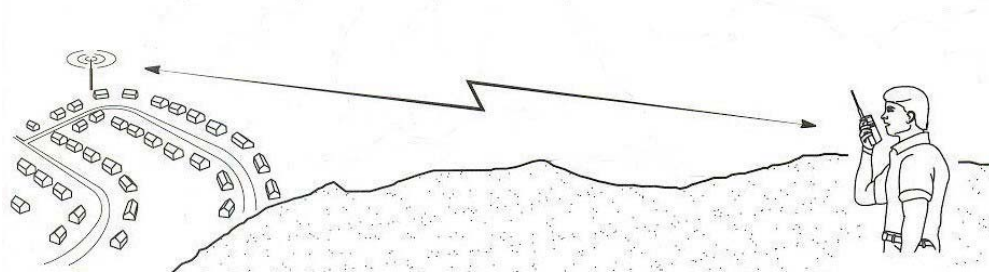
Propagation means how radio waves get from the transmitter to the receiver.

High frequency radio waves can bounce off the ionosphere (i.e., a layer of the atmosphere high above the earth) and return to earth a long distance from the transmitter. Starting at about 50 MHz (i.e., very high frequency or VHF) and higher, radio waves do not return to earth and are thus limited to being received within sight of the transmitter. Examples are shown below:

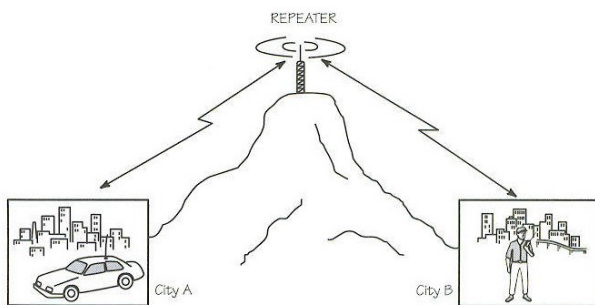
HF Radio Waves Bounce Back to Earth and Make Long Distance Contacts Possible



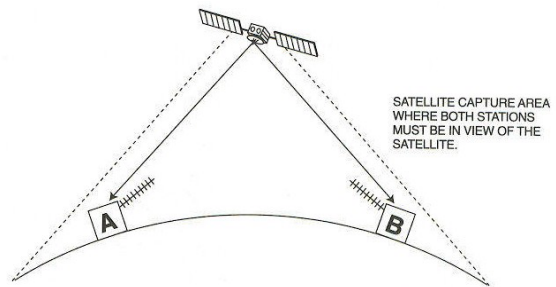
VHF and Higher Frequency Waves are Limited to Line of Sight. Distance Covered Can Be Increased by Using Repeater



VHF and UHF radio signals travel in a straight line from antenna to antenna.



You can use a handheld radio while walking or driving to send your signal through a repeater. By using repeaters, you can talk to people farther away.



Successful Earth-to-Satellite Communications

There are about 100 Amateur Radio repeaters in New Mexico. One sponsor's repeaters can be linked together so communication around the state is possible with a HT. Another sponsor's repeaters are always linked so communications on one repeater are heard throughout the state.