Tips for good radio listening….

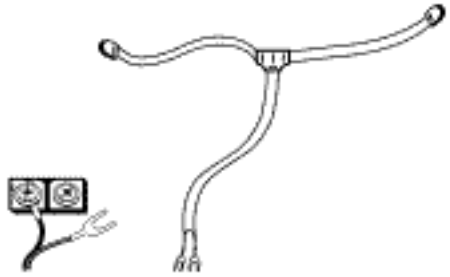
FM Radio Waves travel more-or-less in straight lines. They are weakened by objects that get between the transmitter and receiver.

A good-quality radio is obviously helpful, especially when more powerful local station(s) on adjacent frequencies bother your reception of weaker, more distant stations. Be aware that radios noted for excellent sound and fidelity do not always have especially good receiver circuitry. And you don't have to spend a lot of money on a radio that gets "good" reception.

If your FM receiver has a "stereo" versus "mono" switch, try it in both positions to help reception. Some transmitters run in stereo, others in mono - but if you have weak reception, your radio will perform better in mono mode.

Radio performance is important, but for radio reception the antenna is vital, and can be a relatively simple way to improve reception. If your radio has an external antenna connection on the back, a simple antenna made of wire would likely be of help, or a more elaborate antenna in your attic or on the roof is also possible.

For FM broadcasting, the antennas are very important, and the built-in radio antennas can often be inadequate. Adding an external antenna can be a relatively simple way to improve reception. Does your radio have external antenna connections on the back? A simple dipole antenna made of wire would likely be of help, or a more elaborate antenna in your attic or on the roof is also possible.



In fringe area reception, the reflections and bounces of the signal from nearby objects (known as multipath distortion) can be a big factor in reception success or failure. An antenna move of just a couple feet can bring the signal in beautifully for one station and be a bad spot for another, thanks to the geometry and the wavelength of the frequencies involved. The signal direct from the transmitter either adds or cancels with the reflected signals in different places. Experiment with the location and orientation of the antenna. Old TV "rabbit ears" antennas can also serve FM nicely. More elaborate FM antennas can be attic, roof, or tower mounted. TV antennas can often also serve as effective FM antennas. Use a "splitter" to route the signals to the TV and radio.

When fighting noise interference it can be very helpful to locate the radio and/or its antenna away from likely sources of interference such as light dimmer switches, fluorescent lighting, computers, microwave ovens, battery chargers, TV's, day/night and motion-sensing light fixtures, touch-sensing lamps, and the like as they are all known noise-makers.

You can eliminate the possibility that the noise source is in your own home by listening to the interference on a battery-powered receiver and turn off the "Main" electrical circuit breaker to your property. If the noise goes away you know the offending device is running on your household power lines and can then narrow down the location of the offending equipment by turning off individual breakers instead of the "Main."
And even car radios are not immune to ‘noise’. A new source of noise interference has recently cropped-up which seems to be related to the installation of a new type of traffic lights. The troublesome intersections seem to be of the new "LED" type rather than the older incandescent lamp variety. Tests reveal a lot of broadband noise interference near those locations.

If your interference seems to be only found "on top of" one radio station, or if you can hear other radio programming, then perhaps the source is another broadcast transmitter or radio device. In cases of interference from a station on the next dial position, a good quality radio with better "selectivity" will be helpful.

Another possibility is that there is a local source of interference around your house on the specific desired frequency - computers and other microprocessor-controlled devices can radiate spurious signals either across a band of frequencies or on specific frequencies such as on or around 90.7, 88.3, etc. Do you have any "modulators" or other devices to let your satellite receiver, PC, etc. play through your radio? These are often a source of interference. Experiment by turning such devices off and listening to the impact on your radio reception.

Sometimes FM signals sound noisy or distorted due to the combination of signals direct from the transmitter site with other signals reflected from hills, buildings, trees, etc. Since these signals take different paths to your radio, they can either add or subtract from each other, causing distortion of the intended signal. Don't hesitate to move your radio and antenna around to find the best reception location.

Multipath is easy to identify when listening to FM in the car. You might experience alternating good reception/bad reception as you drive along, or even a rapid flutter of the signal. If you happen to stop a location where the signals are canceling each other and the sound is noisy or garbled, you can usually ease your car forward and the reception will change - a clear indication of multipath interference. Many car receivers attempt to reduce the impact of multipath by automatically switching the receiver to mono mode. Some even have multiple antennas hidden around the vehicle.

The changes in vegetation and foliage as the seasons change can have an impact on these FM reflections - move your radio or antenna to find a new "good spot" and restore reception.

Sometimes even distant FM stations in other towns and states can cause interference. This is due to signal propagation enhancements caused by atmospheric conditions that cause FM and TV signals to go far beyond their normal ranges. This is a natural phenomenon, which tends to happen more frequently in the summer months. Temperature inversions can cause such interference from distant stations.

A powered or amplified antenna may not be the best solution to reception problems. They can introduce a lot more noise and interference from other stations than the boost to the desired signal. NPR-Labs did a study on a large variety of amplified antenna units, and they all performed poorly in the urban environment. In these cases a passive, non-powered antenna is a better choice.

And finally, regarding HD signal coverage – it is slightly less than typical analog AM or FM coverage. This means that if you can receive a clear signal on the normal AM or FM station signal, you have a good chance of receiving the HD digital with a proper radio. And in cases of weak analog signal, you may be able to make changes to your antenna to improve your reception and pick-up the HD signal.

Even though 91.5 KRCC is not currently multi-casting, it's possible to experience audio drop-outs or short silences on stations with HD2 services. This is due to marginal signal strength at the radio. The fix is to adjust the antenna placement to get a better signal. It is important to remember that the HD Radio multicast channels (HD2, HD3, etc.), unlike the HD1 channel, do not have an analog signal for the radio to fall-back to when digital reception is lost. So a listener with weak or erratic reception that is losing the digital signal will experience periods of silence until the signal is regained.

Thanks to our radio pal Steve Johnston, Broadcast Engineering Consultant, and our in house engineer, Joel Belik for these helpful hints.