

Microvolt

Monthly newsletter of the Utah Amateur Radio Club

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The Art of Reception



People love to say that it's better to give than to receive. Yet in the world of amateur radio, it's often better to receive than to give; that is, it's sometimes more important to receive than to transmit. That's because it doesn't seem to take much to get a good enough antenna up and send out your signal, but many struggle to receive a distant signal well enough to demodulate it into intelligent audio. Like we had mentioned exactly a year ago, *if you can't hear 'em, you can't work 'em*. But maybe there are aspects of reception that can help us contact better.

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Cover – The art of reception

If you possess the kind of station that can transmit a lot more effectively than it can receive, we used to call you an *alligator*, because you have **more mouth than ears**. Conversely, if your station can receive better than it can transmit, we used to call you an *elephant*, because you have **more ears than mouth**. In most cases, we amateurs want to enjoy the benefits of both transmitting and receiving, but there are times when receiving is about all one can do.

For example, if you want to operate on an amateur frequency outside your current amateur privilege, you can either transmit in the same room with an amateur who holds the appropriate license, using his or her call sign, or be resigned to only listen. That being said, using the amateur frequencies outside your privileges is perfectly acceptable when a life-threatening circumstance requires their use, and no other communication means is available.

Listening tools

Experienced operators have long understood that a good pair of headphones or a head set can help them better hear their contacts, better distinguish one station from another, or listen better for cues that help them know when to (and when not to!) speak or key up. They can also help you detect conversation nuances that can clue you in to subtle changes in noise, a person's stress level, or even band conditions, which you can use to help others.

Another great tool for receiving amateur radio signals is the [WebSDR](#). You won't be able to use it to transmit, but if your own antenna or location makes it difficult for you to hear that much-needed contact, turn down your AF (volume) all the way, and try using the WebSDR to receive the contact. If the distant contact is not inside the skip zone of the WebSDR, you might be able to hear the station better than with your own receiver.

FYI, prior to today's convenient *transceivers*, original amateur radio gear separated transmitters from receivers. Legacy transmitters and receivers were quite heavy due to their bulky transformers, coils, tubes, and other high-voltage components. Combining them into a single unit made portability rather impractical. Also, consolidating the units meant the use of a massive relay that could switch between the two, to prevent burning out the receiver's front end.



Extracurricular

Many radio listeners world-wide enjoy the activity of [SWLing](#), or shortwave radio listening. At its height, shortwave radio included numerous AM stations in many countries that broadcast news, weather, propaganda, music, religious services, talk shows, and more, often in their native languages. Today the stations are not so numerous, but still broadcast some of the legacy programming.

In several countries around the world, arrays of [radio telescopes](#) are installed to "listen" to what's out there. They use parabolic dishes to detect faint signals from objects that visible light telescopes are unable to let us see. Gradually, they help scientists listen for behavior patterns of (pulsing, spinning, erratically moving) heavenly bodies, explore new extraterrestrial object types, and map the universe, all without the obstruction of a cloudy sky.

For non-amateur portions of the radio spectrum, any person is permitted to receive and listen to a signal license-free, except for mobile phone signals. For privacy, phone signals are encrypted, even though their frequencies might reside within the amateur radio allocation. Be aware that many non-amateur stations (police, EMS, military, etc.) encrypt or encode their signals.

Finally, there's [broadcast radio](#) and [television](#), most of which provide news, information, sports, music, product advertisements, and a host of other services, typically paid for by listeners and viewers. These have great value contributing to the peace-of-mind of your family during a disaster or even small emergency, to keep you informed about the ongoing incident, even if you're only listening to them

Microvolt editorial staff