

Natural Radio

News, Comments and Letters About Natural Radio

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Natural Radio reception is essentially very simple. Since no demodulation is needed, all that's really required is an antenna and a high-gain audio amplifier. But as they say, the devil is in the details. While the receiving equipment may be basic, the elusive nature of Natural Radio signals and the ever present interference from the power grid makes receiving whistlers and VLF emissions a challenge.

Knowing your equipment and correct use of your receiver is extremely important. For example, E-field receivers are strongly affected by nearby objects. Getting well away from trees and other tall objects can greatly increase the strength of Natural Radio signals.

Knowing when to listen is also important and can avoid some of the frustration that comes with constantly driving out to a quiet location and only hearing sferics. While whistlers can happen any time of day, the nighttime and early morning hours tend to produce more whistlers than afternoons. Geomagnetic activity tends to increase the incidence of Natural Radio signals -- I can almost always hear chorus in the early morning if the Kp index is above 6. And of course if you live in the tropics, the incidence of whistlers and VLF emissions is considerably less than it is at higher latitudes.

But for most of us, at least those of us who don't live in remote locations, the big issue is noise. Finding an adequate listening location away from power line hum and buzz is probably the biggest hang-up for most new listeners. Noise can be removed by both hardware and software filtering, but filtering to remove large amounts of noise can degrade the desired signal considerably, so a quiet location will provide the best quality reception.

If you can get to a location that is 8-10 miles from all power lines, you'll almost always have good reception and the nature of the power line noise will be somewhat irrelevant as you'll be far enough away from it for it to not be a factor. But for the rest of us, knowing the nature of the noise might help us find a good non-ideal location and maybe even allow us to eliminate some noise sources in our environment.

I am planning an article in the near future on noise and noise elimination and I need your help. I'd like to hear about your experiences in finding a quiet location or about eliminating noise in your listening environment. I'd also like to hear about your experiences with noise eliminating hardware and software.

Also, over the past 10 years or so new noise sources have developed such as the electronic ballasts used in CFL bulbs, switching power supplies, and other electronic devices that spray their interference back into the power lines.

Finally, please let me know of any links to studies done on powerline noise. For as long as I've been doing Natural Radio listening, the conventional wisdom has been that high voltage transmission lines are more of a problem for noise than local distribution lines. However, I'm not sure that this is backed up with measurements and it would be good to know.

So please, let me know your experiences with noise and noise reduction. If I can assemble enough information, you'll see the article in an upcoming issue. I'll also upload it with active links to the naturalradiolab.com website.