

Natural Radio

News, Comments and Letters About Natural Radio

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Winter has been relatively mild this year, but there is still a month or so that could provide surprises. There is a 40 ft. deep hole about the size of a city block behind my office as construction begins on a new retail, condo and parking development. Fortunately, the soundproofing in the studio is good enough that it hasn't caused me too much disruption. I am convinced that the construction crane they have just erected would be the ultimate support for a multi-band directional antenna system.

A series of X flares from January 15 – 21 caused several geomagnetic storms and made for interesting listening conditions for a week or so. The joy of running my own business have kept me from doing much listening but I am ready to get out there as conditions for whistlers improve with the Spring Equinox.

For those interested, an INSPIRE coordinated listening weekend will be held the last weekend of April.

Tips For Hearing Whistlers & VLF Emissions – Often those who are new to the hobby as well as casual listeners get frustrated by not hearing much more than spherics and tweeks. When I started listening, it was well over a year before I heard anything of significance, mainly because I was listening in the wrong place at the wrong time. My results got a lot better with experience -- so here's some tips to help you out as we move into the spring listening season.

1. Listen When You're Likely to Hear Something. Natural Radio phenomenon can happen at any time but there are times of day and times of the year when you are more likely to have a productive listening session. In general, winter is better than summer because there is less interference from local thunderstorms, allowing you to hear fainter Natural Radio signals.

Whistlers tend to occur mostly after midnight with activity peaking just before sunrise -- it is rare to hear whistlers in the middle of the afternoon. Whistler activity tends to peak around the spring and fall equinoxes.

VLF Emissions like chorus tend to peak just after sunrise and may continue into the morning hours. Geomagnetic storms almost always produce VLF emissions, so it's good to check the *Spaceweather Today* site at <<http://www.sec.noaa.gov/today.html>> or monitor WWV at 18 minutes past each hour for space weather reports. If the planetary K index is 6 or greater, there is a very good likelihood that you will be able to hear VLF Emissions.

2. Get Away From Power Lines. The strongest signals in the Natural Radio band are the power line frequency and its harmonics. In a typical suburban neighborhood the power line signals can be strong enough to obliterate all but the loudest spherics.

For good reception, you should be at least two miles from power transmission lines (The ones on the steel towers, or on large wood poles with insulators at least a foot long). You should also try to be at least ¼ mile or more from distribution lines. (These are the ones that deliver the power to homes and neighborhoods.)

There are a lot more weak Natural Radio signals than strong ones, and getting rid of background hum and buzz will increase your ability to hear them. It's also easier on the ears without the obnoxious hum and buzz in the background.

3. Get Away From Trees and Other Obstructions. If you are using an E-Field receiver, make sure you are out in the open. Trees and other objects tend to short out the electrical field in their vicinity. Try this experiment. Walk out in an open field listening to spherics – then as you are listening, walk toward a tree. As you get close to the tree, the decrease in signal strength will be dramatic. If you are using a hand held receiver, try holding the antenna above your head, this should help increase signal strength.

4. Make Sure Your Equipment Is Working Properly. Verify that the batteries are good. When batteries weaken to a certain point they can cause a major gain reduction in many receivers – this can happen suddenly, so always carry a spare set of fresh batteries.

Portable Natural Radio equipment can be subject to quite a beating especially on the connectors and headphones. Inspect your equipment regularly and tighten any connectors that are coming loose. It's probably a good idea to carry a spare set of headphones as headphone cords and connectors are probably the item most likely to fail next to batteries.

5. Plan Ahead. Make sure your equipment is ready to go at a moments notice. My Natural Radio listening equipment is permanently mounted in my van. I can pull into a site and be listening and recording in 60 seconds. This makes it easy for me to do 15 or 20 minutes of listening on my way to work. If it's inconvenient to have your equipment installed in your car, have everything packed in a case and ready to go.

Check out quiet sites in advance. When listening isn't good use the time to find quiet sites near your home. Sometimes finding a site that you can get into in the pre-dawn hours isn't easy. I have a forest preserve about 5 minutes away that is relatively quiet, but doesn't open until 8AM. I don't hear a lot of whistlers there but it's a great place for spherics when the Kp is up.

Finally, make sure you have extra batteries, don't forget your headphones and be sure to bring things for your personal comfort like mosquito repellent in the summer, flashlight, water or hot coffee and so on. Also, watch your volume setting especially during thunderstorm season. Continuous exposure to loud spherics can cause hearing damage.

And I shouldn't have to mention this, but if there are thunderstorms in the area, put your antenna away and watch the lightning from a safe location.