

Natural Radio

News, Comments and Letters About Natural Radio

December 2002

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I had just run the lawnmower over the back yard to grind up the remaining leaves and was up on the roof cleaning out the gutters when the snow began. The patio furniture was put away and the shed closed up just in time. I beat the snow but not by much.

December is always a time of reflection with the satisfaction of closing up the yard and bringing another year to completion and looking forward to the holidays and the good times with family and friends, and the anticipation and plans for the new year that follows. As with many of you, my prayer and wish for Christmas is a more peaceful world and an improved economic outlook. With the world situation what it is. Why am I, as my wife says, "Getting up early and listening to static"? Sometimes it seems that science we do is cold and impersonal and has little to do with some of the grave issues that are confronting us recently. But looking back I see it from a different perspective.

As a child of the cold war I grew up under the threat of Soviet nuclear attack. (Those of you under 50 years of age probably missed all of this so check out the Internet Movie Archive at <http://webdev.archive.org/movies/> and view a couple of the films from the cold war era to get a flavor of the times.) The "duck and cover" drills in the schools had ended before my time although television still showed some of the films which are laughable now, but very troubling to children of the 50's.

One image that I remember vividly was a story about a young soldier, stationed at a lonely outpost in the frigid north at an early warning radar facility, staring at a radar screen on Christmas Eve watching for the missiles that would come over the North Pole and signal an imminent nuclear attack on the United States. I don't remember much else about the story but the image of that blip moving over the pole was burned into my subconscious.

The image was vividly jogged from my subconscious a few years ago as I sat in front of a computer screen on a cold snowy night near Christmas; my eyes glued to a map of the world, just like that young soldier. I was watching a blip come across the pole and then as it approached closer all the yellow numbers on the screen indicating altitude, longitude and distance turned red and began to flash. AOS. A few minutes later I made my first ham radio satellite contact via the Russian Amateur radio Satellite RS-12. With my memories of the cold war, it was a very emotional experience.

Several weeks ago I ran outside just after sunset to see the space shuttle and the ISS pass over. They had just separated and were like two brilliant stars chasing each other through the night sky. In a spirit of cooperation staffed by Russian and American crew. Who would have thought it possible in the 60's.

The reasons for the end of the cold war are many and varied. Amateur radio and science were a small part of that, but nevertheless they furthered the peace process. Amateur radio has given many of us the opportunity to join hands as friends across national boundaries. Scientific exploration unites us in a way that makes other differences less important. Lets continue our exploration and hope that in the future we'll look back on the Mideast Crisis and terrorism as a situation that was solved because people were able to come together over issues that were in the common good.

Plans For Next Year - Maybe the New Year is the time to renew your interest in Natural Radio. What can you do to bring some new life into your hobby next year? Here's a list of things I came up with for myself. If I can accomplish two or three of these things it would be good, but maybe the list will stimulate some ideas.

1. Find a better and closer quiet site that I can get into in the early morning hours.
2. Spend more time analyzing sferics. I think there is a wealth of information buried in sferics. It might be interesting in comparing sferics recorded in the audio range with sferics recorded simultaneously recorded at a higher frequency, say 150 kHz. Might it be possible to find something about the source of the sferic from this information. Specifically is it from a non-lightning source?
3. Finish the Natural radio CD.
4. Involve more young people in the hobby. Maybe pass out information on our hobby at local hamfests and the Dayton Hamvention.
5. Experiment with a better monitoring system at home. Although it will be more limited than being away from the power lines, can some useful research be done from a home location. What about using trees as antennas.
6. Research other Low frequency Natural radio sources. Can we monitor at 150 kHz. or 500 kHz. and get some useful information that can't be obtained at the audio range of frequencies.
7. Classify the different chorus sounds. Chorus is usually reported as chorus with out much attempt to describe the many different varieties and sounds.
8. Experiment with better filtering techniques. What is the optimum cutoff frequency?
9. Research some of the old material on whistlers and natural radio.
10. Use a spectrum analysis program more often.

So whatever you are celebrating this month, Christmas, Hanukah, Kwanza, Ramadan or just the plain old Holiday Season, I wish you and yours peace, and a year of new beginnings and hope in 2003.

Correspondence and Articles Wanted Correspondence and articles have fallen off recently. People like to read about other people's experiences, so send me an E-Mail occasionally so we can let the group know what other members are doing.

Your Much Appreciated Correspondence

•Dave Laida, Delta Lake, NY. (laida@nystec.com) I've noticed that North Country Radio is offering an Extremely Low Frequency Receiver "Earth Radio" kit on their web site www.northcountryradio.com under the SWL and Receiver Kits section. There is a photograph of the completed receiver circuit board.

The Nov 2002 issue of the NASA Inspire Journal contains the circuit diagram of their new VLF3 receiver kit. Still looks like the original RS4 to me but with more low-pass filters.

As for myself, I've been experimenting with very short vertical wire antennas, about 12 inches long, and was pleasantly surprised to receive sferics and tweeks easily with good signal strength into the small Radio Shack amplified speaker. The preamp is the one I described in the July 2002 Lowdown. A short antenna in my opinion eliminates much of the above 20 kHz interference so that extreme low-pass filtering is not required for listening - don't know whether magnetic tape recorders are impacted.

With colder weather in central New York I have to wear gloves outside at night but insulated hands can't provide a ground counterpoise to my portable unit in its metal chassis box. I tried wearing a Radio Shack grounding wrist strap connected to a ground lug on the box and reception improved dramatically. Even a short whip antenna needs a counterpoise and a wrist strap appears to be a convenient way to achieve it.