

Natural Radio

News, Comments and Letters About Natural Radio

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We traveled to Missouri this weekend to visit my son Kevin, and stayed at a Bed & Breakfast in Boonville on the Missouri river. The B&B was the home of Capt. Joseph Kinney one of the most famous Riverboat Captains on the Missouri. This three story Victorian Home was built in the 1860's during the Civil War. The place was built like a fortress with 12 foot ceilings on the first floor, 10 foot ceilings on the second and 8 foot on the third. As was typical of that era, the plaster and woodwork were ornate.

Capt. Kinney came to Boonville nearly penniless from Indiana in 1844, the year of the Great Flood, and built up a successful retail shoe business, first in Boonville (from 1844 to 1850) and then in St. Louis (from 1850 to 1856). His success in the shoe business (not related to the Kinney Shoe Co.) allowed him to pursue his first love and he entered the steamboat business in 1856 when he commissioned the building of a side-wheel packet boat that he called the W.H. Russell. He was very successful and owned over 20 riverboats throughout his career.

Hearing the story of Capt. Kinney and sitting on his front porch on a beautiful July morning got me to thinking about how things change over time and how some things last and others don't. Since I needed to finish this column, my thoughts turned Natural Radio and what has changed in the 15 or so years that I have been involved in this hobby.

The familiar high frequency tones of Omega have been gone almost 10 years with the decommissioning of that service on September 30, 1997. With Omega, I always knew my receiver was working if I could hear the tones. It was also a reliable signal source to test new circuitry. Fortunately, I was far enough away from the stations that I didn't have the intermodulation problems that plagued some listeners.

Of course research in the field is progressing as Space Weather becomes more important as we realize its impact on our daily lives as we become more dependent on satellites for our communications needs. Many satellites have been launched to study the sun and the ionosphere giving us a much better understanding of the earth-sun system

Cassette and other tape recorders are on the way out, with solid state digital recorders becoming an affordable option.

The big change in Natural Radio reception is that Software receivers are now easy to implement, especially using Spectrum Lab. Filtering, recording and analysis can be handled by software in the computer.

The state of hardware receivers hasn't changed much, primarily due to the fact that the technology needed to receive Natural Radio signals is relatively simple and most

existing circuits work very well. The WR-3 is still around with a new model available this month, and the INSPIRE receiver is still available with several updates since 1999, but essentially the same. Since most of us depend on hardware receivers for at least remote operation, it might be good to take a look at what's currently available. There seem to be fewer commercial receivers available than there were a few years ago. Here are the ones that I found.

New WR-3GX Receiver – Starting this month, Stephen McGreevy will be shipping the latest version of the venerable WR-3 receiver, the WR-3GX. We're extremely glad to hear that the WR-3 is back in production, especially this new model. This new unit has been in development for a few years and has been tested extensively.

The receiver comes with a Superstick-II 55-inch/105-cm telescoping-whip antenna with BNC-base for connection to the WR-3GX's BNC antenna jack, and the WR-3GX also has a 1/4-inch/5-mm input jack for use with guitar or other external mike-level source. There are three controls - 1) bass/low-frequency-cut potentiometer that varies the amount of bass-response you desire; 2) audio volume-control; and 3) headphone-amplifier gain control. Specifications and order information are at <http://www.auralchorus.com/wr3gx.htm>

North Country Radio ELFRCV – North Country Radio makes a decent entry level receiver in both kit and assembled form. The Earth Receiver is an E.L.F. (Extremely Low Frequency) receiver and designed to receive naturally occurring atmospheric radio signals in the 1 to 10 kHz range. The kit is easy to build and no alignment or circuit adjustments are required. All components and an NC531 metal case with connectors, switches, hardware, and battery holder included to build the complete receiver. An optional collapsible antenna with mating BNC connector (NC1490) is available. Batteries (4-AA cells or 9V transistor battery) and stereo headphones not included. Use any ordinary portable stereo headphones.

I couldn't determine from the literature whether there is any hum filtering or not. Product description and ordering information can be found at <http://www.northcountryradio.com/Kitpages/elfrcvr.htm>

INSPIRE VLF-3 – The INSPIRE receivers have been around for awhile and this latest version has a lot of nice features not available on most other receivers. There is a microphone input and switch to allow for announcements in your recording, a recording output with a separate volume control, an antenna attenuator and an external power input.

The VLF-3 would not be classified as a hand-held receiver, but it works well if you have a little time to set it up. The receiver is available in kit form. Information on the INSPIRE VLF-3 can be found at <http://image.gsfc.nasa.gov/poetry/inspire/>

Build Your Own – Dave Ewer has designed a very high-end receiver based on the work of Scott Fusare detailed in his The Lowdown article from a few years ago, "Some Thoughts on E-field Whistler Receiver Design." Read about it on Renato Romero's site at <http://www.vlf.it/ewer3/spectrum1.html>