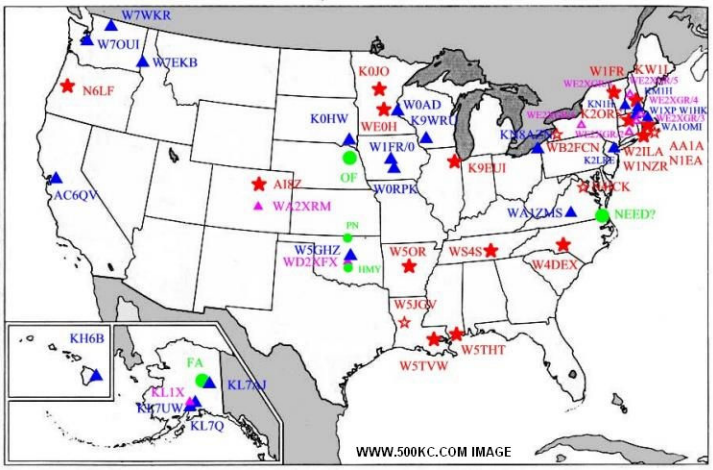
The 6·2·5 Sentinel

Arlington Radio Public Service Club Newsletter • Spring 2010 • www.w4ava.org

600 Meters – The Virginia Connection

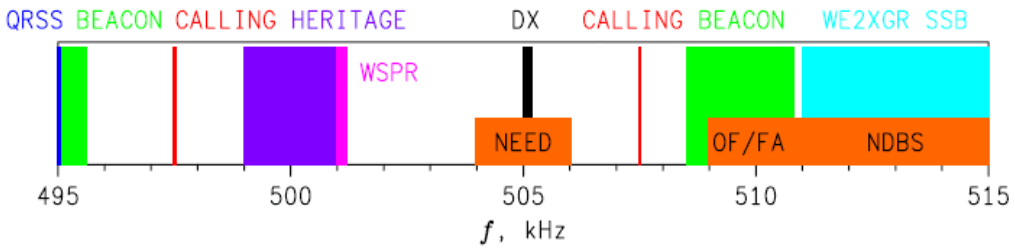
Three years into experimental operations on 600 meters, many reception reports and contacts have been logged by the American Radio Relay League and a number of hams across the country operating on that band under a grant of a FCC Part 5 experimental radio license. One of those stations is practically in our back yard – at least from the perspective of the very long wavelength involved!



The FCC's Office of Engineering and Technology granted the ARRL experimental license WD2XSH for 600 meters (500 KHz on your radio dial) in September 2006 – part of the effort by ARRL to convince FCC to embrace a permanent 600 meter allocation for Amateur Radio use – something the United States is likely to seek at the World Radiocommunication Conference in 2012.

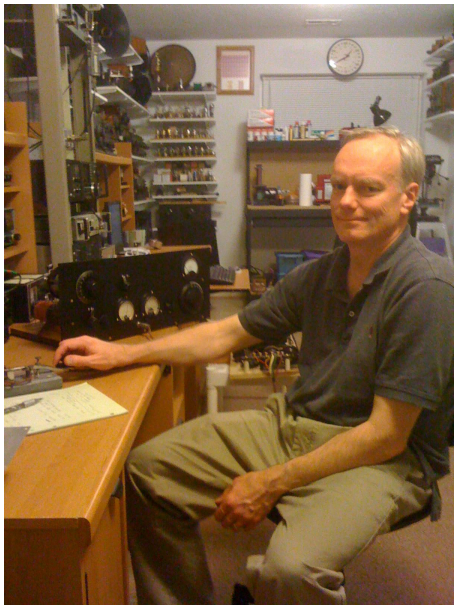
Last July, the FCC granted the ARRL a modified license for WD2XSH. This modified license allows the experiment to operate with 45 stations across the continental U.S., Alaska, and Hawaii.

Hams participating in the experiment operate under the WD2XSH call sign, WD2XSH/1, WD2XSH/2, and so forth, between 505 and 510 kHz using narrowband modes at power levels of up to 20 Watts effective radiated power:



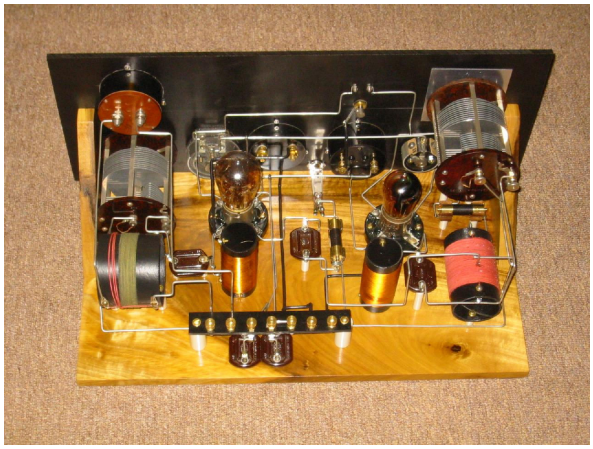
The segment of the band labeled "Heritage" refers to spectrum used by commercial services such as maritime stations (although many have abandoned 500 KHz to use satellite communications).

To get on the air, WD2XSH participants have revived some older gear or homebrewed transmitters. Constructing 600 meter antennas has been an enormous and expensive undertaking, requiring specifications for antennas and matching devices to be increased several orders of magnitude. One operator built an antenna loading coil a foot in diameter with No. 10 insulated wire.



Brian Justin WA1ZMS operates as WD2XSH/31 from Forest, Virginia (Grid FM07ii), 10 miles west of Lynchburg, running a homebrew Master Oscillator Power Amplifier, or "MOPA" when making QSOs. A solid state exciter and amplifier are used for Brian's CW beacon, which transmits on 508.7 KHz 24/7.

Brian Justin WA1ZMS/4 hand keying the MOPA ▸



◂ Behind the MOPA panel. Ladder line feeds a 160 meter dipole as the hat of Brian's Marconi T transmitting antenna.

After improved grounding, Brian reports that the antenna feed resistance is now 19 Ohms. "About 15 of that is still due to ground loss," he added.

"Running the tube MOPA rig is fun for QSOs," Brian said. "But such early designed tubes have a short life span and it was getting too expensive to keep burning through a UV-202 every 30 days or so with 24 hour operation." Brian enjoys the white-hot tungsten filament glow of a real 1921 tube when running the MOPA!

Additional photos, including photographs of the MOPA power supply, as well as more information about Brian's 600 meter station are posted on the web at http://w4dex.com/500khz/wd2xsh31.htm. Find out more about the experiment at www.500kc.com. If you hear Brian and other stations on 600 meters, contribute to their research by submitting a reception report at w5jgv.com/500kcreportform.htm.

W D 2 X S H
ARRL 600 Meter Experimental Group

Photographs copyright © Brian Justin WA1ZMS. All rights reserved. Photos used here with permission.