

WD2XSH status report: December 1, 2006 - February 28, 2007**Prepared by Fritz Raab, W1FR, Experiment Coordinator****March 14, 2007****1. ADMINISTRATIVE ISSUES**

A total of 16 stations have gotten on the air. Two of these are temporarily off the air pending resolution of antenna problems. Two moved away from the location specified in the license. Three are working on their equipment and expected to be on the air soon.

Most bugs in the log process have been worked-out, and most operators have been submitting their logs on schedule. Half a dozen of the participants have been working to correct minor problems in their logs. One participant was given a QRT notice because he had never submitted a log.

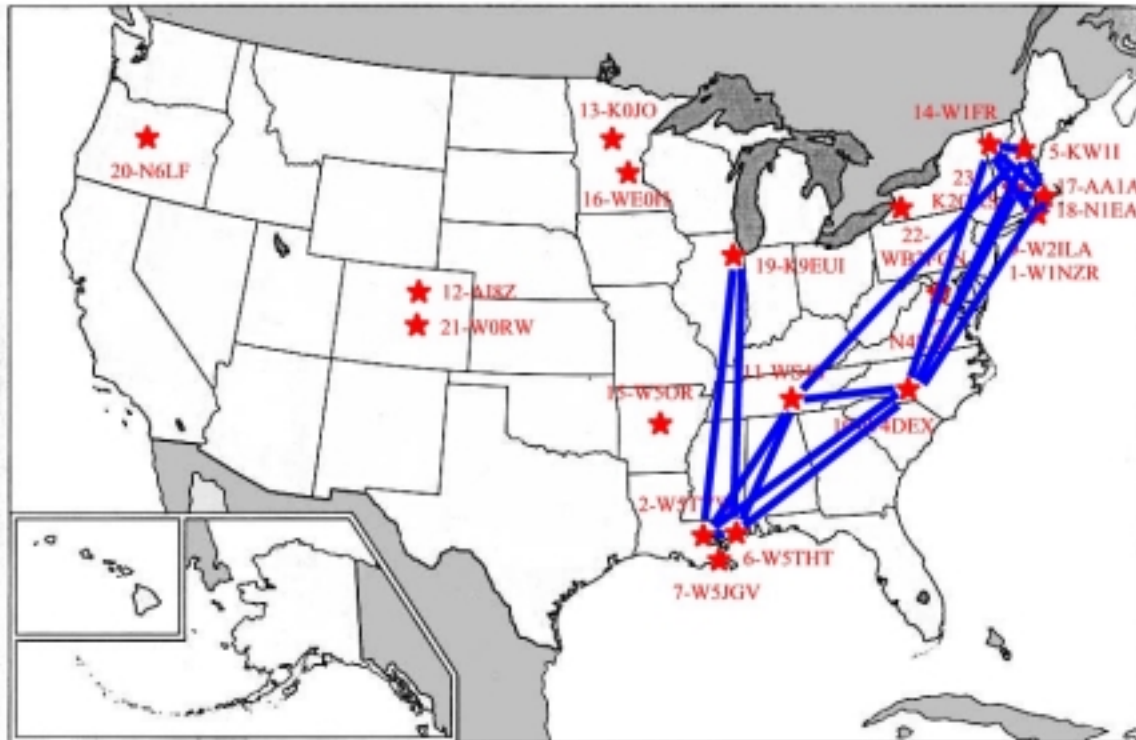
We shifted the QRSS and beacon frequencies upward by 200 Hz to create a DX window at the bottom of our band.

The web site has been modified to include the receiver's QTH in the reports.

2. COMMUNICATIONS

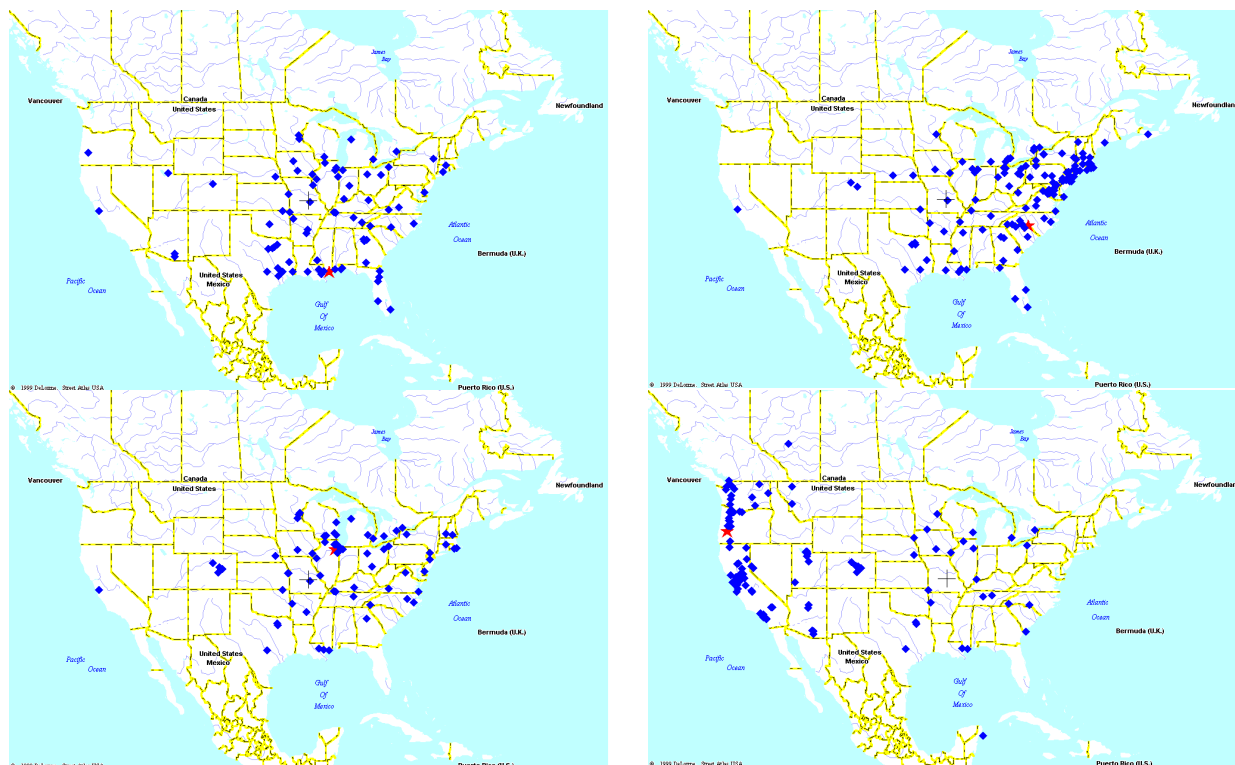
During the past three months, the WD2XSH stations have added 2250 hours of operation, bringing the total to 4629. Twenty-seven additional QSOs have been made, bringing the total to 75. Over 3100 reception reports have been filed on our web site.

A map showing the QSOs appears below, and statistics for each station are given in the appendix. Most of the "records" for QSO and reception distances that were set in the first quarter have not been broken. The longest distance over which a QSO has been maintained is 884 mi from New Hampshire to Tennessee. Station /10 (W4DEX) completed a cross-band (500 kHz - 137 kHz) QSO with WD2XNS (W1VD) in Connecticut.



Map of WD2XSH QSOs as of February 28, 2007.

Station /20 in Oregon continues to be heard regularly in the midwest, and has been heard on the east coast, Alaska, and the Yukon. Station /10 in North Carolina continues to be heard routinely all over the eastern half of the country. Station /6 in Mississippi is heard routinely in the midwest (Nebraska, Minnesota, Ohio). Several New England stations have been heard in the midwest and south. Ralph Wallio W0RPK has developed a technique for processing the data base produced by our web site and has provided maps of the reception reports for four of our stations.



Reception reports from web site: /6, /10, /19. and /20 (courtesy W0RPK).

Based upon the reception reports, it should be possible to have QSOs involving more stations and over longer paths. One reason is that some stations have high noise levels that prevent reception, or have not yet optimized their receiving apparatus. Another is that it is simply easier to operate in beacon mode and to wait for the reports to come in.

A number of day-time ground-wave QSOs have been made, including

- 127-mi NH-RI (/5-/9) path with both signals received in MA and CT,
- 87-mi path from MS to LA (/2-/6).

The MS-LA link has proven reliable multiple times at all times of the day or night. Daytime ground-wave reception has also been reported for

- 150-mi path from /21 to /12 in Colorado, and
- 25-mi path near /5 in Arkansas.

These QSOs and reception reports provide preliminary verification of the capability for amateurs to use this band for regional emergency communication that does not depend upon the ionosphere.

3. INTERFERENCE

There have been no reports of interference. However, we are investigating two possible interference problems.

NDB OF

NDB OF in Norfolk, NE operates on 510 kHz, which puts its lower sideband in the top of our band. The midwestern stations have been restricted to 505-507 to ensure no interference. I have been attempting to obtain quantitative field-strength comparisons at the 75-mi maximum operating range of the NDB. K0HW in South Dakota has provided some measurements that show OF is 40 dB stronger than /19 from Illinois. He has not heard any other midwestern WD2XSH stations. These preliminary results suggest that our present stations will not cause harmful interference to NDB OF.

NEED

From time to time since the start of the experiment, participants and others have heard a NDB-type signal on 505 kHz identifying itself as NEED. We think this is a military beacon used for testing or training, located in southeast Virginia or eastern North Carolina.

4. INTERNATIONAL

SM6BHZ has obtained permission to operate from 505.0 to 505.2 kHz. The two German experimental stations who were operating on 440 kHz have shifted to this band as well. We moved our operations up 200 Hz to create a "DX window" for them. The UK is now issuing special permits for 501-504 kHz.

5. PLANS

We plan to continue operating as we have been through the end of May. We are trying designated QSO nights to increase the number of contacts.

Given successful completion of the third quarter, we would like to begin use of PSK/FSK/MSK-31. Since these signals fit within the spectrum of the currently authorized CW signal, we should be able to use these digital modes by simply filing notice under Section 5.77 of the FCC rules.

At that time, I plan to begin consideration of substitutes and additions. At present, nearly two dozen amateurs have submitted information forms with the hope of being added to the license.

Criteria of interest include (a) expansion of geographic coverage, (b) expansion of ground-wave tests, (c) capability of using narrow-band digital modes, and (d) on-going service to the experiment.

APPENDIX. STATISTICS

STATION	CALL	STATUS	HOURS	QSOs	COMMENT
WD2XSH/1	W1NZR	QRT	?	3	QRT until log submitted
WD2XSH/2	W5TVW	ON	4:06	12	
WD2XSH/3	WD5CVG	DROPPED	-		
WD2XSH/4	WD4PLI	DROPPED	-		
WD2XSH/5	KW1I	ON	13:00	26	
WD2XSH/6	W5THT	ON	701:49	20	
WD2XSH/7	W5JGV	MOVED	-		
WD2XSH/8	N4ICK	WORKING	-		
WD2XSH/9	W2ILA	ON	?	16	Log not in order
WD2XSH/10	W4DEX	ON	186:04	17	Cross-band QSO WD2XNS
WD2XSH/11	WS4S	ON	617:05	21	
WD2XSH/12	AI8Z	ON	123:07	0	
WD2XSH/13	K0J0	ON	333:36	0	
WD2XSH/14	W1FR	ON	16:13	3	
WD2XSH/15	W50R	ON	602:19	0	
WD2XSH/16	WE0H	WORKING	-		
WD2XSH/17	AA1A	ON	73:49	20	
WD2XSH/18	N1EA	WORKING	-		
WD2XSH/19	K9EUI	ON	841:15	2	
WD2XSH/20	N6LF	ON	438:54	0	
WD2XSH/21	WORW	ON	652:42	0	No operation Dec. or Jan.
WD2XSH/22	WB2FCN	MOVED	-		
WD2XSH/23	K2ORS	ON	24:33	4	
TOTAL		15 ON	4629	75	

Note:

Operating hours are derived from logs through Jan. 31, 2007.

QSOs are derived from W0RPK's weekly summary, Feb. 25, 2007.