

WD2XSH status report: June 1 - August 31, 2008**Prepared by Fritz Raab, W1FR, Experiment Coordinator****September 14, 2008****1. SUMMARY OF OPERATIONS**

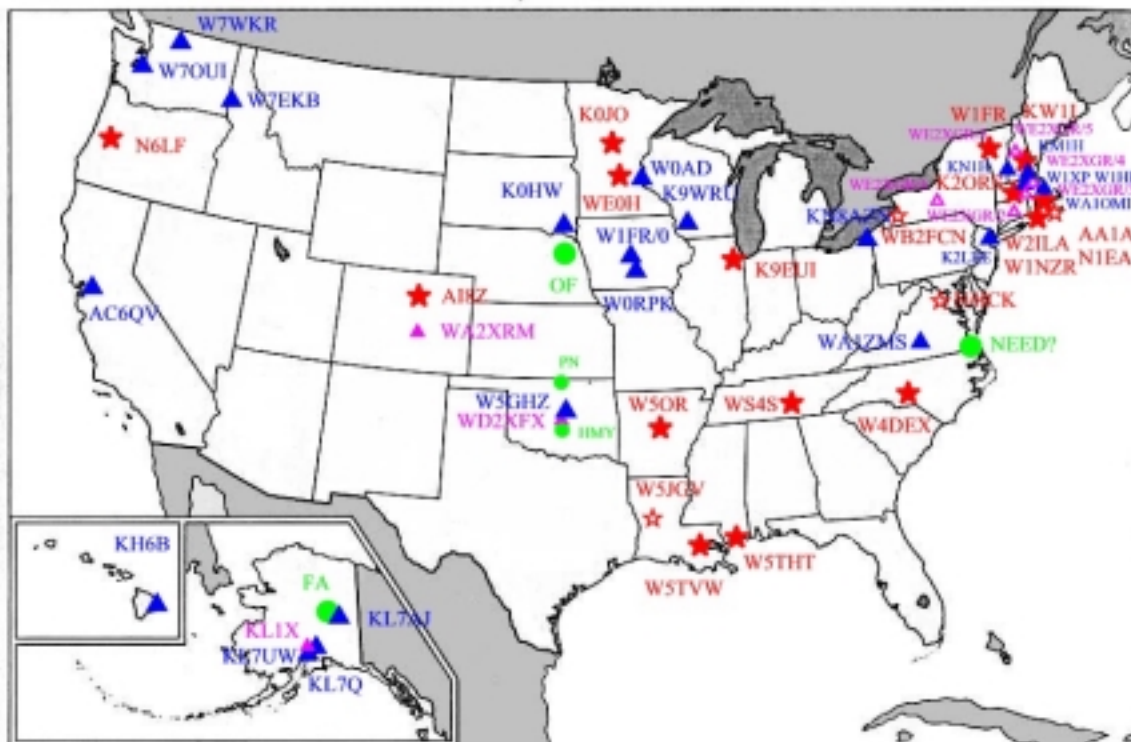
This report provides a summary of WD2XSH activity during the summer of 2008. Several stations continued beacon operation and even made QSOs during this period of high QRN. The principal activities were ground-wave testing and filing for expansion of our license. The key statistics of our operations to date are:

- Number of QSOs: 2 additional, total 278;
- Number of reports via web site: 202 additional, total 6742;
- Operating hours: 6,605 additional, total 27,445; and
- Number of interference complaints: 0.

The reporting periods have been adjusted slightly so that the reporting periods will be aligned with the seasons. All statistics are based upon the end of the reporting period (08/31/08).

2. ADMINISTRATIVE

ARRL attorney Chris Imlay W3KD filed the request for expansion of our license on August 22. If granted, this will increase the number of stations to 42, expand geographic coverage, provide greater opportunities for ground-wave tests, widen the operating frequency band, and permit portable operation. The map below shows current stations as red stars, other 500-kHz amateur-experimental stations as magenta triangles, and the proposed new stations as blue triangles. All current and new stations have been asked to double-check their information in the application form as filed.



Present and proposed stations.

3. COMMUNICATIONS

Several stations continued to operate on a regular basis in spite of the high noise level during the summer. While communications have been more difficult, reports of reception at significant range continue to be filed.

Ground Wave Communication

A series of tests are being conducted this summer (May - September) to ascertain the capability of radio amateurs to provide reliable regional emergency communications via 500 kHz.

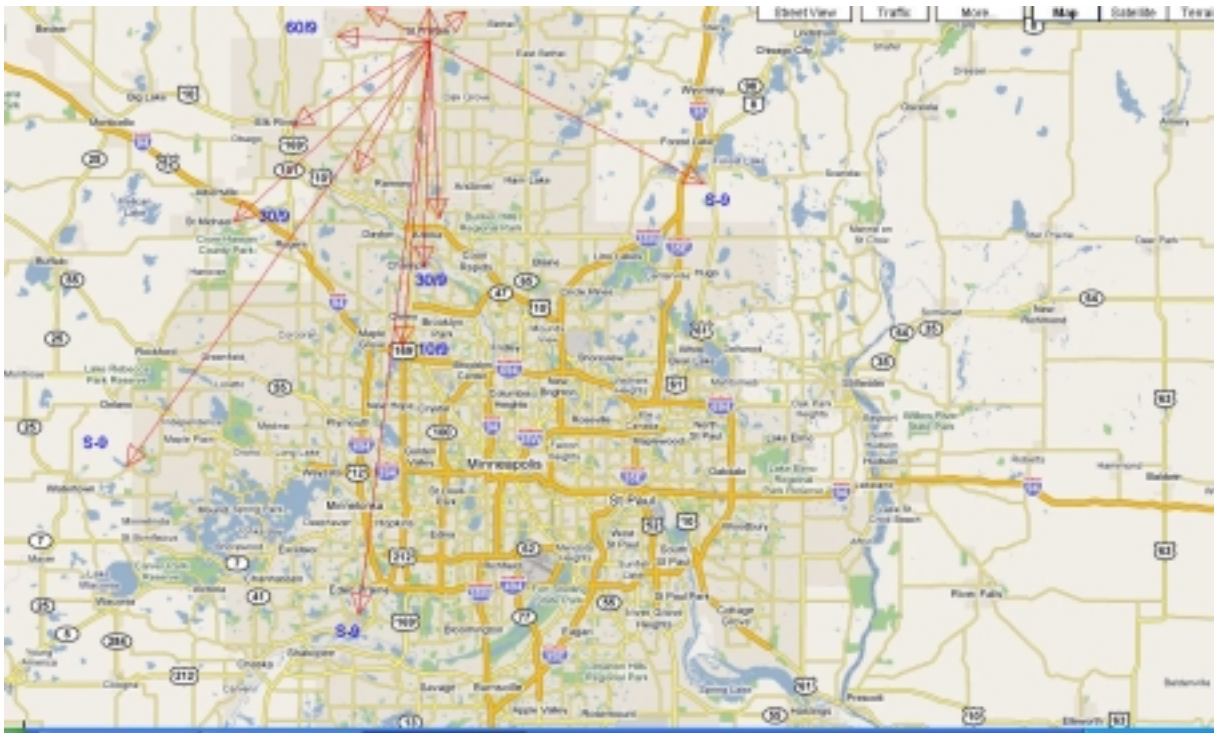
The ground-wave tests are organized in ten clusters of stations located at distances of no more than 200 to 300 mi. Each cluster has a team "captain". The captain is responsible for contacting other members of his cluster, recruiting other monitoring stations, scheduling tests, and reporting results. The members of each cluster include WD2XSH stations, WE2XGR stations, those to be added to the WD2XSH license, and a few others.

Eight of the ten clusters have been participating in the tests, and logs have been received from most. The tests are on-going, hence data have not yet been evaluated. However, many cases of reliable daytime reception over 100 to 200 mi have been reported.

Mobile Reception Tests

WD2XSH/16 (WE0H) conducted mobile reception tests between 12:00 and 14:00 on various days between June 9 to August 21. His transmitter is located north of Minneapolis and delivers 30 to 70 W to an inverted-L antenna (40-ft vertical) with a good ground system. The mobile receiver is a Sangean ATS909 with the simple WA1ZMS receiving loop described on the 500kc.com web site.

The reception sites and signal levels are shown on the map below. At distances of up to 20 miles, the S meter was at full scale. At distances of 30 to 40 miles, the signal level dropped to S9. The noise level was S3 and 100-percent copy of the CW signal was possible. These tests illustrate the potential of 500 kHz to provide continuous coverage for emergency communications.



4. INTERFERENCE

There have been no reports of interference, however, we are continuing to monitor two potential interference problems.

NDB OF

The signal-level comparisons collected by K0HW during the winter have been processed. K0HW is located on the northeast edge of the coverage area of NDB OF. In most cases, signals from our stations are 15 dB below that of OF, which is the margin the FAA seeks for

NDBs that operate on the same frequency. Unfortunately, these results were obtained with different and possibly directional antennas. For the time being, I have decided to continue the restricted frequency range (505 - 508 kHz) for the midwestern stations. We plan to repeat the tests this winter.

NEED

We continue to hear NEED on 505 kHz from time to time.

5. OTHER EXPERIMENTAL/AMATEUR OPERATIONS

A group of Brazilian amateurs is seeking access to 500 - 510 kHz.

On August 28, SK6RUD was reported transmitting on 499.97 kHz. This is a club station located in Oxaback, Sweden, about 50 km southeast of Gothenberg. They are using a modified lifeboat transmitter that delivers 2 W to a half-wave dipole elevated about 7 m. They are allowed 10 W ERP and authorized to transmit only on 500.0 kHz.

The Maritime Radio Historical Society (MRHS) conducted its annual "Night of Nights" on July 12. The following stations were scheduled to transmit on MF as part of this event:

CALL	QTH	<i>f</i> , kHz
KPH	San Francisco, CA	426, 500
KSM	San Francisco, CA	426, 500
KLB	Seattle, WA	488, 500
NMN	Portsmouth, VA	448, 468, 500
NMC	Pt. Reyes, CA	448, 472, 500
NOJ	Kodiak, Alaska	416, 470, 500

6. REGULATORY AND WRC-11

No news.

6. PORTABLE STATION

Fred Temple, KN8AZN, is investigating PSKmail for 600m ARES message handling. Fred will experiment with and select suitable operating modes.

Ralph Walio, W0RPK, has designed and fabricated a prototype portable vertical antenna mount. It uses a plywood base, 2x4 outriggers, and an aluminum base and post for the vertical antenna and 32-64 radial wire attachment. The antenna base insulator is from the HUSTLER BTV-series of vertical antennas. The collapsible 40ft vertical radiator is made from 6-ft sections of nested aluminum tubing from DX Engineering. Push-up deployment and adjustment has

been a reasonable one-person effort. The goal is dependable deployment and operation by not more than a 2-person team.

Fred's conversion of Small Wonder Labs PSKnnn and Communications Concepts EB63 kits to 600m has yielded a stable portable digital station. Ralph is duplicating Fred's developments for a 2-W ERP portable station.

7. PLANS

The ground-wave and 24-hour tests will continue through the end of September. After they conclude, I will begin processing the data..

APPENDIX A. STATISTICS

STATION	CALL	STATUS	01/31/08		04/30/08		COMMENT
			HOURS	QSOs	HOURS	QSOs	
WD2XSH/1	W1NZR	ON	8:37	3	11:37	5	
WD2XSH/2	W5TVW	OFF	12:31	22	12:31	22	Inactive
WD2XSH/3	WD5CVG	DROPPED	-	-	-	-	
WD2XSH/4	WD4PLI	DROPPED	-	-	-	-	
WD2XSH/5	KW1I	ON	19:47	42	19:47	42	
WD2XSH/6	W5THT	ON	2962:11	81	3577:22	81	
WD2XSH/7	W5JGV	MOVED	-	-	-	-	Moved
WD2XSH/8	N4ICK	OFF	0	0	0	0	Inactive
WD2XSH/9	W2ILA	ON	9:37	26	9:37	26	
WD2XSH/10	W4DEX	ON	792:33	22	856:00	22	
WD2XSH/11	WS4S	OFF	809:42	12	809:42	12	Inactive
WD2XSH/12	AI8Z	ON	6644:39	21	8670:53	21	Beacon
WD2XSH/13	K0J0	ON	897:30	7	997:00	7	
WD2XSH/14	W1FR	ON	118:05	5	118:05	5	
WD2XSH/15	W50R	ON	1853:57	2	3345:05	2	
WD2XSH/16	WE0H	ON	2:38	0	332:04	0	On the air
WD2XSH/17	AA1A	ON	712:09	23	713:38	23	
WD2XSH/18	N1EA	OFF	3935:00	0	3935:00	0	Inactive
WD2XSH/19	K9EUI	ON	1297:46	3	1310:21	3	
WD2XSH/20	N6LF	OFF	1963:12	7	1963:12	7	Inactive
WD2XSH/21	WORW	DROPPED	652:42	0	652:42	0	
WD2XSH/22	WB2FCN	MOVED	-	-	-	-	Ready
WD2XSH/23	K20RS	OFF	110:11	0	110:11	0	Inactive
TOTAL	04/30/08	13 ON	20,840	276			
TOTAL	08/31/08	12 ON	27,445	278			

Note:

Operating hours and QSOs are derived from logs through August 31, 2008.

Total number of QSOs is half the total shown for individual stations.

The statistics in this appendix were compiled by Rudy Severns N6LF using the Excel logs submitted by the stations.