

WD2XSH status report: June 1 - August 31, 2009**Prepared by Fritz Raab, W1FR, Experiment Coordinator****September 22, 2009****1. SUMMARY OF OPERATIONS**

This report provides a summary of WD2XSH activity during the spring of 2009. The key statistics of our operations to date are:

- Number of QSOs: 0 additional, total 336;
- Number of reports via web site: 275 additional, total 8709;
- Operating hours: 1,051 additional, total 37,529; and
- Number of interference complaints: 0.

All statistics are based upon the end of the reporting period (08/31/09).

2. ADMINISTRATIVE

On July 6, the modified experiment plan that removed the foreign communication was posted on the FCC web site. On July 28, the FCC granted the modification. All was expected except that the expiration was not extended. It remains August 1, 2010. This should pose no real problem as we can do an "as-is" modification.

3. COMMUNICATIONS

WD2XSH/23 (K2ORS) was on the air on 496 kHz on July 30, making him the first to use the new frequencies. WD2XSH/29 (KN8AZN) was on the air on July 31, making him the first of the new stations on the air. Several reports were received and this motivated a number of other stations to get back on the air in spite of the high QRN levels in the summer. WD2XSH/34 (W0RPK) went on the air on August 8. W1XP (/37) has also gotten on the air. Station /29 reports daytime ground-wave reception in Michigan (150 mi) on August 29 (Figure 1)

A new band plan (Figure 2) was developed with the objectives of avoiding interference to nearby NDBs and making maximum use of the frequencies available to WD2XSH, WE2XGR, and other experimental stations. The specific frequencies are given in Appendix G.

Based upon a review of our license and the FCC emission designators, it appears that WSPR is included within our FSK authorization. The use of WSPR was therefore authorized. On September 12, the WSPR signal from WD2XSH/17 (AA1A) was received in Sweden and the Czech Republic.

Updated maps of reception reports for each station appear in Appendix F.

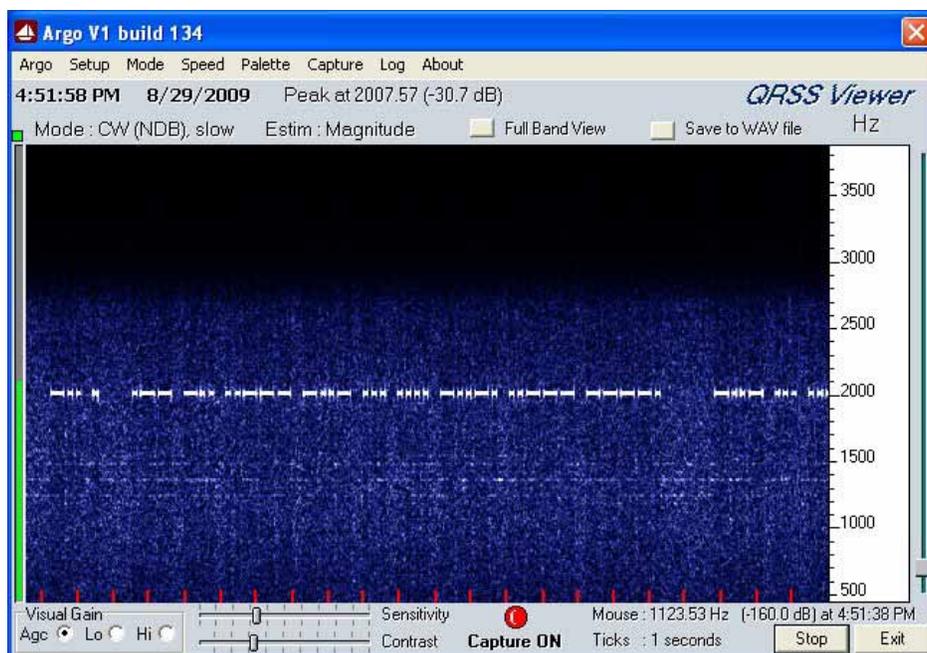


Figure 1. WB8ILI ground-wave reception of WD2XSH/29.

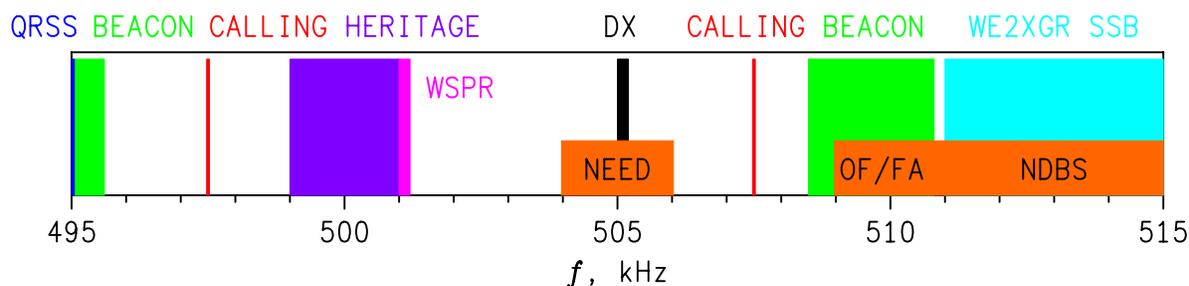


Figure 2. New band plan.

A program has been written to process the data from the ground-wave tests from summer 2008. Processing of the data from cluster 9 (New York) shows better than 95 percent reliability:

XMTR	RCVR	d, km	ALL REPORTS			DAYTIME ONLY		
			N	AVG	SD	N	AVG	SD
WE2XGR/6	KN8AZN	306	32	93.9	16.6	20	95.0	17.7
WE2XGR/6	WD2XSH/14	378	6	97.5	5.5	6	97.5	5.5
WE2XGR/6	K3DJC	306	5	100.0	0.0	1	100.0	-
WE2XGR/6	All GW		44	95.2	14.5	26	95.6	15.8

4. INTERFERENCE

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

NDB OF

NDB OF continues to operate on 510 kHz.

NEED

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

5. OTHER US EXPERIMENTAL LICENSES

The frequency bands of US and foreign amateur and experimental licenses are shown in Figure 3. The parameters of U.S. experimental licenses are given in Appendix B.

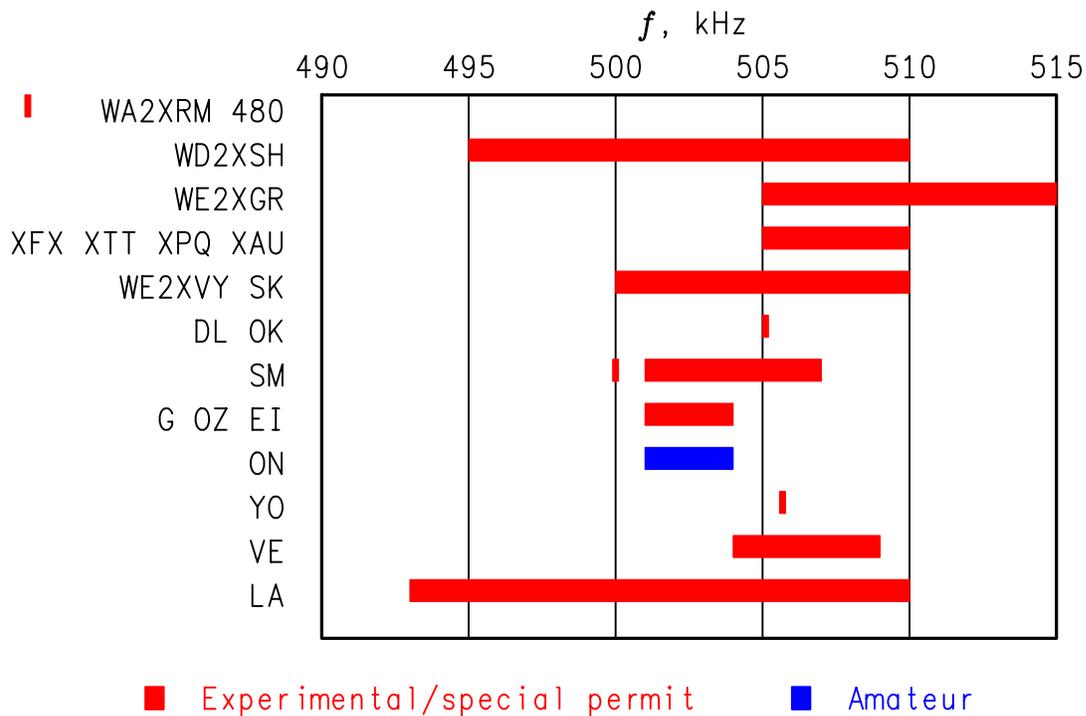


Figure 3. Worldwide amateur activity at 500 kHz.

6. INTERNATIONAL AMATEUR ACTIVITIES

The Irish Radio Transmitters Society reports that their ComReg has issued an experimental license for eight stations. They will be able to operate from 501 to 504 kHz with an ERP of 10 W using CW or PSK-31.

The OK0EMW experimental license has been renewed through August 13, 2010.

7. HERITAGE (MUSEUM) OPERATIONS

U.S. Coast Guard stations did not participate in this year's Night of Nights (June 12) because their MF operators who previously participated have retired.

On May 24, the 100th anniversary of Swedish Naval Coast Radio, the NAVTEX transmitter SDJ at Grimeton sent a special message on 500 kHz.

8. REGULATORY AND WRC-12

No significant activities have come to the attention of the author during the reporting period.

9. PORTABLE STATION

W0RPK has begun testing the equipment for the the portable station.

10. EQUIPMENT

A couple of Finnish hams (OH2NLT and ON7NV) who make "Juma" kits are planning to release a 500-kHz transmitter in September. It includes a synthesizer and a current-switching class-D power amplifier with a 60-W output.

Several new stations are in need of suitable frequency sources. We contacted N3ZI about his synthesized VFO, and he has modified it to produce 1-Hz steps at 500 kHz. The first prototype is being tested and the kits will be offered for sale for about \$50.

11. PLANS

There are no specific plans for experimentation this fall. A number of the new stations will be trying to get on the air. The author hopes to finish processing the data from last summer's ground-wave tests.

APPENDIX A. STATISTICS

STATION	CALL	STATUS	08/31/08		05/31/09	
			HOURS	QSOs	HOURS	QSOs
WD2XSH/1	W1NZR	Inactive	13:36	7	13:36	7
WD2XSH/2	W5TVW	Inactive	12:31	22	12:31	22
WD2XSH/5	KW1I	ON	24:07	48	24:07	48
WD2XSH/6	W5THT	ON	4899:36	115	5307:27	115
WD2XSH/7	W5JGV	Moved	-	-	-	-
WD2XSH/8	N4ICK	Inactive	0	0	0	0
WD2XSH/9	W2ILA	ON	9:37	26	9:37	26
WD2XSH/10	W4DEX	ON	1233:46	28	1246:46	24
WD2XSH/11	WS4S	Inactive	809:42	12	809:42	12
WD2XSH/12	A18Z	ON	13278:24	23	14734:13	23
WD2XSH/13	KOJO	SK	997:00	7	997:00	7
WD2XSH/14	W1FR	ON	233:45	6	233:45	6
WD2XSH/15	W5OR	ON	4131:33	2	4131:33	2
WD2XSH/16	WE0H	ON	884:35	11	895:15	11
WD2XSH/17	AA1A	ON	772:49	23	884:43	23
WD2XSH/18	N1EA	Inactive	3935:00	0	3935:00	0
WD2XSH/19	K9EUI	ON	1313:51	3	1324:46	3
WD2XSH/20	N6LF	Inactive	1963:12	7	1963:12	7
WD2XSH/21	WORW	Dropped	652:42	0	652:42	0
WD2XSH/22	WB2FCN	Moved	-	-	-	-
WD2XSH/23	K2ORS	ON	110:11	0	112:11	0
WD2XSH/29	KN8AZN	ON	-	-	226:11	0
WD2XSH/34	WORPK	ON	-	-	2:45	0
WD2XSH/37	W1XP	ON	-	-	12:19	0
TOTAL 05/31/09		10 ON	34,527	336		
TOTAL 08/31/09		14 ON	37,529	336		

Note:

Operating hours and QSOs are derived from logs through August 31, 2009.

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

Several stations are subject to a QRT order for not being current in submitting their logs. These stations are required to remain QRT until they have rectified the situation. Generally, these stations have an equipment problem or some other problem that keeps them from operating.

Two stations moved from the location specified on our original license. They are now authorized to operate at their new QTHs.

Some changes (such as a decrease in the number of QSOs) are the result of corrections to the logs.

APPENDIX B. US EXPERIMENTAL LICENSES

CALL	NUMBER	QTH	f, kHz	ERP, W	DATES
WA2XRM	1	CO	480	100	01/01/09 - 01/01/14
WD2XSH	20	CONUS	505 - 510	20	09/13/06 - 08/01/10
WE2XGR	5	New Engl and	505 - 515	200	09/05/07 - 09/01/12
WE2XFX	1	OK	505 - 510	20	07/27/07 - 10/21/08
WE2XTT	1	PA	505 - 510	1500*	09/08/08 - 09/01/13
WE2XPQ	1	AK	505 - 510	50	06/05/08 - 06/01/13
WE2XVY(SK)	1	AZ	500 - 510	200	12/09/08 - 12/01/10
WF2XAU	1	FL	505 - 510	10	06/23/09 - 01/01/10

* RF output to antenna

APPENDIX C. FOREIGN AMATEUR/EXPERIMENTAL BANDS

COUNTRY	TYPE	BAND, kHz	ERP, W
Sweden	NoV	500, 501 - 507	20
Germany	Exp	505.0 - 505.2	9
Czech Republic	Exp	505.60	1
UK	NoV	501 - 504	10
Belgium	Amateur	501 - 504	5
Canada	Exp	504 - 509	20
Norway	Am/Herit	493 - 510	100 (RF) CW only
Romania	NoV	505.68	100 (RF)
Denmark	Exp	501 - 504	20
Ireland	Exp	501 - 504	10 CW, PSK-31

APPENDIX D. HERITAGE STATIONS

CATEGORY	CALLSIGN	FREQUENCIES	OPERATOR / QTH
Coastal	KSM	500, 426	MRHS, Bolinas, CA
	KFS		
	KPH	599, 426	MRHS, Bolinas, CA
	KLB	500, 488	Seattle, WA
	WLO	500, 438	Mobile, AL
New	WNE	500, 472	NEHRS, Stoneham, MA
	KDR	500, 482	Bellevue, WA
	WFT	500, 486	Palmeto, FL

USCG	NMC	500, 448, 472	Bolinas, CA
	NMN	500, 448, 468	Chesapeake, VA
	NOJ	500, 416, 470	Kodiak, AK
Ships	KKUI		SS American Victory
	KYVM		SS Red Oak Victory
	KECW		SS Lane Victory
	KXCH		SS Jeremiah O'Brien
	KHRC		SS Matsonia
	NWVC		LST325
	NTTH	500, 512	USS Cassin Young, Charleston, MA
Foreign	LGQ	493 - 510	Rogaland, Norway
	LM500LGN	493 - 510	Bergen, Norway

APPENDIX E. US PART-15 OPERATORS

<i>f</i> , kHz	ID	QTH	OPERATOR
510.1	HI	Monroe, CT	
510.903	EH	East Haven, CT	K1RGO

APPENDIX F. RECEPTION MAPS

These maps were compiled by Ralph Wallio W0RPK from logs reports entered on the web site from the start of operations in September 2006 through June 2009.



/1

/2



/15



/16



/19



/10



/11



/12



/13



/14



/15



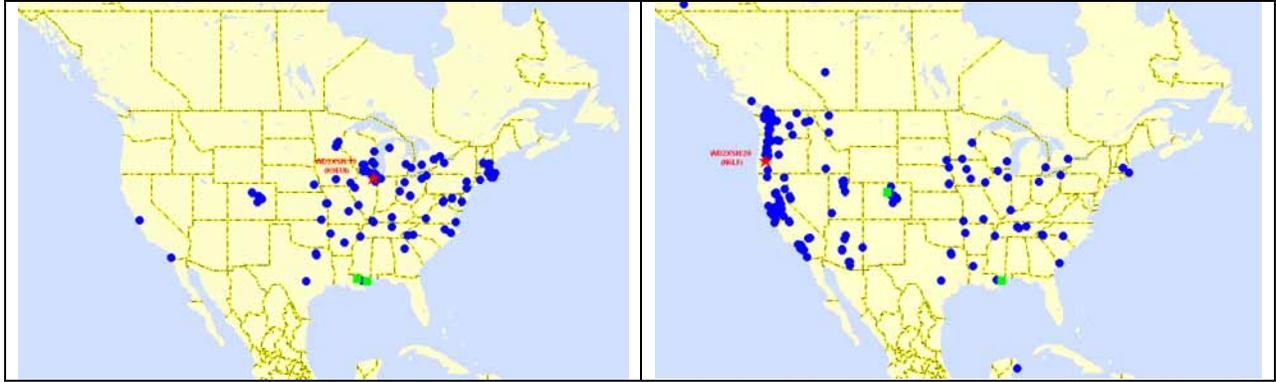
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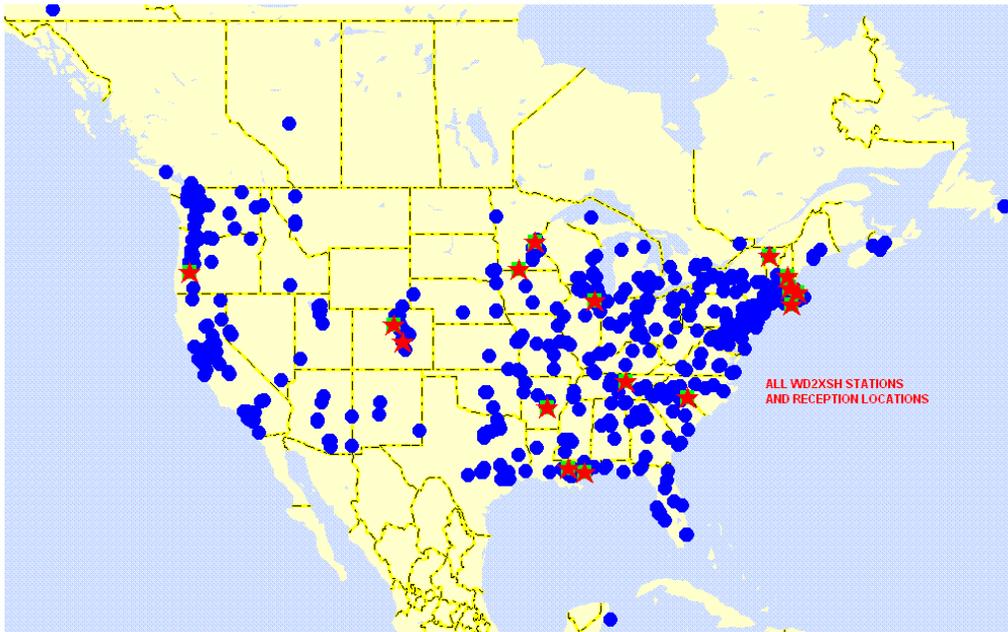
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All Stations

APPENDIX G. BASIC BAND PLAN

f, kHz	USE
495.0 - 495.1	QRSS, 1-Hz spacing, 40 stations
495.1 - 495.6	CW/PSK beacons midwest, 100-Hz spacing, 10 stations
495.6 - 499.0	Comms
497.5	Calling frequency
499.0 - 501.0	Reserved for heritage stations and special events
501.0 - 501.2	WSPR
501.2 - 505.0	Comms
505.0 - 505.2	DX window
505.2 - 508.5	Comms
507.5	Calling frequency
508.5 - 510.0	CW/PSK beacons east, south, west, Pacific, 50-Hz spacing, 30 stations
510.0 - 511.0	WE2XGR beacons
511.0 - 515.0	WE2XGR SSB and wideband modes

Other In-Band Signals

503.976	NEED LSB
505.0	NEED carrier
506.024	NEED USB
508.976	OF/FA LSB
510.0	OF/FA carrier
511.024	OF/FA USB