

## The Rochester VHF Group

# The VHF



# Journal

Volume 64, Issue 5

January 2012

The next regular meeting of the Rochester VHF Group will be Friday, January 13<sup>th</sup> 2012 at 7:30 PM

**Spencerport Wesleyan Church**

**2653 Nichols St., Spencerport**

**Map and directions in back**

### **In this issue:**

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Classified

**Topic:** Roving and the VHF Contest

## **The Chairman Speaks! John Stevens WB2BYP**

**Groupers:** Happy New Year to all!,

I'd like to give a special thanks to all of the RVHFG Board and the membership for making 2011 a fun and rewarding year and look forward to 2012 and beyond.

Also, thanks to Bill Rogers for opening his home in December for the Annual Tune-Up Clinic, and take note that Bill will be front and center for the January Meeting with a program on Roving and the VHF Contest. There are results from the Noise Figure and Gain Measurements listed elsewhere in this month's issue of the newsletter. Our meeting will be held on Friday the 13<sup>th</sup> (!) at the Spencerport Wesleyan Church at 1930L.

Here is news on the Annual Banquet, which will again this year be a joint effort with our RDXA brethren. We are hot on the trail, following up on some good suggestions and will finalize the arrangements after the RVHFG Board meeting. I'll have a more formal announcement go out in the February Newsletter and by the usual reflectors.

. . . Continued....

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# The Chairman Speaks! continued...

... We are working on the details of relocating the RVHFG Beacons to the AWA facility in Bloomfield, NY and hope to have them in place and back on the air soon.

An outline of the organization for 2014 Microwave Update is taking shape. There will be more on this during the year, and plenty of opportunity to jump in and participate.

Ken of the K2LIM Contest Group writes of the upcoming January Contest:

**...Encourage those who only have FM to get on and make some simplex contacts. The K2LIM contest group will be monitoring all the time and calling CQ Contest occasionally on the following frequencies: 146.55, 223.5 and 446.0 FM simplex. 75 mile FM simplex contacts will amaze some new comers to the hobby and maybe re-energize some of the older members of the hobby. What a great way to introduce people to the wonderful world of VHF/UHF weak signal. We are looking to work you in the January VHF contest.**

Please keep the cards and letters coming...or at least the emails with your constructive suggestions as to how we can make the club bigger and better in 2012!

73,  
John wb2byp

## Secretary Report

Tom Jennings, KV2X

### Rochester VHF Group Meeting Minutes for December 2011

The December 2011 Rochester VHF Group's meeting was held at K2TER's home. John, wb2byp, called meeting to order at 1942. John mentioned the November meeting was very short and went right into the AWA tour. W2CNS made a motion to accept the October minutes and treasurer report as published in the November Journal. K2DB seconded the motion. K2DB made a motion to accept the minutes from the November meeting and treasurer's report as published in the November Journal. K2TER seconded the motion.

**Attending the December meeting were** WB2GFZ, K2LDU, W2CNS, KV2X, WB2BYP and Gloria, K2DB, WB2QCJ, KC2SPY, AF2K, K2OS, K2DH, K2TER.

#### Old business:

Beacon status. AWA agreed to host RVHFG beacons. WB2BYP will initiate a meeting with AWA and schedule a day time meeting for us to survey the site and start work on getting the beacons on the air as soon as possible. We plan to be on 6, 2, and 1296. Other bands are planned in the future.

**MUD** (Microwave Update 2014). We are starting to do some skeleton initial planning for MUD.

#### New business:

Get ready for January contest. January meeting will cover the January contests.

Upcoming Meeting plans: February will be a combined EME presentation by K2DH, W2CNS, and WB2BYP. At the March meeting K2DH plans talk on his 6m solid state KW TV channel 2 amplifier.

There was some discussion what's been going on the ham bands lately.

K2DB made a motion to adjourn the meeting and W2CNS seconded the motion.

Meeting adjourned at 2005

Program: Tune up clinic. See below for results of the tune-ups and pictures.

## Rochester VHF Group Treasurer's Report

### CHECKING ACCOUNT

<b>Previous Balance</b> (as of 12/09/2011):	<b>\$1,996.09</b>
Income:	\$ 0.00
<b>Current Balance</b>	<b>\$1996.09</b>

*Respectfully submitted,  
Tom Jennings, KV2X, Treasurer*

## Vice Chairman Report

Fellow Groupers,

**Tune-up Clinic:** Thank you all who participated in making the tune-up clinic a successful venture, it was great seeing all of you! A special thanks to Dave (K2DH) for bringing the equipment and manning the noise figure meter. And yes, it certainly was an honor to host an RVHFG meeting at my home. While our home base in Spencerport is a great venue and the availability and convenience is appreciated by all, I think there are some advantages to holding meetings at a residence and hope that we can explore more opportunities to do the same in the future.

**VHF Contest::** After a long hiatus from VHF contesting and roving I am excited to be going back out for January with my partner Tom (KV2X). We will be easing into it this year with 6 bands (4 on FM) on the ENG vehicle mast. We plan to visit 4 grids and new sites more conducive to deploying the 50+ foot boom. The last time we tried this we started operation in my driveway at the old residence with the intention of shaking things out then proceeding to other grids. Well the only thing shaking was the generator (\$350 repair) and that caused us to stay put and plug into the mains. We submitted a log for the Multi-Op class and ended up placing first in the WNY section. Please look for us in all our grids on our official maiden voyage, it is going to be interesting to see how much the additional height helps.

**Presentation:** The January meeting will focus on contesting and operation in the January VHF Sweepstakes. In that spirit, I will have a presentation and a parking lot walk through of the K2TER contest rover. Tom and I plan to spend some time discussing the future enhancements and trade-offs involved. It would be great to hear from others. Please join us!

Vy 73,  
Bill Rogers, K2TER  
Vice Chairman, RVHFG

## RVHFG Tune-UP Clinic 2011

RVHFG Tune Up Clinic 2011 Results					
Band/ Owner	Converter/Preamp	Gain	NF	HB/Comm	Comments
<b>144 MHz</b>					
K2OS	P	23.95	-0.34	HB	MGF1402
	P	16.55	1	HB	3N204
	P	24.05	-0.02	HB	MRF966
WB2BYP	P	26.19	-0.07	Comm	DB6NT
	P	18.42	3.65	Comm	Ameco Nuvistor

## RVHFG Tune Up Clinic 2011 Results

Band/ Owner	Converter/Preamp	Gain	NF	HB/Comm	Comments
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### 222 MHz

WB2BYP	P	18.5	0.86	HB	MGF1402
	P	22.43	0.12	Comm	WA2ODO
K2OS	P	23.1	0.24	HB	MGF1402
	P	26.28	1.24	HB	3SK48

### 432 MHz

K2DH	P	17.45	0.23	HB	ATF10135
W2CNS	P	17.95	0.45	Comm	ARR
	P	18.09	0.61	Comm	ARR
WB2BYP	P	38.19	0.18	Comm	WD5AGO
K2TER	P	13.07	0.46	Comm	Unknown
K2OS	P	26.28	0.37	HB	ATF10135/MGF1302

### 902 MHz

WB2BYP	P	40.91	0.91	Comm	Unknown
K2TER	C	25.48	0.54	Comm	Demi transverter

### 1296 MHz

W2CNS	P	13.91	0.31	Comm	Demi
K2OS	P	13.74	1.01	HB	MGF1302 "#2"
	P	11.15	1.15	HB	MGF1302 "#1"
	P	25.5	2.46	HB	INA03170 MMIC
K2TER	C	15.38	0.75	Comm	Demi transverter

### 2304 MHz

K2TER	C	13.83	1.45	Comm	Demi transverter
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### 10368 MHz

K2LDU	C	29.08	3.68	HB	Transverter
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**KC2SPY, AF2K, WB2BYP, K2DH, K20S, WB2GFZ, K2LDU, K2DB, W2CNS**



**Gloria and WB2QCJ**



**KV2X, K2LDU, and W2CNS**



**K2DH and K2TER getting ready to do noise figure measurement**



K2LDU's transverter box under discussion

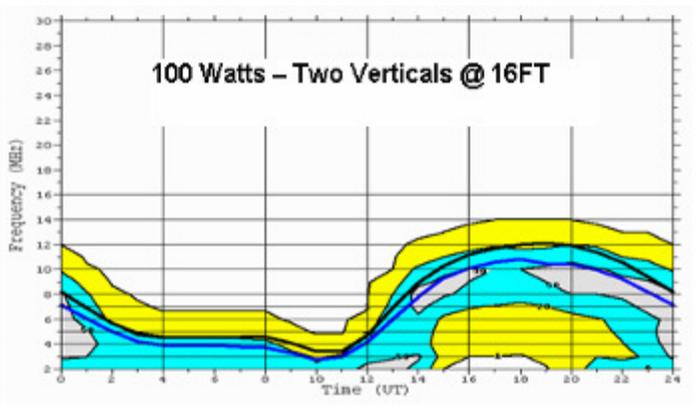
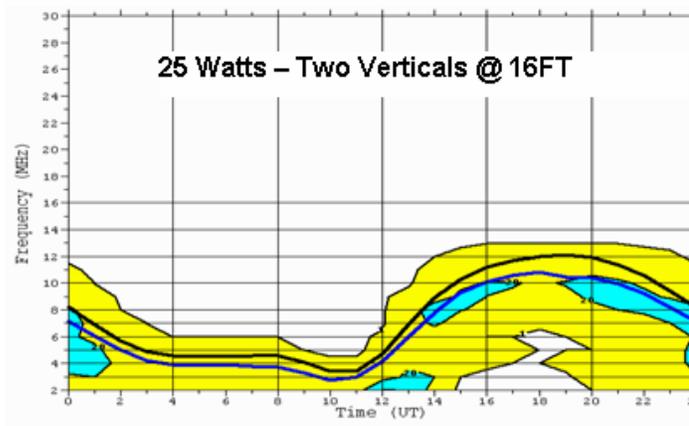
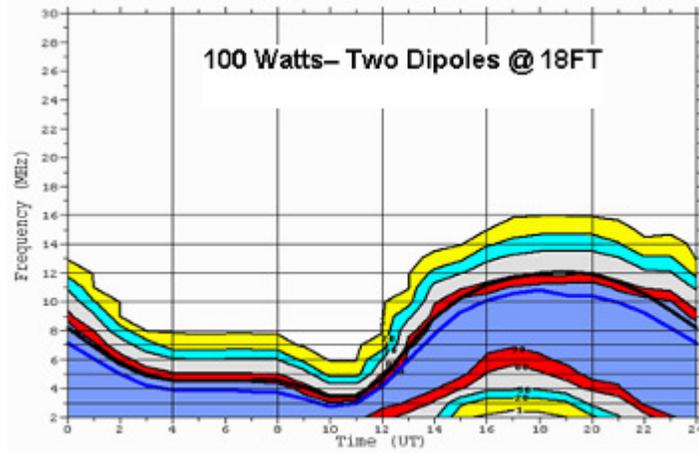
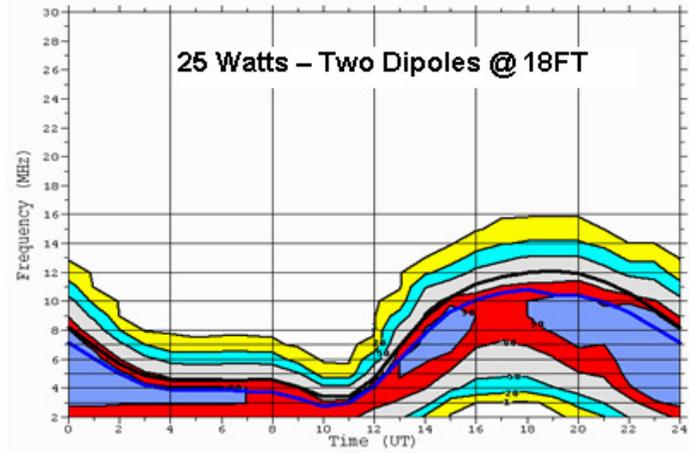
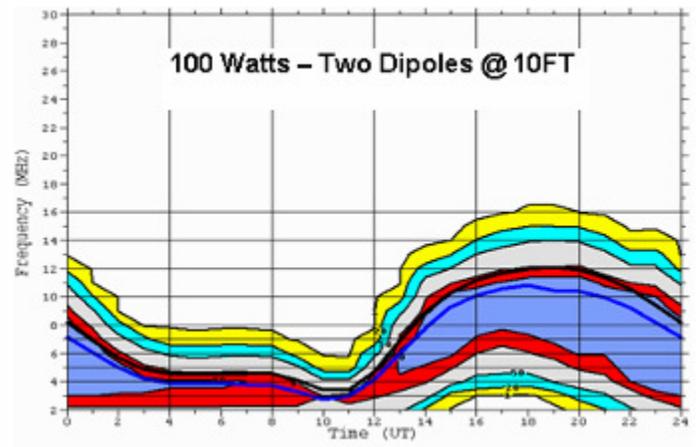
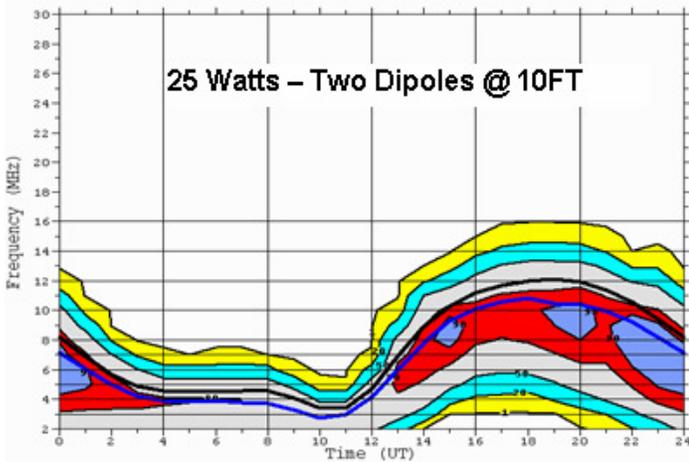
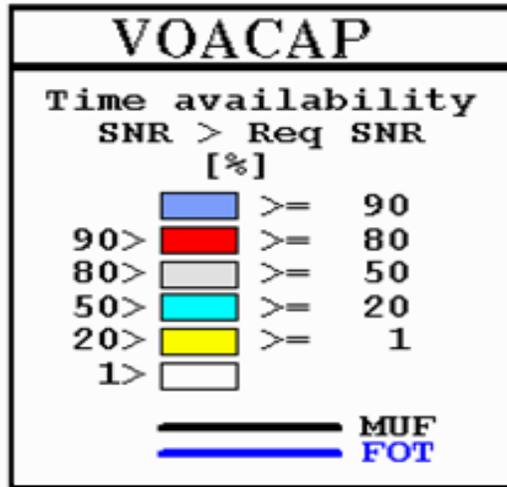
## 60-Metre Antenna Selections for Coordination

Dean Keyser, WB2QCJ

Upon reading the e-mail traffic among the RVHFG members regarding 60-m coordination for the January 2012 VHF TEST it welcomes me to outline a relevant story and provide some HF propagation analysis plots for member's consideration.

It was a month before the 1980 Winter Olympics when amateur radio operators tested the HF communications that coordinated two simultaneous torch runs from Albany NY to Lake Placid NY. One torch traveling counterclockwise, the other clockwise, on either side of the Adirondack Mountains converging upon the opening ceremony. The test failed because the HF whip antennas fitted to the mobile stations (in the classic and well published methods) were radiating low-angle sky wave patterns (and ground wave), not a high angle pattern necessary for near vertical incident sky wave (NVIS) propagation appropriate for the distances and to clear the mountain obstructions. The accepted range of HF NVIS propagation is 500 km (350 mi) or less. Torch Run coordination was achieved by a significant one-time engineering effort of cross-connecting VHF and UHF repeaters with highly directive antennas, filters and dynamic changing of equipment, frequencies, and manual relays.

Recently a VOACAP (*REF 1*) analysis was run for the distance from Buffalo to Syracuse (city centers), a Sunspot number of 122 (a guess), two power levels, and same antenna at each station. There are many combinations of antennas, antenna heights and power, but the goal is to make a point not to examine every possibility. The point is to select HF antenna systems that provide the best practical HF communications, or in the VOACAP terminology – AVAILABILITY. AVAILABILITY is defined as the percent of days the path is completed and delivers a necessary RELIABILITY, set in this analysis at 90 percent. Please refer to the legend and the graphs, where the abscissa is UTC (EST + 5 hrs) and the ordinate is the HF frequency (MHz), and there are two bold-line curves for maximum useable frequency (**MUF**) and frequency of optimum transmission (**FOT**).



The reader should arrive at several conclusions.

- Horizontal dipole antennas provide much greater AVAILABILITY, compared to the vertical whip.
- A higher dipole provides greater AVAILABILITY than one less high.
- Increased RF output power is an advantage regardless.
- Sixty-meters does not provide the highest AVAILABILITY through the radio day, so either a lesser AVAILABILITY needs to be accepted (no band change) or band changes are necessary to optimize AVAILABILITY.
- The most important conclusion is that application of vertical whip antennas, of any size or height, is the poorest selection for AVAILABILITY for HF NVIS propagation.

The results of a VOACAP analysis is essentially a probability based on input and models of much accumulated data. Members should select the antennas, frequencies and emission modes to stack the deck in favor of greater AVAILABILITY and successful HF communications.

*REF 1:* VOACAP (Voice of America Coverage Analysis Program) is a propagation analysis and prediction program used to predict expected performance of HF transmissions. See <http://www.astrosurf.com/luxorion/gsl-soft-voacap.htm> for a more detailed description, how to use, and where to get VOACAP.

## **ARRL January VHF Sweepstakes**

**Tom Jennings, KV2X**

The objective is to work as many amateur stations in as many different grid squares as possible using authorized frequencies above 50 MHz. Begins 1900 UTC Saturday, ends 0359 UTC Monday (January 21-23, 2012). So... dust off those transceivers, transverters, and amplifiers. Check out and tune up your yagis, quagis, loopers, dishes and omnis. Get the SWR 1:1 across all the bands. Drain the water out of your wave guides and hard lines! Chip the ice off the antenna elements. Get the rust off the rotor gears! Visit the weekly 2m, 6m, and 432 nets for expert reports! Get those rovers out of storage, rigs installed, cables run, antennas mounted and all bands working. Get computers humming and up to date with latest loggers. Hone your cw skills so you can dig out those weak EN80 and FM03 432 sigs for a couple new multipliers! Less than two weeks to go! So get it done...

# **NOW!**

# Some VHF Contest Operating Tips

Tom Jennings, KV2X

With the ARRL January VHF Sweepstakes coming up soon, I thought a few tips would be helpful for a fun and successful contest.

Use head phones. Helps you hear the weak stations and reduces any shack QRM.

Have your key handy. If the station is too weak to understand voice then switch to cw. When SSB can't get thru many times CW will make it!

Remember you can't make a Q if you just listen. Make some noise let everybody be aware of your presentence.

When calling CQ make it short and listen for 4 or 5 seconds if you don't hear anybody call CQ again. Keep it up for about five or ten minutes then tune around band looking for new stations to work. Go back to your CQ freq and start calling CQ again. Try using this CQ format: "CQ CQ CQ contest this is KV2X Kilo Victor 2 X-ray." Listen 4 or 5 seconds. Repeat. Mention your grid square every so often.

Swing you beam around when calling CQ.

When you work somebody, always ask if they have any other bands and try to work him on all the bands. Peak up on him before you QSY. Have preferred QSY frequencies ready. Make sure they are clear frequencies. Also establish a return frequency in case you have trouble working each other. When working the microwaves establish a liaison frequency which will help in pointing and peaking up sigs. Keyer is handy to have so you can send dashes.

When working FM, turn your squelch off so you don't miss any weak stations.

Always use standard phonetics when giving your call. Don't be clever with phonetics as it makes it harder on the receive station to copy your call correctly.

## NATO Standard Phonetic Alphabet

<b>A</b> Alfa	<b>H</b> Hotel	<b>O</b> Oscar	<b>V</b> Victor
<b>B</b> Bravo	<b>I</b> India	<b>P</b> Papa	<b>W</b> Whiskey
<b>C</b> Charlie	<b>J</b> Juliet	<b>Q</b> Quebec	<b>X</b> X-ray
<b>D</b> Delta	<b>K</b> Kilo	<b>R</b> Romeo	<b>Y</b> Yankee
<b>E</b> Echo	<b>L</b> Lima	<b>S</b> Sierra	<b>Z</b> Zulu
<b>F</b> Foxtrot	<b>M</b> Mike	<b>T</b> Tango	
<b>G</b> Golf	<b>N</b> November	<b>U</b> Uniform	

Know your equipment and have everything ready before you start operating. Practice switching bands and changing modes from SSB to CW and back. That way you can make the Q quick and flawlessly. Many Qs and Multipliers are lost because of fumbling around band switching!

Here are a few frequencies to call CQ for FM: 146.55, 223.5, and 446.0

For weak signal work, look around the calling frequencies: 50.125, 144.200, 222.1, and 432. Don't call CQ on these frequencies, but 5 or 10 kHz above. The 6M CW band is 50.090 to 50.100 its always a good idea to listen and call CQ a few time for a couple extra Qs and Multipliers! Listen and call CQ on 144.260 as that has been a popular rover coordinating frequency. Also have a rig listening on 60M channel #2 for any rover chatter.

These are just a few tips but there is a lot more to consider. KC9BQA has written a series of articles called VHF Contesting School. They are thorough. It may be more than a total newbie will want to

read thru. That's fine, skim thru the articles, and take what you need. Don't worry about every last detail. You can be a casual contester, and have fun on your terms.

These links are in order from a basic introduction, to antennas, to what bands and frequencies to use, and so on.

<a href="http://kc9bqa.com/?p=1677">http://kc9bqa.com/?p=1677</a>	VHF Contesting School — Introduction.
<a href="http://kc9bqa.com/?p=1689">http://kc9bqa.com/?p=1689</a>	Antennas – The Most Important Part of Your V/UHF Station.
<a href="http://kc9bqa.com/?p=1700">http://kc9bqa.com/?p=1700</a>	What Bands and Frequencies to Use.
<a href="http://kc9bqa.com/?p=1717">http://kc9bqa.com/?p=1717</a>	How to Log a V/UHF Contest.
<a href="http://kc9bqa.com/?p=1727">http://kc9bqa.com/?p=1727</a>	Helpful Hints — Being a Smarter Operator.
<a href="http://kc9bqa.com/?p=1737">http://kc9bqa.com/?p=1737</a>	Go Roving! Put the Antennas and Rigs in the Mobile.
<a href="http://kc9bqa.com/?p=1740">http://kc9bqa.com/?p=1740</a>	More Detailed Rover Info.
<a href="http://kc9bqa.com/?p=1750">http://kc9bqa.com/?p=1750</a>	Rules and Scoring.

Good luck in the contest and have FUN! Hope to work you all!

Tom KV2X

## VUCC Applications Made Easier - IMPORTANT

Ed Gable K2MP

Previous VHF'ers applying for VUCC and/or VUCC Endorsements went through the laborious effort to fill out the individual MSD-259 forms where only one maidenhead grid square (FM, FN, EN, etc) could be entered on one form. Bob, W2CNS, just handed me an endorsement application with 23 new EME grids where he had to fill out 23 forms, each with only one call sign, and filled out exactly according to published ARRL instructions. I thought this was silly and called the VUCC desk at ARRL HQ. After a pleasant QSO we concluded that the 259 forms have outlived their usefulness and no longer need to be used. (Sorry, Bob) Now, simply list your QSO data on one page, starting with band (50, 144, 222, etc) and then sorted by grid such as: EM11, EM16, EN01, FM31, FN12, FN13, etc. That will make things much easier for you, for me and for the folks at the League. HNY. 73,

Ed Gable K2MP

ARRL Award Field Checker

[egable@rochester.rr.com](mailto:egable@rochester.rr.com)

## Classified Listings

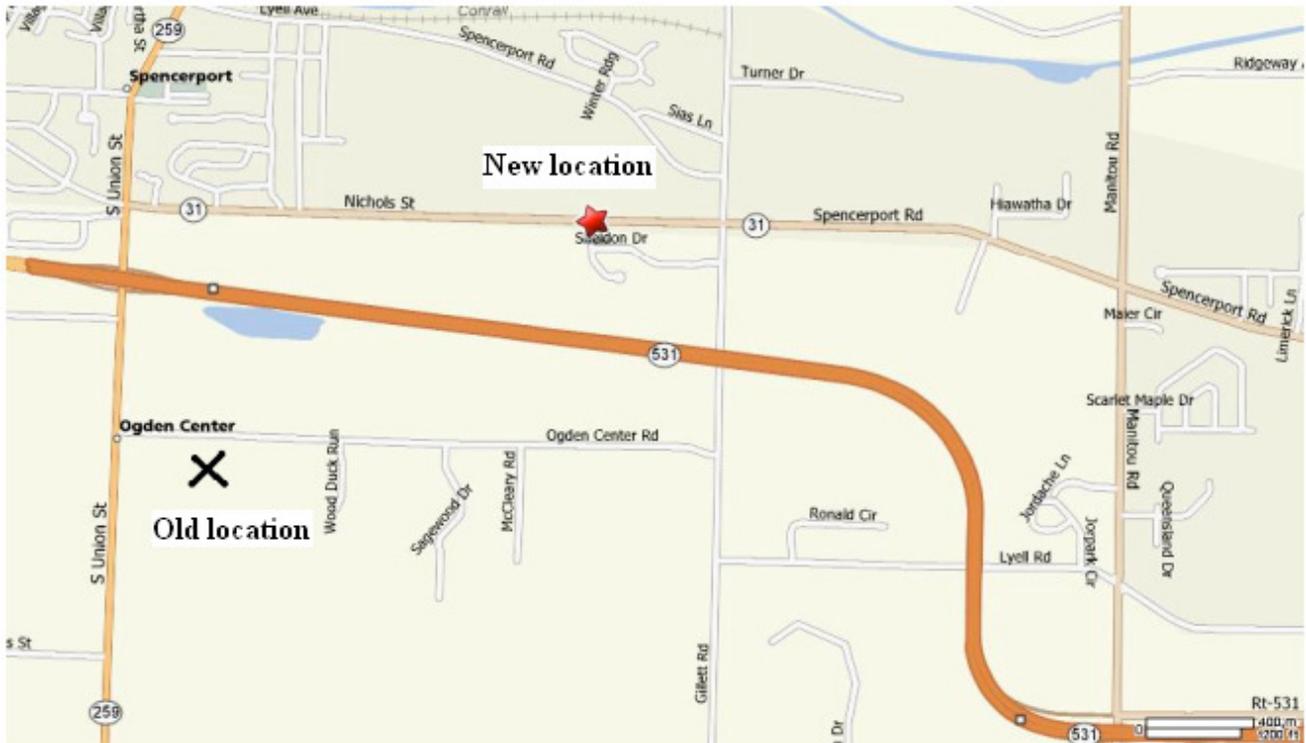
**For Sale:** Harris Platinum I Channel 2 TV Amplifiers for use on 50 MHz.

Hello 6m (or aspiring 6m) DXers! I have purchased a quantity of the Harris Platinum I Channel2 amplifiers for the purpose of making them available at an affordable price to serious 6m operators - especially those in rare DXCC - who have been limited to "barefoot power". 10w input produces around a kilowatt output on 6m, if you use one of the cheap HPS3KW switching 50 VDC power supplies. A pair can very easily provide 1500w output continuously if you use some high volume fans on the heat sinks. Details are on my website:

<http://www.bigskyspaces.com/w7gj/HarrisAmps.htm>

Please pass this information on to anyone who might be interested, especially those in rare DXCC ;-)  
CU on 6m EME! MNI TNX and GL!VY 73, Lance, W7GJ

# Meeting Location and Directions



**Spencerport Wesleyan Church on 2653 Nichols St. (actually Hwy. 31).**

**Directions from Rochester:**

**531W exit RT. to 259N**

**259N turn Rt. on 31E (first Rt. at traffic light)**

**Look for Spencerport Schools Bus Garage on left**

**Take first Rt. on Sheldon at A-framed church, park in rear lot.**

**Enter gray metal door under fire escape.**