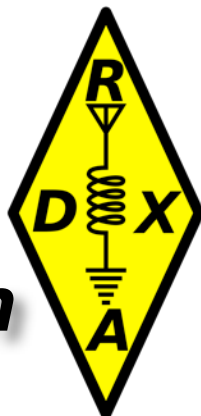


Rochester DX Association



November Presentation

QSLing

Hosted by Kerry, Ken, and Ed

Tuesday, November 17, 7:30pm

Monroe County EOC

1190 Scottsville Road

RDXA HOLIDAY Banquet

When: December 15, 2015

Where: Rick's Prime Rib

Time: 6:00PM Cocktail Hour – 7:00PM Dinner

Cost: \$25 per person (Dinner, Hors d'oeuvres, Desert, Coffee etc.)

Choice of: Prime Rib, Chicken French, Orange Roughy

Contact: Gayle Shalvoy (N2TWI) at rdxabanquet@rdxa.com

**Reservations must be in No later than December 4.
Please, in your reservation list your choice of meal**

The Rochester DX Association

Cordially invites you to our

*Annual Holiday
Dinner*

15 December 2015

Rick's Prime Rib House

889 Buffalo Road

Rochester, NY 14624

Cocktails: ----- 6:00pm

Dinner: ----- 7:00pm

Dinner Selections - \$25

Prime Rib

Chicken French

Orange Roughy

Dinner, Hor d'oeuvres, Desert, Coffee included

Cash Bar

**Reservations and dinner selection by December 4th to
RDXABANQUET@RDXA.COM**

Gayle – N2TWI

President's Letter

I hope everyone has had a chance to participate in the recently completed NYQP and CQWW SSB contests. Bands were in good shape, plenty of activity and a time to "pad" those WAS and DXCC standings.

As far as we know, NYQP was (another) huge success with all counties being represented. A significant number of logs have been received as of the last report. Congratulations to the NYQP team and RDXA for resurrecting the event several years ago. Yet another feather in the RDXA cap as it were.

Thanks to W2FU and those who operated W2RDX (at W2FU). Hopefully, we'll regain the top club score status for 2015!

Over 20 QSL requests have been received by W2RDX (and W2CCC for that matter) showing the popularity of the contest. My mailbox has been full (on a daily basis) for the last 2 weeks.

As usual, W2CCC was piloted by WB2HJV, AF2K, N2TWI and myself (real live operating picture below). We managed 48 states, missing (and actually never heard) Hawaii and Alaska, and plenty of German Q's as well!

CQWW SSB was the following weekend and we had great 10m conditions so even the smaller stations could work as many stations as they wanted really. In my opinion, not as good as last year as I missed several "exotic" mults that were logged in 2014. Looking for my 3rd million point year found me just a bit short. Running 400w and a G5RV, got me over 900k with just over 22 hours in the chair.

Operating from W2CCC provides a few additional challenges such as the 21deg temperatures upon arrival Friday nite (and the subsequent need to get the house up to a suitable temperature), keeping the fire "stoked", retrieving wood to do as such, cooking meals myself, etc.

On top of that, one of my Beverages had been damaged by the backhoe that's digging the holes for the two towers. Got the actual wire on the easterly one and the feedline of the same. After several hours in the below freezing Saturday morning temps, everything seemingly worked (though the SWR was significantly different than in the past – 4:1 - last time I checked all were 1:1). Of the wires strung all over the place, taking those down was the

worst possible scenario. Having over a 500 foot run, just walking to each end takes time (and the feedpoint is quite a way from the house as well).

Be sure to submit your logs no matter how big or small, not only to contribute to the club score but in the bigger picture, to show band usage.

Several more enjoyable contests are on the calendar, Sweepstakes, CQWW CW and the ARRL 160m and 10m are all being held over the next few weekends.

Thanks to those who participated in FD, seems the score is a bit off from years past but in the midst of that monsoon, it was to be expected. I think some of my stuff is STILL drying out....

On the DXAC front, a proposal to begin to issue a mobile only DXCC award is being floated about. Several particulars are still being sorted but I have a good feeling it will be adopted. More as specifics are released.

Remember, two upcoming RDXA yearly events are on the horizon, the Annual Holiday Dinner and the RMSC demonstration event. Check for details elsewhere in this issue and look for subsequent emails on the reflector.

Best DX es 73,

Chris K2CS

President, RDXA



2015 Field Day results and previous year comparisons

Vic Gauvin K1PY

Field Day results for 2015 were recently posted on the ARRL site, and of course, we all have an interest in how we fared, and perhaps to what extent our abnormal weather experiences this past FD weekend impacted our final placement.

So when you get there and bring up the 2015 results, you get the default listing first page, the top 25 in all classes. Taking a quick glance, I was a bit fearful when we didn't show up on the first page, which has been a pretty regular thing for us.

Being at the top of page 2, 26th overall, was a bit of a relief.

So then you can custom sort for class (and other combinations), and we get

#	Call	Score	Cat	QSOs	Pwr	GOTA	Sec	Participants	Club
1	K4JJ	14,536	3A	4,195	2	NF4GA	GA	216	North Fulton ARL
2	N4C	14,120	3A	4,031	2	NR3X	NC	13	Potomac Valley RC East
3	K9OR	13,252	3A	3,566	2	WM9Q	IL	130	North Shore RC
4	W2RDX	12,154	3A	3,464	2	W2AN	WNY	46	Rochester DX Assoc
5	W0QJY	10,504	3A	2,903	2	W0EJ	SD	25	
6	NS1RA	10,166	3A	2,546	2		EMA	45	North Shore RA
7	W9JP	9,404	3A	2,907	2	W9RCA	IN	39	Indianapolis RC
8	K2CT	8,450	3A	2,432	2	KC2ZDC	ENY	47	Albany ARS
9	N6OV	8,182	3A	2,510	2	W6TD	ORG	19	Bishop ARC
10	K8PI	7,826	3A	2,127	2	W8BLV	OH	30	Dial RC

So we gratefully see ourselves remaining in the **top 5** – a 3A record we've maintained for 15 years since 1998 (with a few excursions into 2A just for variety – once as a kW entry!).

The accompanying table shows each year's results over that period. Top 3 is highlighted in green, and #1 in yellow. I suppose it's meaningless, but our 3A "average position" over that term is 2.46.

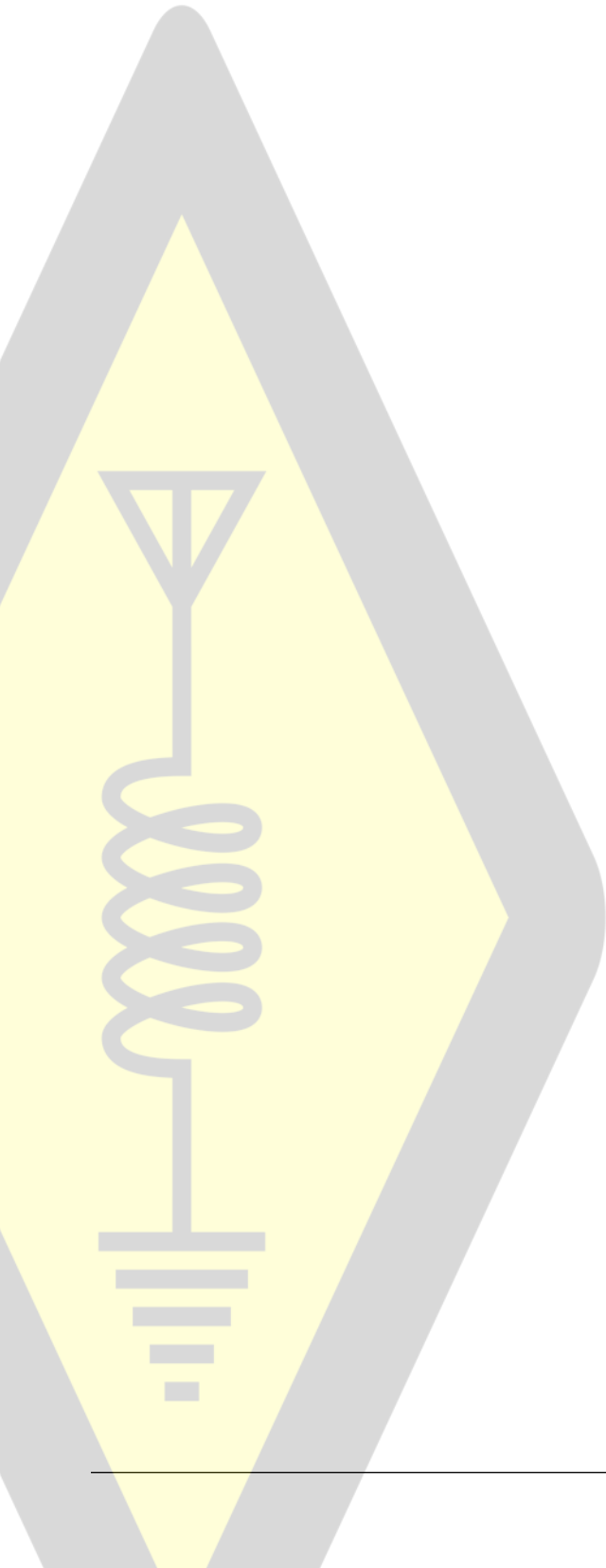
And here's our distribution:

POSITION	# TIMES
1	4
2	5
3	2
4	3
5	1

Thinking back on that "appear on the first page" comment, I thought I'd actually check it out. So below is a redo and expansion on the preceding 3A POSITION table that shows our **overall** positions as well. Overall position 1-25 puts you on the first page. (Note that the ARRL results tables did not have FD results prior to 2002.)

2015 Field Day results and previous year comparisons (Cont'd)

Of course there's more data and endless analysis. Aside from being a bit fun and somewhat interesting, it's no surprise to see that efforts and results ebb and flow due to any number of variables, weather being the most recent one for us. We had a huge Top 5 Overall splurge, but burnt out as a result. Now with a more balanced "relaxed but competitive" approach, we're seeing ourselves back in the competition and enjoying the results. And now some of the newer members have a broader perspective as to "where we are" and "where we've been."



NYQP at N2BEG

My original plan for NYQP was to go all the way over to Sullivan County (SUL) on the PA border to make a full 12 hour presence there. The plan was to get a motel room there on the Beaverkill River, throw up the trusty G5RV and hit it with both barrels. I was going to take the 746pro and the laptop so I would have computer control as well as logging and the wife could see firsthand how it's done. Well, as it turned out the weekend prior to NYQP we went to visit Ben in MA since he had Columbus Day off. The SUL plan was thwarted due to the driving across the state on back to back weekends, just too much.

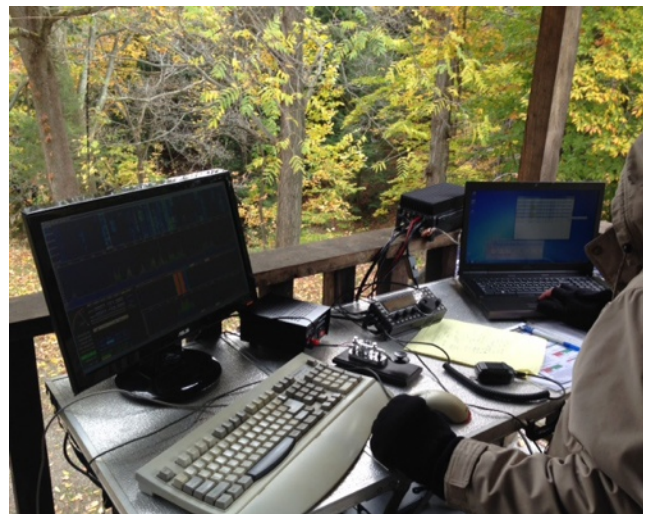
The backup plan was to go to Livingston County. (better represented than SUL, but far less than MON.) I had scouted for potential spots on the Friday afternoon before, but had little success without going all the way down to Livonia, or beyond. As Saturday approached I was still not sure where I was going to set up for sure. The XYL planned to log for me and see what all this NYQP stuff was all about.

Earlier in the week, Jack, WA2CHV had suggested I could use his front porch as he was going to be down in CAT at his father-in-law's for NYQP. I didn't plan on taking him up on it but as it turned out, parking in Jack's driveway worked out the best. Jack could not live any closer to my QTH and be in Livingston County. The sign is at the edge of his yard! This is about 1.8 miles from my house. A real dxpedition for sure!

The XYL and I arrived about 9 and proceeded to deploy the G5RV with the spud gun over the maple tree next to Jack's driveway. By the time it was secured it was almost 10, I then got set up with the tuner, etc. in the cramped truck. The G5RV was about 30 feet up, low enough so the ladder line was just off the ground. The ends were at 5 feet. It loaded up beautifully though and the rig was happy on 80-15. I didn't hear anyone above 20 so that was as high as we went. It was about 10 after when we hit the air.

Now the wife is a trooper for hanging in there. She was not feeling well Friday evening but came out anyway. I helped coach her through changing bands and reading back call signs both on phone and CW. We were racking up Q after Q, not one station couldn't hear us except W2FU on 20, I expect they were pointing east. About 1 pm she had had enough and needed to go to bed. I took her home got something to eat and then headed back to Jack's.

About that time I started seeing snow pellets bouncing off the windshield. I pushed on through the afternoon until about 5 or so when Jack and his XYL came home. He had thrown in the towel down in cold snowy Cattaraugus county. (see Picture) As he unloaded his entire station from the car, I proceeded to run at a pretty good rate in the cramped truck with the laptop between me and the steering wheel. (my old Lancer had much more room.) Jack had disappeared into the house and as darkness fell, I unhooked the coax and went for dinner. After that I came back and went through until the end. I was pretty tired and achy after sitting in the truck that long. Wound up with 365 Qs and in excess of 44K points. The wife says it was 'interesting.' I think she would find a warm place inside much more to her liking. She will have to plan next year's event.



WA2CHV at cold Cattaraugus County in his first ever NYQP. He's hooked.

2015 NYQP New York Club Highest Score analysis

Per 3830scores.com data as of 11/10/15
Vic Gauvin K1PY

To me, friendly competition amongst groups adds an additional level of interest to most undertakings. One need look no further than the NFL and FIFA for well recognized examples. At a MUCH lower level to say the least, we've had a New York-wide club competition as part of the NYQP for the past two years.

Last year, RDXA was I'm sure rather surprised that the initial winner of this competition was... not RDXA. Huh? Our friends and competitors in the **Hudson Valley Contesters & DXers** club apparently read the promotion and decided to give it a try, and deserve congratulations for being successful – great job!

So I was most interested in how it would turn out this year. Not having any access to the NYQP submissions, we all are fortunate in having a great site provided by **Bruce Horn, WA7BNM**. It's **3830scores.com** for those who haven't seen it yet, and it's worth a look after any contest. (Poke around some, it provides breakdowns and all sorts of info.)

So I looked up how HVCDX did this year (and updated it and all data as of 11/10/15), and got the following:

	CLASS	PWR	CW	PH	DIG	MULTS	SCORECLUB
HVCDX -- Hudson Valley Contesters & Dxers							
K2JMY	SOSSB	HP	0	521	0	91	47,411HVCDX
KM2O	SOSSB	HP	0	765	0	101	77,265HVCDX
N2JJ	SOMixed	LP	231	106	0	91	51,688HVCDX
N2SQW	SOMixed	LP	56	316	0	99	42,372HVCDX
W1WV	SOSSB	HP	0	319	0	90	28,710HVCDX
W2EG	SOCW	LP	501	0	0	92	92,184HVCDX
W2GDJ	SOMixed	HP	131	369	0	100	63,731HVCDX
W2XL	SOMixed	HP	439	403	0	105	135,786HVCDX
WA2JQK	SOMixed	LP	136	244	0	84	38,304HVCDX
WA3AFS	M/SMixed	HP	5	61	0	45	3,150HVCDX
HVCDX 3830 TOTAL							580,601

2015 NYQP New York Club (Cont'd)

At first, since they were on my mind from last year, they were the only group I looked up (besides RDXA of course). But then I recalled another group, *Niagara Frontier Radiosport*, so I looked them up as well:

	CLASS	PWR	CW	PH	DIG	MULTS	SCORECLUB
NFR -- Niagara Frontier Radiosport							
K2DB	SOCW	LP	396	0	0	83	65,570NFR
K2NV	SOCW	HP	330	0	0	80	52,800NFR
K2QB	SOCW	LP	405	0	0	85	69,660NFR
K2QO	SOCW	QRP	335	0	0	85	56,950NFR
K2ZR	SOCW	LP	533	0	0	85	90,270NFR
KM2L	SOMixed	LP	152	28	0	68	22,576NFR
N2RHL	SOSSB	LP	0	32	0	27	864NFR
W2DXE	SOCW	LP	218	0	0	64	27,904NFR
W2GR	SOMixed	LP	366	0	8	78	58,968NFR
W2RR(WA2AOG)	SOCW	HP	471	0	0	88	82,896NFR
W2VM	SOCW	LP	29	0	0	21	1,218NFR
WB2WPM	SOSSB	LP	0	327	0	84	27,795NFR
WN2R(WB2AIV)	SOMixed	HP	20	61	0	45	4,600NFR
NFR 3830 TOTAL							562,071

Lots of our Buffalo area friends have formed this group specifically for contesting, and obviously have taken it to heart, well illustrated by the above results. You may see some familiar calls.

So both of these efforts are considerable. But of course we especially care about how they compared with our own RDXA combined efforts.

	CLASS	PWR	CW	PH	DIG	MULTS	SCORECLUB
RDXA -- Rochester DX Association							
K2OS	SOMixed	HP	85	31	0	62	12,462RDXA
K2SSS	SOMixed	HP	438	445	0	114	150,594RDXA
KF2MR/M	SO Mobile	LP	15	8	2	8	352RDXA
KV2X/M	M/SMobile	LP	302	0	0	69	41,676RDXA
N2BEG	M/SMixed	LP	160	205	0	84	44,625RDXA
W2GN	SOCW	LP	380	0	0	86	66,120RDXA
W2RDX(@W2FU)	M/MMixed	HP	769	1679	0	118	377,600RDXA
W2RTY(W1TY)	SOSSB	QRP	0	450	0	83	37,350RDXA
W2TZ	M/MMixed	LP	456	560	0	110	161,920RDXA
RDXA 3830 TOTAL							892,699

2015 NYQP New York Club (Cont'd)

Looks like we did great! Two things stand out: The Huge effort contributed by the ops that took up Jeff on his offer to operate from his superstation under the W2RDX club call (many thanks Jeff), and the smaller number of calls posted on 3830.

Well, I noticed that several results posted on the club reflector weren't in the list, so I checked them out.

RDXA REFLECTOR DATA (from reflector postings)

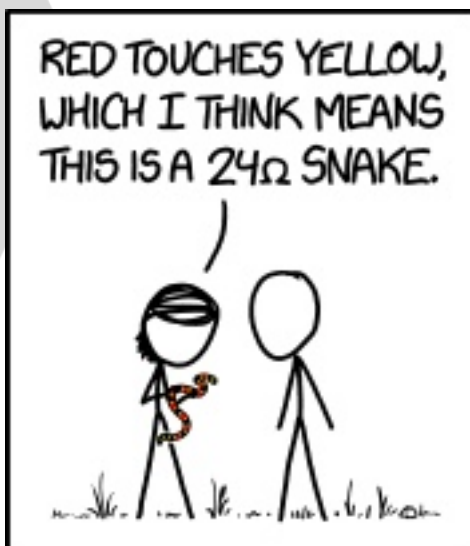
K2TER		12,524RDXA
N2CK		1,053RDXA
W2CCC	M/S	77,000RDXA
W2GTX	M/M	9,472RDXA
WJ2O/M		83,886RDXA

**RDXA REFLECTOR
TOTAL 183,935**

Well, now that's a bit better. Add this to what's on 3830scores, and we've got a total of **1,076,634!**

Now obviously, the other club's also have members that didn't post on 3830, so their scores might get a similar bump. *And*, there are probably entries that didn't post anywhere except in their NYQP log. So that's really kind of the fun part of all this – there's still a mystery as to how it might eventually turn out! So like everyone else, we now have to just wait it out.

Results are traditionally published the day after RDXA's annual Awards Banquet in April. So if you want to hear it first, make sure you're there.



N2UJN OCF Far Field Propagation Analysis, Part II

In a previous newsletter article the home build, and SWR response, of an installed, coax fed, 80m–10m, 131' OCF (Off Center Fed Dipole) with a Guanella 4:1 balun, at 30 ft, was described. The reason for that OCF build was two-fold:

- 1) to obtain access to 80m in order to join the K2QZR ROC City 80m net, and,
- 2) my yard is nearly perfectly suited to the OCF geometry as shown below in Figure 1.

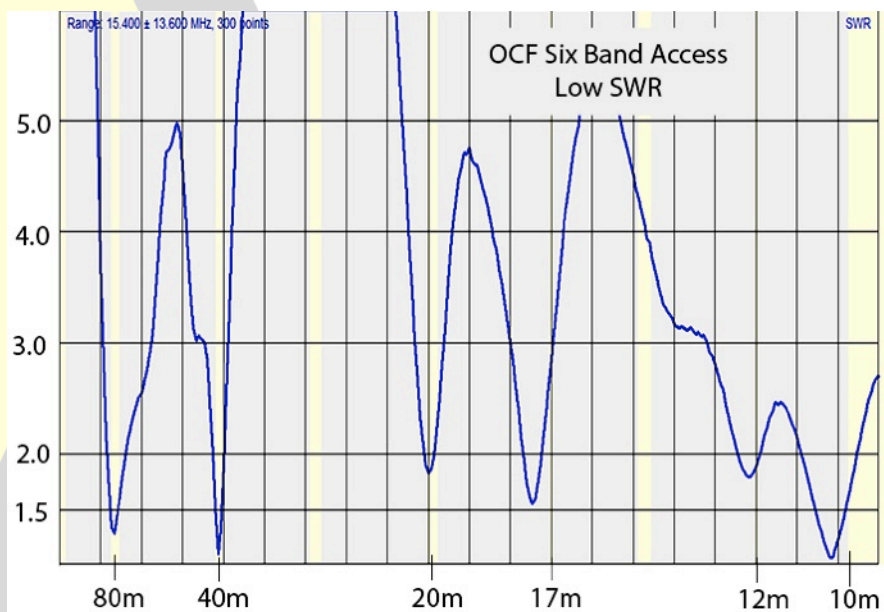
A “view” of my installed OCF in my backyard from google earth is below:

Figure 1: N2UJN backyard OCF installed in conjunction with vertical and mast.



After manual tuning of wire lengths to 88' and 43', the SWR response of this OCF more than met my expectations and I have routinely used the OCF on 20m, 40m and 80m since install in June of 2014.

Figure2: SWR Response of N2UN 131' OCF with 4:1 Guanella Balun



N2UJN OCF Far Field Propagation Analysis, Part II (Cont'd)

OCF Far Field Propagation with 4NEC2

Introduction to 4NEC2 and NEC (with apologies to the many who know this already).

At the conclusion of the OCF build article I noted that SWR is a band access metric, but, at the time of implementation of the OCF, I was utterly clueless about the OCF propagation efficacy on the many bands that it allows access to. I offered that a second paper would follow defining OCF propagation as a function of band. But, I never had time to finish the careful study of NEC and 4NEC2 necessary to really build the OCF into the NEC card format necessary for 4NEC2.

Recently, I was blessed with some (temporary) time away from my long time, demanding work commitments and resolved to spend the time necessary to really learn the NEC card formats and the 4NEC2 interface to the NEC program.

For those not familiar with “NEC”, it is an acronym for a long project, “Numerical Electromagnetics Code” funded by the US Navy and conducted by one of the US National labs for many years. NEC takes the form, even today, of a big FORTRAN program, whose source code is publicly available and compilable, that solves the detailed electromagnetic equations for antenna near and far field propagation prediction in free space, or, an arbitrarily specified ground. Since the program was written in Fortran, the data input is in the old Fortran “card” format, which, I am both fortunately, and, unfortunately, old enough to have learned at Texas A&M in 1980 when I took a Fortran elective for “fun”. NEC (latest version NEC-2) is a miraculous result of two engineers working closely together very hard, for many years, with a generous funding partner, to both derived the proper equations, build them into code, and, then, also, TEST the results to make sure they were accurate. NEC represents the triumph of the USA National Laboratory system of research programs.

By the mid 1980's the code was usable and by 1990 the project was completed. Sadly.

Good news for Hams: In the mid 1990's a gentlemen in the Netherlands, Arie Voors, became passionately interested in building antenna systems. He was also a highly capable software engineer, and, capable engineer as well. Using MS DOS and Basic programming language he built a wrapper interface around the compiled fortran kernel for the public NEC-2 fortran code and began using it. Over time, he evolved his interface and shared it with some of his friends who fed back feature requests and bug reports.

N2UJN OCF Far Field Propagation Analysis, Part II (Cont'd)

As Microsoft introduced more effective Windows platforms, Mr. Voors converted his interface to C, and C++, and evolved his wrapper to UI based with ever more powerful features. In 2006, after many years of evolving his UI interface to NEC-2 Fortran compiled kernel, he released his entire compiled code base, together with a tutorial, for public use. In 2008 he released a version of his installable code for Windows 7 64 Bit. This version he named 4NEC2 (which means For NEC too) in formal recognition that there are other API and UI interfaces for NEC as well, all of them which require purchase for use (which he kindly does not say).

After some study, the features associated with Arie Voors Windows 7, 64 Bit, NEC2 UI and interface are incredibly powerful and noted below:

4NEC2 Features (C, C++ installable, Win 7, 64 Bit, simulator interface to NEC-2 by Arie Voors)

- a) An easy to use UI for access to all features.
- b) Two completely different, 3D solid, visualization UI interfaces of both Far Field and Near Field Patterns.
- c) A 2D Gain view in dBi that enables rotating through either the elevation angle or azimuth angle. Also enables comparison with up to 256 other antenna patterns.
- d) A frequency sweep capability that provides SWR, Gain and F/B ratio across the freq range.
- e) A genetic algorithm based optimization package and symbolic representation of antenna. The genetic algorithm optimization and symbolic representation in the NEC cards was not part of the original NEC project and was delivered with 4NEC2 entirely by Mr. Voors.
- f) Three different editors to build your antenna Fortran cards and also, importantly, enable direct access to the original Fortran card format. So, reading the NEC manual is required, but, adds great power to your capability to simulate. One editor is geometric based for either direct building or validation of card structure.
- g) An ability to add new load types to the antenna, including, insulation, and LC networks with Q.
- h) A UI front panel view that summarizes all aspects of the antenna outcome at the design frequency including impedance, SWR, antenna efficiency, structure loss, matching network loss, and antenna efficiency.
- i) An automated RLC network (L, PI and T, Low and Hi Pass Matching Networks) capability that automatically returns, in most cases, network with Capacitance and Inductance values that return an SWR less than 1:1.1.
- j) Mr. Voors, if you look carefully in his code docs, provides an email address, which, if judiciously utilized with good questions, he continues to monitor and respond to. Amazing.

There are actually a lot more features including the use of GNU plot, and, the ability to output raw data for all relevant parameters for post processing in platforms like Matlab or Labview or any graphical display.

N2UJN OCF Far Field Propagation Analysis, Part II (Cont'd)

Last but not least: All of the above is for FREE. Voors released all his work for FREE.

I will take just a second to compare 4NEC2 to EZNEC (EZNEC is \$90 or so to get a version enabling more than 20 segments). First, EZNEC does NOT enable access to the Fortran card structure for highly detailed antenna building. So, EZNEC is slower (after you learn the card format). Also, EZNEC antenna build file is binary, so, you cannot edit it, whereas, 4NEC2 is the original NEC card format. Also, 4NEC2 has a very powerful add on of symbolic representation that, coupled with the genetic algorithm optimizer, enables the design of multi-element antenna lengths for SWR or Gain or some other parameters in minutes rather than days. Enough.

4NEC2 by Mr. Voors is a blessing to the Amateur.

So, it is with 4NEC2 that I have defined my OCF system, after spending about three weeks learning NEC card format, and, 4NEC2 interface method.

4NEC2 Propagation in 3D for the OCF as a function of Band

Installed Characteristics

My OCF is in an inverted V format whose apex is at almost exactly 30 feet. I went outside to measure exactly the height of each end off of the ground, then, build the below symbolic (SY) model of the OCF in the NEC-2 card format for consumption by 4NEC2 interface. All antenna specs in the below code.

4NEC2 OCF Antenna Model in NEC Fortran Card Format

CM Off Center Fed Dipole in Inv V Format

CM In Context of Solarcon and Elevated, Custom Radials

CM Constructed so only wire length and angle between mast and wire are variables.

CE

SY Freq=24.94

SY WireRad=0.81379e-3

SY CenterHeight=9.14

SY CenterOffSet=0.2

SY angleLongLeg=76.0

SY wireLengthLongLeg=26.756

SY LongLeg=wireLengthLongLeg*sin(angleLongLeg)

SY LongEndHeight=CenterHeight-(wireLengthLongLeg*cos(angleLongLeg))

SY angleShortLeg=60.75

SY wireLengthShortLeg=13.908

SY ShortLeg=wireLengthShortLeg*sin(angleShortLeg)

SY ShortEndHeight=CenterHeight-(wireLengthShortLeg*cos(angleShortLeg))

GW 1 50 -LongLeg-CenterOffSet 0 LongEndHeight -CenterOffSet 0 CenterHeight WireRad 'Long (88' at 8' end height) Leg of OCF'

GW 2 3 -CenterOffSet 0 CenterHeight CenterOffSet 0 CenterHeight WireRad 'Center Feedpoint of OCF'

GW 3 50 CenterOffSet 0 CenterHeight ShortLeg+CenterOffset 0 ShortEndHeight WireRad 'Short (43' at 8' end height) Leg of OCF'

GW 4 20 -3.0 3.0 5.7 -0.1 0.1 8.7 WireRad 'NW 16ft Custom Radial

GW 5 20 -3.0 -3.0 5.7 -0.1 -0.1 8.7 WireRad 'SW 16ft Custom Radial

GW 6 20 4.0 0 5.7 0.1 0.1 8.7 WireRad 'E 16ft Custom Radial

GW 7 20 0 0 9.3 0 0 16.0 0.08mm 'Solarcon 22ft Vertical Radiator

GW 8 20 0 0 0 0 0 9.0 10mm 'Metal Support Mast for Solarcon

GE 1

GN 2 0 0 0 13 .005 ' Sommerfeld ground

LD 5 0 0 0 58000000 ' All Copper wires

CM LD 7 1 1 50 3.5 1.25e-3 'Insulated Wire

CM LD 7 2 1 3 3.5 1.25e-3 'Insulated Wire

CM LD 7 3 1 50 3.5 1.25e-3 'Insulated Wire

EX 0 2 2 0 1 0 ' Default voltage source 'EX Source on Bottom of Vertical Solarcon Radiator

FR 0 1 0 0 Freq ' Design frequency

,

EN

' End of file

Features of Constructed OCF Model in the Preceding NEC Symbolic Card Format.

In the model you can see that I have cast the entire antenna in symbolic variable format. Hence, if I wish to change the apex height of the antenna, I can simply change that in one place. Similarly, I can alter the antenna apex angles (there are two different one's), for each leg, while maintaining the wire length constant using trigonometry functions. This symbolic representation enabled me to put in both my implemented antenna, and, also, test many alternatives using the genetic optimization algorithm.

N2UJN OCF Far Field Propagation Analysis, Part II (Cont'd)

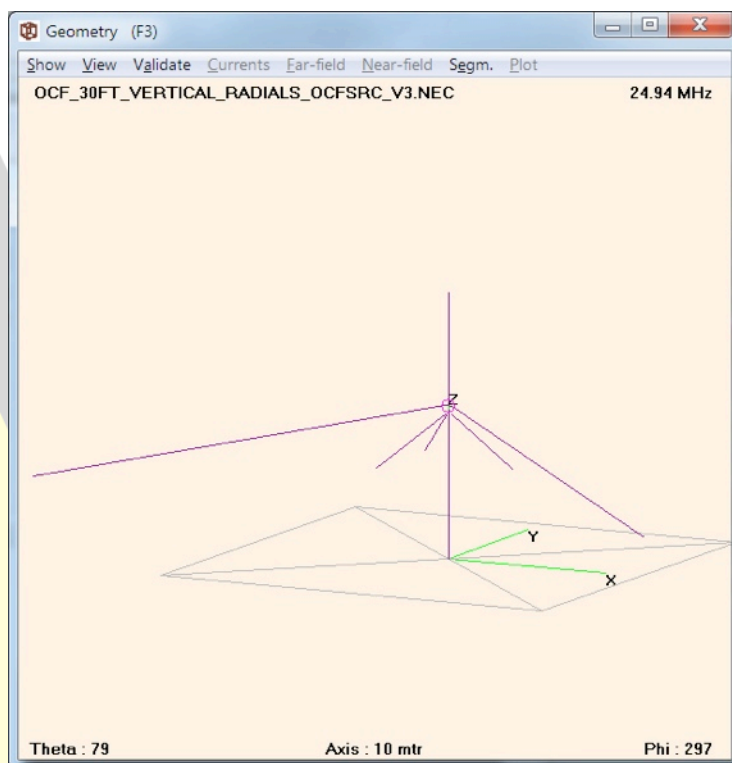
In this paper I will report only the results of my physical install. Perhaps in a future paper I will detail the myriad of results enabled by using Voors genetic optimization algorithm.

Far Field Propagation Results for Each Supported Band, 80m, 40m, 20m, 17m, 12m, 10m. (Note, the OCF also has low SWR on the CB band as a bonus!). In the below presentation of results in Figure 3 I have oriented the OCF in the approximate orientation of my back yard.

Geometry Results from the NEC Card Construction

Figure 3, below, shows the Geometry result of the symbolic construction in NEC card format. I have built my entire antenna system, including mast, into the card format, and, the geometric, 3D view is shown below. In 4NEC2 this can be rotated and there is a separate geometry editor where I can check each detail of each wire.

Figure 3: OCF Geometry in the Context of Mast and Vertical.



80m Band Far Field Gain (dBi) Description of Results (See Figure 4 next page):

The far field propagation for the 131' OCF is no surprise for its design target band 80m. At 30' in an inverted V format it has a nearly omni-directional radiation pattern, very similar to a half wave dipole, with the maximum radiation of 3dBi or so straight up. This enables me to very effectively participate, time permitting, in K2QZR excellent Wednesday, pm, 80m net.

N2UJN OCF Far Field Propagation Analysis, Part II (Cont'd)

40m Band Far Field Gain (dBi) Description of Results (Fig 4):

I have been using the OCF, which was preceded by the use of a 40m dipole, for more than a year. During that time, in some cases, I noticed big falloff in performance of some standard groups I had previously listened to, or, participated in. In particular, Pennsylvania, which previously boomed in on my 40m half wave dipole, became weak and sometimes hard to copy. Figure 3 (following this section) shows why. Because the 131' OCF is a full wavelength for 40m, a null forms at the midpoint of the antenna and propagation orthogonal to the antenna is very poor. This is one of the banes of the inverted V format OCF, poor orthogonal 40m band performance. However, there are two good propagation lobes, and, in my case, for NYQP, cover NY and NJ well.

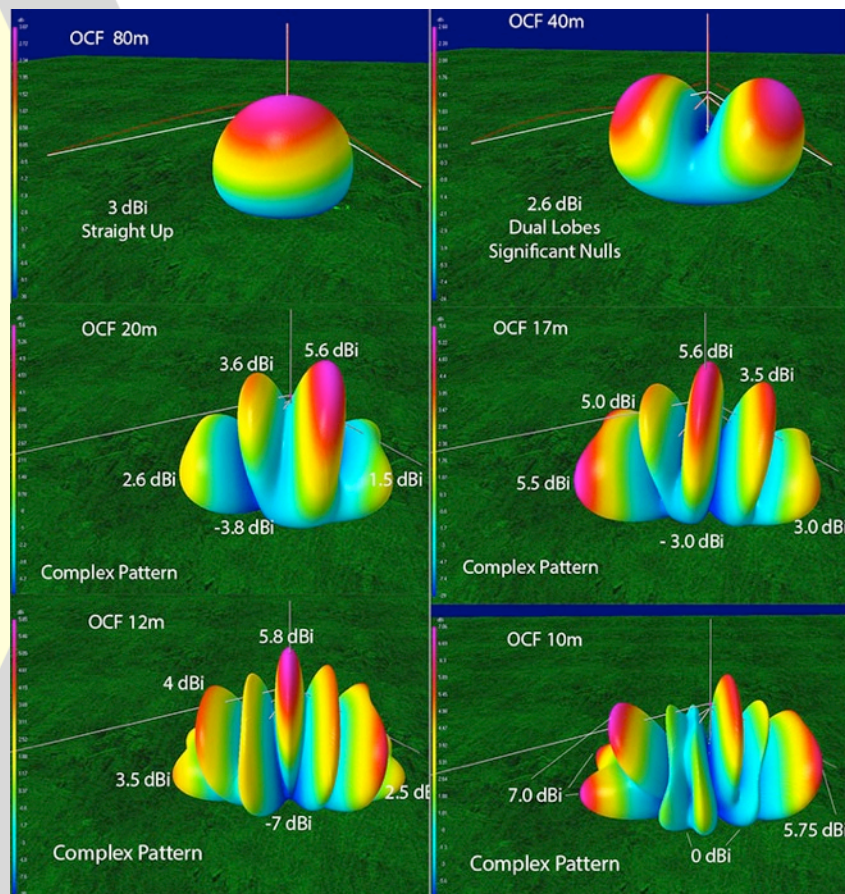
20m, 17m, 12m, 10m Band Far Field Gain (dBi) Description of Results (Fig 4):

As can be seen in Figure 3, the progressive breakup of the propagation pattern continues at higher frequencies. I have labeled those areas of good propagation (larger gain) on each figure for the relevant bands. For 10m there is some good, low angle, high gain lobes from the OCF. I super-imposed this 3D graph on a snap from google earth and measured the angle and the Northwest lobe points to Japan and Alaska. This method, using google earth and visual superposition can tell you what directions the OCF will perform.

Figure 4: Color 3D View of Far Field Gain, Color Coded dBi, Results by Band

Gain color coded with pink being largest gain, blue being smallest. See small left color guide vs dBi.

Current Amplitude Structure in **Red** for 80m and 40m.



Spring Ahead, Fall Back...

Hopefully everyone set their clocks AND has tested their smoke detectors and replaced the batteries in all of them. You should have at least one on every level of your home. If they are older than 15 years, replace them. Make sure you have a CO detector as well and test that along with the smoke detectors, ideally once a month. It is cheap insurance.

WR2AHL 145.11

Mike and Jim (and Co.) have been working diligently on the .11 machine lately, including installing a new antenna on the tower. If you use the machine please consider supporting Mike in his efforts to keep this great resource on the air. Any amount will help defray the operating costs of this great local repeater system. Make a donation today!

http://www.frontiernet.net/~wr2ahl/index_files/Page440.htm

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Upstate New York

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@ 3826KHz +/-

And Now on 145.11 Bristol
Repeater,

Sunday @ 7:30 PM

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This Bulletin is the official publication of the Rochester DX Association and is published monthly, September through June. Email your articles, tips, ham ads, etc. to Andrew, W2FG at andrew.lesny@gmail.com by the second Tuesday of the month for inclusion in that month's issue.

All those with an interest in amateur radio and DXing and contesting are cordially invited to any meeting and to join RDXA. Meetings are held at 19:30 Local time on the 3rd Tuesday of each month, September through June.

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Any other correspondence to: Mike Sanchez, N2UJN

THE OLD DXER

The sunspots were roaring and the Old Dixer was working DX night and day.
 The faithful XYL had had it with his QRZing and blew her stack.
 "DX DX DX - thats all you ever think about!" she groaned
 "Why I'll bet you don't even remember our wedding date!!

"I mostly certainly do" was the immediate reply.

"It was June 14th, 1958 - Thats the night I worked
 the XT1, the CRØ, and the AC6!! -- By AC6V