

# Northwest Indiana DX CLUB

Volume 2, Issue 2

February 2014

## President's Corner

Snow here, snow there, snow everywhere. Really hate snow.

FT5ZM is still on until the 12th. In the latest news report the team leader stated they would start tearing down on the morning of the 12th and also quit operating that day. One station will be on the air that day, until it is time to tear it down.

CE0Z/UA4WHX is on the air.

I worked him on the 5th, but I read all over the web that he is hard to get a card from, even when you pay him via PayPal the three dollars that he wants. Anyone know if this is true?

Next meeting will be March 8th (Saturday) at the Chili Bowl in Valparaiso at 12:00 noon, unless they can't accommodate us. Watch for more in the March issue.

73  
John, W3ML

## DXCC CARD CHECKING

**Doctor Richard Lochner, K9CIV has been appointed an Official ARRL DXCC Card Checker. Contact Rich to schedule an appointment for card checking.**

**You may email him at [k9civ@arrrl.net](mailto:k9civ@arrrl.net) for details on how to mail your cards to him, if you desire to go that route.**



**Meeting March 8th Chili Bowl in Valparaiso at 12:00 noon.**

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- 2 Member News/DX News

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# Member News

**If you have any news to tell, please send it to me so I can send it to the group.**

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## Most Wanted DX Entities

The DX Magazine has published results of its annual “Most Wanted” survey in the January/February 2014 issue. These are their worldwide top-ten:

### Prefix/Entity

1- P5	North Korea
2- KP1	Navassa Island
3- 3Y/B	Bouvet Island
4- FT5W	Crozet Island
5- FT5Z	Amsterdam & St. Paul Islands
6- VK0/H	Heard Island
7- BS7H	Scarborough Reef
8- ZS8M	Marion Island
9- VP8/S	South Sandwich Island
10- FT5T	Tromelin Island

The complete Top 100 Most Wanted list is available on the DX Publishing website:

<http://www.dxpub.net/MOST-WANTED-SURVEY.html>

An interesting comparison is a look at Clublog’s worldwide top-ten:

### Prefix/Entity

1- KP1	Navassa Island
2- P5	North Korea
3- 3Y/B	Bouvet Island
4- VP8S	South Sandwich Islands
5- FT5W	Crozet Island
6- VK0H	Heard Island
7- FT5Z	Amsterdam & St. Paul Islands
8- KH5K	Kingman Reef
9- FR/T	Tromelin Island
10- FR/J	Juan de Nova, Europa

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<http://www.clublog.org/mostwanted.php>

The differences may be attributed to the individual participant base. The DX Magazine probably has more North American survey respondents while Clublog is more global.

Regardless of differences in the results of the two different surveys, it is quite evident that these are places in the world that are not friendly to amateur radio. The reasons can be political, environmental fears, hostile environments such as climate and the huge expense of travel to such isolated places.

The good news is that there are major expeditions planned for this year to FT5Z-Amsterdam & St. Paul Islands and FR/T-Tromelin Island. There are also rumored negotiations that are supposedly occurring between P5-North Korea and an unnamed group of DX'ers.

Submitted by Steve Mollman-KD9HL

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## QSL Card Checker Reports Good News

**From:** Steve Mollman  
**Date:** January 10, 2014 at 3:00:51 PM CST  
**To:** Dr Lochner  
**Subject:** QSL Cards  
**Reply-To:** Steve Mollman

I just received from the ARRL DXCC Desk the results from the last card check you did for me.

This last go around resulted in the Honor Roll and DXCC on 10, 15, 20 and 40 meters. (have over 100 worked on 75/80 but still need 30 confirmations there for 5 band DXCC). One card got "bounced". FR/G-Glorioso Island - no landing permit!

I thought you might like to know. I really appreciate your help and hard work. Thank you!

Steve KD9HL

ps: heard you get FW5JJ-Wallis & Futuna Islands last night on 17M - congratulations!

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## DX Code of Conduct

It has been recommended that our bylaws be amended to require that members adhere to a Code of Conduct.

The DX Code of Conduct can be found here: <http://dx-code.org/>

We will vote at the March meeting on this item.

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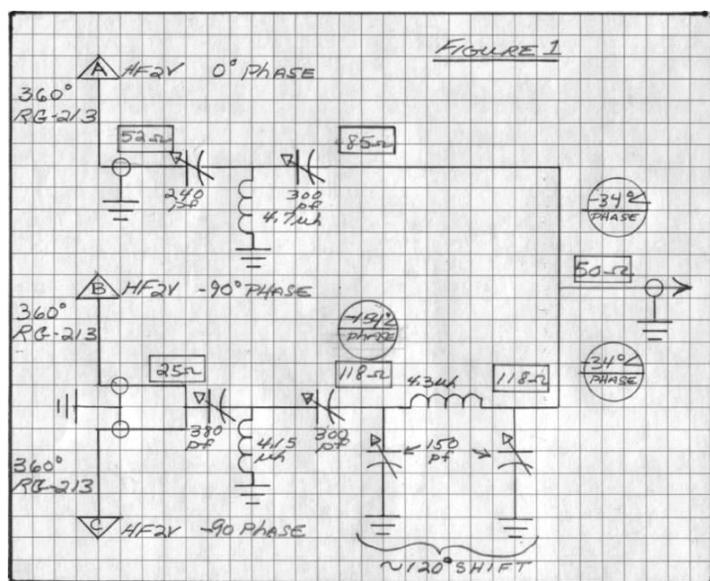
## The Vertical Array at W9KTP

As Dx'ers we all know that antennas are probably the most important element in our systems. Finding the right antenna for 160, 80 and 40 meters, however, is definitely a challenge unless you have unlimited funds and space to put some super colossal antennas. My choice in 1985 was a vertical array because of the low angle of radiation compared to most wire antennas. I initially planned to use it on both 80 and 40. It's been a bumpy road since I started building the array in 1985 but I think I have at least a partial success at the moment.

Installing a phased vertical array is not easy, after all it's the same technique used by AM broadcast stations. Plan for months of work and you'll need a good impedance bridge like the MFJ 259B or better, a 30 MHz or better oscilloscope and possibly a current meter. Furthermore, you really need to be fairly skilled with math, particularly complex numbers. Verticals are all about phase angles and current flow changes through impedances and involves complex algebra. Now don't panic, it's not that bad!

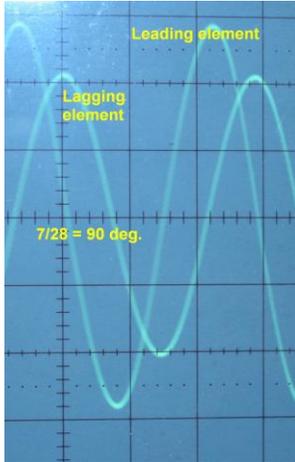
There are dozens of arrangement for verticals and many of them are described in the "ARRL Antenna Book" and ON4UN's "Low Band Dxing". The gospel for me was a series of six articles written by a commercial broadcast engineer, Forrest Gehke, K2BT, for the 'Ham Radio' magazine (5-7/83, 10/83, 12/83 and 5/84). After studying his articles, I chose a triangular array using Butternut HF-2V antennas for elements. At the time I thought I could use it on 80 and 40 meters in an array form. After corresponding with Gehke, he convinced me to just try for one band at a time. I chose 80 but I still plan to give a try at adding 40 if I live that long. (A little chuckle is O.K. at my expense.)

The three verticals in my back yard are 0.29 wavelengths (about 80 feet) apart and have 40 radials 60 feet long under each antenna. First I buried three PVC plastic pipes for 360 degrees of RG-213 feed lines and then buried the radials. It took two summers to install all those wires in the ground. The antennas are then phased with one leading element of 0 degrees and two lagging elements at -90 degrees. The Butternuts are easily set to 52 ohms at a given frequency and because the feed lines are 360 degrees, 52 ohms is what I see at the shack.



At the shack all the phasing and current control is done in one box. According to Gehke, the two lagging antennas should have 0.5 amperes (relative) and the leading one 1.0 amperes (relative). The two lagging antennas are paralleled, giving 25 ohms which is then transformed with a 'T' network to 118 ohms to get the 0.5 amps. The leading element is transformed from 50 ohms to 85 ohms to get the 1.0 amp value.

The last circuit in the box is a ‘PI’ network which adds additional leading phase to the lagging antenna to get the required phasing. Connect to two legs and you have 50 ohms to keep the transmitter happy. Whew! Add in a couple of relays and three small sampling toroids and you have it. To test and tune the unit I use three 100 watt dummy loads and a scope connected to the sampling toroids. The relays provide a choice of three directions to point the array. The following is a scope trace of one pair of elements showing the 90 degree shift (7 units/28 units x 360 degrees = 90 degrees) along the horizontal axis. It was very cold out so I did not adjust the current for this picture (vertical axis). The lagging element is a little high.



One of the nagging problems with verticals is that a change in ground moisture changes the input impedance. An antenna adjusted to 52 ohms can swing 15 ohms plus or minus in a day or two depending on the weather. ON4UN noted this in his book so it wasn't unexpected. The other problem is that I have never gotten the 20 db F/B rejection that I'm supposed to have. I believe the short Butternuts may be the reason. Full sized verticals at 3.5 MHz are around 60 feet and the Butternuts are only 32 feet which probably limits the mutual impedance needed for good rejection.

In spite of all that, I get good results with my system. Steve, KD9HL, has measured a 3 db difference when I switch my array in his direction. This is not a super test but indicates some directivity. My guess is that I get at least 3 db to 5 db gain over a normal dipole. I do seem to work DX fairly easily even barefoot with

100 watts.

I tried a lot of other techniques for phasing verticals but that will have to wait for another time. Stories about the “Flaming Duck Box” and the “Roasted Hybrid” should also be amusing. I've tried to keep this reasonably short since it's easy to make it sound like “Rocket Science.” It really isn't and any ambitious ham can do it.

Jerry Hess, W9KTP

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## HamShirts.com

I received this item addressed to the club via email.

“I would like a moment of your time to introduce you and your club members to HamShirts.com.

At HamShirts.com we make wearable's for the Ham Radio Community.

Along with our line of designs we have on our website, we also create custom shirts for Ham Radio clubs, School clubs, Ares groups, etc..

Our items are high quality USA Gildan Brand and are made right here in the USA by Hams for Hams.

All of our work comes with a 100% money back guarantee.

Drop us an email at [sales@hamshirts.com](mailto:sales@hamshirts.com) and let us help you with any apparel needs for your clubs. As an ARRL club you will receive a 20% discount on our products.

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Please pass our information along to your club members.  
We are ham radio operators and we enjoy helping our fellow Hams.”

Thank you,  
Tom KC9FOZ  
HamShirts.com  
[www.hamshirts.com](http://www.hamshirts.com)

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## DX NEWS

While working on my QSL Cards, I noticed that I had several old QSOs where the Ham states they use LOTW. So, I wrote them an email asking if they could upload our QSO to LOTW. If they didn't use LOTW, I asked what the best way to get their QSL card was.

To my surprise, the ones that use LOTW did upload the QSO, and two of the ones that did not use it, simply said they would send me the card via first class mail and not to worry about sending them a card.

This approach was something I just thought might be helpful and it seems it will be very helpful.

Give it a try if there is one QSO that you really need and they have not sent a QSL. It might work for you too.

John W3ML

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## Reunion Island

### TO7CC

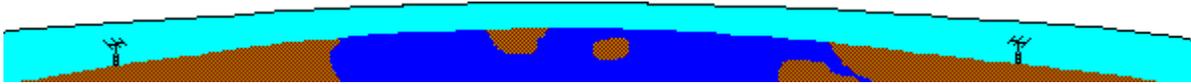
### February 5th to 17th

**There will be a simultaneous SSB, CW and RTTY station.  
The fourth station will be a mixed mode station.**

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I want to thank those that have been sending in articles for the newsletter. All items are appreciated.

Don't forget to send in any information you would like to share with the Club members.



Until Next Time,

73

*John*

W3ML