



# The QUARAE



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MAY 2015

## Prez Says.....

I finally made it back to the frozen north. I saw the icebergs on the lake and even some of that white stuff. The weather has been cold as far as I am concerned but I guess I am stuck with it. Welcome to Erie!

We did our first public service event for the year on April 26 at the Behrend Campus. It was the annual Walk for Babies to benefit the March of Dimes. The walk is usually held at Waldemeer/Presque Isle but because of the construction at Waldemeer it was moved to the campus. We had ten operators on hand who mainly helped get walk participant vehicles to the various parking lots on campus. The March of Dimes was very happy with our help and expressed a big THANK YOU. I would also like to say THANKS to Bob N3LBI for getting our folks signed up and helping at the event. Also THANKS goes to Adam KB3THU, Joe KA3CPV, Ron WB3DOM, Richard KB3ZVH, Rick WA3MKT, Dale KB3DPM, Gene KB3JZL, and Jennifer KP4NYQ. The next public service event on the schedule is the Edinboro Triathlon on May 30. I will let folks know the details when I hear from the organizers.

I got a call from Dave WX3E on April 27 asking me to support Paul Wagner from WICU on a story he was putting together on the earthquake in Nepal. They wanted to monitor one of the emergency frequencies that Amateur Radio was using to support the disaster area. I was to meet WICU at the clubhouse and fire up the 2000 but my wife had the

keys to my truck in her car and she was gone. So I called John WB3IFD who was going to the clubhouse anyway and asked if he could supply what they wanted. As it turned out Rick WA3MKT was also at the clubhouse so he did the interview. The story was on the 6PM news on channel 12 and 35 with a shot of Rick at the controls of the 2000. THANKS to Rick and John for their help.

Coming up on May 9 at the convention center is the Great Lakes Emergency Preparedness Expo. We have been invited to participate in the event. It runs from 8AM to 4PM and we will be manning a table. Hopefully we will get some folks interested in Amateur Radio. Their website is [www.glepe.com](http://www.glepe.com).

We are also looking at tower space for a repeater remote receiver and the Dstar repeater. We are talking with the tower owner for any requirements he may have.

73,

Doug AD4UL

## March General Meeting Minutes



**Radio Association of Erie  
Club Meeting at the Club  
House on Wagner Rd**

**Thursday May 7**

**Program: TBA**

A regular meeting of the Radio Association of Erie was held at the Erie Chapter of the American Red Cross on March 5<sup>th</sup> 2015. President AD4UL via skype opened the meeting with a quorum present at 1900.

Visitors- KD2BBK

Upgrades-none

Sk-none

Treasurer's report- given by N8WXQ. WB3DEL made a motion that the audit be completed as there was no problems with the prior administration. It was seconded, and approved, motion carried.

BOD- March 26<sup>th</sup> at the American Red Cross

Membership- WP4NYQ is taking ownership of membership

Repeater- in good order. WA3MKT is working on the voter system

Public Service- current list is on w3gv.org

Website- officers need updated

Newsletter- email your articles to [jjlindvay@msn.com](mailto:jjlindvay@msn.com)

Clubhouse- members have been donating money for insulating the attic. New holding tankd will be needed for the water system. WB3IFD made a motion to purchase a new holding tank and accessories. It was seconded, discussed, approved, motion carried.

Contesting- ARRL SSB contest. W3GV was awarded the ARRL DX Award in Multiop- Two Operators

Budget- incomplete

Good of the order- open house is scheduled for May 16<sup>th</sup>.

Adjourned at 1935

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99% of lawyers give the rest a bad name.

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## April General Meeting Minutes

A regular meeting of the Radio Association of Erie was held on April 2<sup>nd</sup>, 2015 at the Erie Chapter of the American Red Cross. Secretary KB3THU opened the meeting at 1900 with a quorum present.

Visitors-none

Upgrades-none

Sk-none

Treasurer's report- given by N8WXQ. Big expense was the utilities this month. Kenwood repair bill was paid and the domain for the website was paid.

Secretary's report- was unfinished.

BOD- no meeting

Membership- WP4NYQ was catching up to the membership cards and list

Repeaters- Echolink is down, the link in McKean is up

Public Service- Sunday April 26 is the March of Dimes Walk. Meet at McDonalds on Rt 20 and Nagle road at 10am.

Website-K2OF has some old newsletters on .pdf to place on the web

Newsletter- WB3IFD is accepting any articles related to amateur radio at [jjlindvay@msn.com](mailto:jjlindvay@msn.com).

Clubhouse – Rick Cutter, WA3MKT says the long table where the pellet stove is was cut and half remains in clubhouse, other half in the igloo. Water pressure tank and brass block interface is bought. There was a recent flood in the basement. It was to be noted that the radio interface could not be

swapped directly between the TS2000 and 940, jumpers would have to be changed.

Contesting- Montana QSO Party

Budget-none

Great Lakes Emergency Preparedness Expo is May 9<sup>th</sup> from 8-4.

Good of the order- Skywarn training at Blasco Library April 9<sup>th</sup>, N8WXQ will give a presentation in May (at the clubhouse) & Ripley Hamfest is May 3<sup>rd</sup> at 8am. Set up is at 7am.

Adjourned at 1932

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OK, so what's the speed of dark?

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## The antenna triangle

You can't have it all by Richard G3CWI

Some interesting designs of antenna appear from time to time. They are often accompanied by claims of how good they are. Claims about how much DX was worked, how efficient they are and how much better they are than yesterday's antennas. But how much faith can you put into such evaluation? Not much.

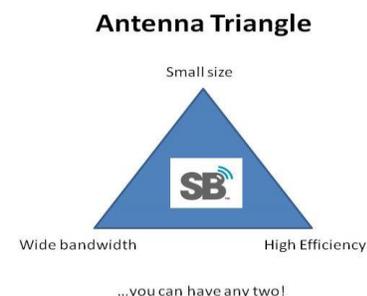
The fact of the matter is that RF is very hard to contain. It leaks out with great ease and anyone who has tried to design a screened enclosure or a dummy load, soon finds out. When I worked in RF design we often seemed to spend as much time keeping the RF inside the box as we did on the circuits themselves. You soon learn that pretty much anything will radiate RF. Give how hard it is to contain the stuff, it's not a great surprise that something designed as an antenna will radiate RF.

Comparing HF antennas is very difficult indeed. The characteristics of the HF communication channel vary dramatically from moment to moment, even from second to second. The HF channel will change the amplitude and even the frequency (slightly) of your transmission. I have read about people using WSPR and the Reverse Beacon Network to do comparative tests. That looked interesting so I tried it. My test was simple, I set up a system with a switched attenuator and did some transmissions with and without the

attenuator in circuit. The attenuator was a precision test device made by Narda Microwave. The conclusions were interesting. With some stations on the RBN, the attenuator showed a loss - but nothing like its actual loss. Other stations reported a small gain from the attenuator. Overall my conclusion was that if this method of comparing performance actually works at all it needs a whole lot more samples that I took (about 10).

This gets me onto a rule of thumb for evaluating antennas. It's sometimes called the antenna triangle and it does give a handy sanity check. Basically the idea is that you can have any TWO of three desirable characteristics. The characteristics in question are **small size, efficiency and wide bandwidth**. It's quite possible to have a small and efficient antenna (small in respect to the wavelength). Magnetic loops are a good example of this. A great small, wideband "antenna" is a dummy load, and that full-size three element monobander for 20 is a high efficiency antenna with a nice wide bandwidth.

As with all rules-of-thumb the antenna triangle only tells part of the story. Over the past few weeks I have been looking at magnetic loops. A really good small loop will have a 2:1 VSWR bandwidth of a few tens of kilohertz at 14MHz. But, it can easily be tuned to allow operation over a wide bandwidth - more than an octave. It has a small instantaneous bandwidth but a wide band potential operating range. the price you pay for this is the need for a tuning network of some sort



If you increase the size of the loop its bandwidth increases (all things being equal) so I started experimenting with slightly larger loops. I wanted a loop size that needed no tuning element at the highest frequency of operation and achieved a

2:1 operating bandwidth. Fortunately loops are easy to model in software so that was my approach.

Once the theoretical design work was done. I made one. To my surprise it worked as modeled. It works as a loop on 20m and as a magnetic loop on 20 and 30m. It's a way off being on sale but the first results have been very positive.

## A Nifty Site for the International Space Station

Joe Ponchak KA3CPV sent me this url for tracking the ISS. *Here's a nifty site.*

<http://iss.astroviewer.net/>

## No VE session this month.

Because everyone will be at Dayton

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### How do you tell when you're out of invisible ink?

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## A real Official Observer Notice

Recently I was looking through some of my old QSL cards and came across this OO (Official Observer) notice. I was licensed on May 12, 1961 with the call KN3PLV. I upgraded to General after three months (it took six weeks to get the upgraded license). I was using a Heathkit, DX-40 transmitter, a Hallicrafters SX-99 receiver, and a one-quarter wave, end-fed antenna running through my bedroom and the upstairs hallway of my parent's house. I was 16 years old at the time. Back then I was "rock bound", which means I was crystal controlled. I used a crystal with a frequency of 7163 kc (now we would say 7.163 MHz). Most of the hams would also be crystal controlled, so if you wanted to make a contact you might call a CQ and then tune up and down the band to see if someone came back to you. In this case KN8ABU called a CQ on a different frequency and I called him on 7163. As you can see, receivers were not at all accurate in frequency readout as the OO has me about 7170 kc. You used a crystal calibrator in your receiver to find the band edge. But if you were crystal controlled you knew you were in band. I do not remember why I had a spurious signal, but it probably had a lot to do with my equipment not being grounded. Also since my antenna was end-fed (by just

sticking the wire in the transmitter's SO-239), I did not have a balanced antenna, just basically one-half of a dipole. This was not what we called a "pink ticket" as it did not come from the FCC. OOs were friendly hams that monitored for harmonics and spurious signals and

**A.R.R.L. OFFICIAL OBSERVER'S COOPERATIVE REPORT**

Dear KN3PLV . . . \$8 spurious radiation on 6985 KC

Your signals were RST 599 . . . the frequency noted about 7170 . . . kc.

on 5/30/61 . . . at 2245 EST . . . when you were working KN8ABU . . .

(date) . . . (time)

FCC monitoring stations are checking violations of all amateur regulations. This friendly notice is to invite attention to the above noted off-frequency operation resulting from harmonic (or parasitic) radiations so that you may get at the trouble and avoid official citations. Harmonics are at integral multiples of the operating frequency, while parasites are at any frequency, almost always unstable, chirpy and rough with considerable drift.

Data on parasitic elimination and harmonic reduction may be found in the ARRL Handbook. See How to Keep Harmonics Off the Air, May '60 QST; Evils of Multiband Ant. Systems, and the Cure (bandpass filters Mar. '57 QST) and 80-Meter Loading Without Harmonics, Aug. '58 QST; Suggestions for reduction of harmonic radiation: 1. Use an antenna tuner. 2. Link couple antenna tuner to final. 3. Ground one side or center-tap of the link. 4. Ground the transmitter chassis. 5. Check transmitter for proper drive, bias, and neutralization.

To check results, ask at least three other amateurs to look for the offending signal, since skip, QRN, or QRM may be present. Better still, arrange with the Official Observer who sends you this card for a check at some scheduled time. Would welcome a line from you on how you fixed your trouble—to help others.

CLINTON B. DAWES, W3NNC . . . Sincerely,

TROUT RUN, LYC. CO., PENNA

Address

Form 22 10M-2-61 . . . ARRL Official Observer, Class 1 . . . Printed in U. S. A.

notified people so they could fix their problems before the FCC noticed the problem. This was my next-to-last OO. Later I got another because my then, Viking II transmitter, had ten crystal sockets with a switch to select the one you wanted to use. I remember I called an AM (amplitude modulation) CQ on 7250 kc, except I had switched in a 7003 kc crystal by mistake. Right after I called the CQ, I realized what I had done. But another OO heard the AM CQ on 7003 kc and sent me a notice. By the way, these notices were sent on a three cent postcard. I get a kick out of the suggestions to reduce harmonic radiation in the OO notice. It talks about the "evils" of a multi-band antenna. Just think of all the G5RV antennas now in use. A question I would ask hams is why they usually are not a problem antenna now and yet back in the 60s and 70s they were. Can you answer that?

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### If your car could travel at the speed of light, would your headlights work

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## Should we weep for amateur radio?

By Dan Romanchik, KB6NU

On an amateur radio mailing list that I subscribe to, one fellow wrote, "I weep for the state of amateur radio in the US, since this dispatch is apparently necessary..." He then pointed to an article on the

ARRL website that reminded hams that while their local time may be switching to daylight time, Universal Coordinated Time did not change (<http://www.arrl.org/news/view/change-local-clocks-this-weekend-but-not-utc>). The implication, of course, was that we have dumbed down ham radio so much that a reminder like this was necessary. This thread went on and on, eventually garnering 17 different replies. Before it morphed into a discussion of whether or not DST is a good idea in the first place, the replies echoed the sentiment in the original e-mail: "It's become a push button, nanny state world, what do you expect, competence?" "We are truly in a time of appliance operating, not only in ham radio, but in practically every aspect of our lives. :-("

At first, I had the same reaction. I thought to myself, "How dumb are we getting in ham radio, if guys have to be reminded that UTC doesn't change when we switch to daylight savings time?" After thinking about this for a while, though, I've completely change my mind on this. I work with a lot of newcomers to amateur radio, and many of them just don't know how UTC works. This is not their fault—they just haven't had the opportunity to deal with UTC. What these old timers (old farts?) didn't realize is that the ARRL article is not directed at them, but at the newcomers to ham radio. I'll even go one step further. It's easy for us old-timers to be dismissive of newcomers' lack of knowledge, and then complain that amateur radio is getting dumber, but knee-jerk reactions don't usually help anyone involved. A much better approach would be to roll up your sleeves and teach them something. The only way newcomers are going to get to be old timers like us is if we help them learn stuff like this.

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**Law of Random Numbers - If you dial a wrong number, you never get a busy signal and someone always answers.**

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# Ham Radio Calendar

May 2 – Indiana QSO Party. See [www.hdxcc.org/inqp](http://www.hdxcc.org/inqp)

May 2 – Delaware QSO Party. See [www.fsarc.org](http://www.fsarc.org)

May 2 – New England QSO Party. See [www.neqp.org](http://www.neqp.org)

May 3 – Ripley Ham Fest, Sunday, 08:00 AM to 12:00 at Ripley Fire Hall. Admission is \$3.00 1 table including admission \$5.00 Additional Tables \$2.00

May 5 – Corry Club Meeting.

May 7 – RAE Club meeting at club house on Wagner Road.

May 9 – Nevada Mustang Roundup See [www.nvqsoparty.info](http://www.nvqsoparty.info)

May 9 - The Great Lakes Emergency Preparedness Expo (GLEPE) will be held at Saturday Bayfront Convention Center. It is located at **1 Sassafra Pier, Erie, PA 16507**. For more information on the Bayfront Convention Center, visit [www.bayfrontconventioncenter.com](http://www.bayfrontconventioncenter.com). If you are interested in exhibiting at the Great Lakes Emergency Preparedness Expo, please give us a call at (800) 880-2485 or email Kyle MacNall at [kyle@dcastlegrant.com](mailto:kyle@dcastlegrant.com).

May 10 – Mother's Day

May 17 – Worked All Britain - 7mhz Phone. See [wab.intermip.net](http://wab.intermip.net)

May 25 – Memorial Day

May 30 – CQ WW WPX Contest. See [www.cqwp.com](http://www.cqwp.com)