



The QUARAE



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Prez Says

I guess Punxsutawney Phil didn't see his shadow so Spring is just around the corner. That also means that the Public Service events the RAE does will be starting in a couple of months. The first is the March of Dimes Walk on May 1. I have listed the events that I am aware of right now but we may have other requests for help. I will also have Paul KB3POY put the list on the w3gv.org website. Doing these events is a good way to help our communities and make folks aware of Amateur Radio and the assistance we can provide.

- Sun. 5/1 March of Dimes Walk – Junker Center
- Sat. 5/28 Fallen Soldier Picnic – Northeast
- Mon 5/30 Freedom Challenge Run – Girard
- Sat. 6/4 Edinboro Triathlon
- Sat/Sun 6/11/12 MS Escape to the Lake Bike Ride
- Sat. 6/18 Bay Swim - Presque Isle/EYC
- Sun. 7/17 ERC Half Marathon - Presque Isle
- Sat. 8/20 Presque Isle Triathlon
- Sat. 9/10 Beast on the Bay – Presque Isle
- Sun. 9/11 ERC Marathon – Presque Isle
- Sat. 9/17 Creekside Bike Run – Sherman, NY
- Sat. 9/24 Race for Recovery – Presque Isle

So please help when you can, the organizations that we aide really appreciate the service we provide.

Don't forget to check into the various nets that are listed on our website and Echolink is back on the air so please join me on my Monday thru Friday at 9PM Ragchew Net.

THANKS & 73,Doug AD4UL

I didn't say it was your fault, I said I was blaming you

February General Meeting Minutes

Began at 7 PM

Board Members and Officers Present: Doug Sweet, AD4UL, John Lindvay, WB3IFD, Richard Quinn, KB#ZVH, Frank Etzler N8WXQ , Bob Fuller, N3LBI, and Gene Brinig, KB3JZL

Program: None

New hams: None

Silent Keys: None

Don't FORGET!  **Radio Association of Erie
Club Meeting at the Red
Cross Bldg at 4961
Pittsburgh Avenue**

**Thursday March 3rd
Program: Coax Losses**

Visitors: Pastor Charles Kaufman

Treasurer's report: \$826.10

Membership report: 16 paying members. A letter will be sent to past members reminding them of membership dues.

Facilities Report: None

Repeater Report: No problems except with Echolink. Replaced computer with one donated by Kevin McKenna, KE3V. The 440 link radio blew a soldered-in fuse. Rick Cutter changed the fuse and checked out the rest of the radio. Power Source was putting out too much voltage 15 plus volts. Replaced. After radio was hooked up, we had a bad cable going from radio to computer. Replaced.

Contesting Report: W3GV received a certificate from PA QSO Party for multi-multi station from Erie County.

Public Service Report: The club is going to provide communications for the "Erie Freedom Challenge" on Memorial Day May 30 7:30 to 9 AM. Need 8 to 9 members. Charles Kaufman's phone is 814-460-5715. On May 28, 60r 7 ham will be needed for traffic control at the "Fallen Soldier's Picnic at the North East Gravel Pit. Doug Sweet AD4UL to organize events.

Old Business: Handicap ramp will be built in Spring

New Business: None

Meeting end at 7:35

A clear conscience is the sign of a fuzzy memory

What would Wayne (Green) do?

By Dan Romanchik, KB6NU

Wayne Green was a crackpot...but he was a great one.

For those of you who aren't as old as I am, Wayne Green, W2NSD, was not only the publisher of 73 Magazine, but also the founder of Byte and other PC magazines in the early days of personal computing. In

73, he would write these long, rambling editorials. Often, he would take the ARRL to task, criticizing what he thought to be some lunk-headed policy or another.

Just as often, he'd be encouraging hams to take up some new technology. He was, for example, one of the guys driving hams to set up repeater systems.

He would often exhort hams to get started in their own technology-related business. I remember one column where he urged hams to get involved in the home-security business. And, of course, when personal computers became popular, he wrote that hams should think about getting into that business. His reasoning was that our knowledge of electronics would stand us in good stead in those businesses.

Today, I think that he would be telling us to get more involved in with technologies like the Internet of Things, WiFi, or whatever other wireless technology is coming down the pike. "Wireless" is the key word here. These networking technologies are based on good, old radio, and who better to push these technologies forward than guys like us who understand radio.

This point was brought home to me last week as I was interviewing an executive of a wireless company for an article that I'm writing. He said to me that many of the companies he works with are taking a software-centric view to their wireless products. They simply use the reference designs provided by the wireless chip makers and expect those designs to work flawlessly in their products.

While they often do, he gave me an example where simply using the reference design was a colossal failure. In one case, he said, the company mounted the board inside a metal enclosure. Since the antenna was part of the printed-circuit board, the enclosure acted like a shield, and of course, the device had little or no range.

He went on to say that he thought that there was a real shortage of experienced RF guys in the wireless industry. Does that sound like an opportunity to you? It does to me. So, I'm going to make like Wayne Green

here and exhort all you guys to get out there and take advantage of it.

This is not only a business opportunity, but a way for amateur radio operators to fulfill a couple of the "purposes" of amateur radio, as set forth in Part 97.1 of the amateur radio regulations. Part 97.1(b) says that one of the purposes of the Amateur Radio Service is "Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art." According to Part 97.1(d), another purpose of the Amateur Radio Service is "Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts."

Let's do it!

When he's not ruminating on the latest wireless technologies, KB6NU likes to make use of some vintage wireless technologies by working CW on the HF bands. He's also a prolific blogger (www.kb6nu.com) and the author of the "No Nonsense" amateur radio license study guides (www.kb6nu.com/study-guides). If you have a comment or a question, email him at cwgeek@kb6nu

Why is the third hand on the watch called the second hand?

Membership Renewal

Your club supports two 2 meter repeaters that are linked together to provide communications to the city of Erie and almost all of Erie County. We also have an Echolink connection.

Your club provides a club house on Wagner Rd that has 4 HF stations set up to yagis for members use anytime they want.

Your club prints a newsletter, the QuaRae, monthly with timely amateur radio events and topics.

At most monthly meetings we have a presentation that is relevant to amateur radio.

We also support a Christmas dinner and a summer picnic.

Your club also has a very knowledgeable pool of members in almost all aspects of ham radio who are willing to help.

Some of our goals this coming year. We want to participate in more community events, such a walk and runner events for local charities

We would like to improve our D-star repeater coverage.

We need to put a handicap ramp to the entrance of the club house, (with the help of the boy scouts) and to improve the lighting.

We would also like to provide a electronic test bench for repair and adjustment of amateur radio equipment

We want to have regular classes for amateurs to upgrade.

The club can't do it without your help.

We urgently need your membership today. We can't do all our projects without you. Matter of fact, we will have a hard time maintaining what we already have. Would you please send us a check for \$15.00 (regular member ship)? And if you have the time and able to do so, participate in some of the activities in the coming year

John Lindvay

After eating an entire bull, a mountain lion felt so good he started roaring.

He kept it up until a hunter came along and shot him.

The moral: *When you're full of bull, keep your mouth shut.*

HF Amplifiers for Portable Use

The most popular radios used for lightweight portable operating tend to be quite low power devices. It is certainly the case that in most situations power levels of less than 10 Watts will give plenty of contacts. However, when conditions are poor or if you are a habitual HF SSB user, higher power can often be welcome. There are potential disadvantages though. Not only will your radio (or radio plus amplifier) weigh more, you will also need a bigger battery. You may even need to upgrade your antenna system to cope with the higher power. The "sweet-spot" for higher power

portable operating seems to be between 20 and 50 Watts. Any less and the improvement over 5 Watts is not significant anymore, and the extra weight you need to carry starts to increase rapidly.

Get a higher power radio?



The most common way to run more power is to use a radio such as a Yaesu FT857. This is the most popular 100 Watt portable radio and is a solid performer. It's over twice the weight of its little brother the FT817 (2kg vs 1kg), draws more current on receive and obviously draws a lot more current on transmit! While you might think you can make some savings by running it at a lower power, beware because the efficiency of the radio falls rapidly as the power is reduced. At 5 Watts output an FT857D draws 4 amps compared to 2 Amps for an FT817.

Use a separate power amplifier?

Another way forward is to use a separate HF amplifier with your existing low power radio. This is a flexible solution and is favored by many portable operators. It does have some "down sides" though. Separate amplifiers can be designed to reduce their size and weight and can weigh less than the amplifier section in a standard 100 W radio. that may sound surprising but an outboard amplifier can be designed to work at an intermediate power (say 50 watts) which gives a big improvement in signal strength without needing as much (heavy) heat-sinking as a built in 100 W pa. An an outboard amplifier you can further reduce weight by covering less bands and sizing the heatsink for intermittent

use rather than sizing it to survive an RTTY contest at 100 Watts. Down sides are more to carry and more leads to forget or to fail.

A popular commercial amplifier was the Tokyo Hy-Power HL45B. Not the smallest or the lightest, it did seem to be a good performer. It was expensive though and Tokyo Hy-Power no longer exists so it's a secondhand purchase only these days.

A reasonably priced option seems to be the Chinese 45 Watt MX-P50M. This amplifier has been around for quite a long while in several forms. It is designed specifically as a companion to the FT817 and if you want to use it with other radios you may need to modify the leads to get the right switching. I have an older one which works as largely as advertised. It's cheap for a reason of course; the build quality is not the best and the output filtering is a bit of a compromise with just four low-pass filters covering from 3.5-29 MHz. My early version was not very linear; no problem for CW and usable on SSB but just not great. This seems to have been addressed on the current version. The heat-sink on the current design is quite small making it a poor choice for 29 MHz FM users. Despite that, at the price it's worth a go. It is marketed on eBay at around £125 including shipping from the Far East.



An even cheaper option is to use one of the lower power amplifiers from RM ITALY. Their amplifiers are cheap and are unlikely to meet the

require specifications for unwanted emissions. However, the KL-203 can be made into quite effective a CW amplifier for the higher HF bands (20m and up) with the addition of suitable low-pass filtering. Operation down to 40 m is possible but requires some modification to the amplifier's output transformer. The KL-203 is not linear and its power output rating is hopelessly optimistic but for the price you get something that can be modified.



KL203 revealed

If you are capable of building a kit there are several options. The HF Packer is a good amplifier that has been around for a long time (15 years?). Virgil K5OOR provides good support and with an amplifier that is currently at Version 4 you should be assured of good performance. A feature that I especially like with this amplifier is its use of an internal boost switched-mode power supply. This means the amplifier works well even when your battery is sagging. This is a great feature.

The rise in popularity of low power software defined radios has spawned a number of interesting HF amplifier kits in the 20-50 Watt range. Unfortunately these seem to come and go with small production runs. The Hardrock-50 is one such kit which seems to get good reviews and might stick around for a while.

Of course, this article would not be complete without mentioning the Elecraft KXPA100. Unlike

the others, this is a 100 watt amplifier and is available as a kit or built. With solid state TX/RX switching and an internal ATU option it's in a different league to the other products. As you might expect, you do pay a significant premium for these and many other features. Interestingly Elecraft describe the KXPA100 as being for "desk top and mobile use" perhaps suggesting that lightweight portable was not envisaged. The KXPA100 weighs in at over 3 kg (with the internal ATU) so I would agree that while it might be useful for some sorts of portable use, backpacking isn't one of them.

Kits are not essential and it's quite possible to design and build your own amplifier (or use someone else's design). Don't expect this to save you any money though, and if you factor in your time it will probably be the most costly option. The fun and learning to be gained are priceless though.

73 Richard G3CWI _____

References

[MX-P50M Technical Review](#) by John GM4SLV
[HF Packer Information](#)
[KL-203 Information](#)
[Hardrock-50 Technical](#) review by Phil AD5X
Elecraft KXPA100

Self-build

[Homebrew Portable Amplifier design and build](#) by John GM8OTI
[Excellent resources and ideas](#) by Robert M0RZF

You do not need a parachute to skydive. You only need a parachute to skydive twice.

Ham Calendar

March 1 – Corry Club Meeting

March 3 – RAE Meeting

March 5 - ARRL International DX Contest, SSB. See www.arrl.org/arrl-dx

March 8 – Wattsburg Club Meeting

March 10 – Union City Meeting

March 12 - Idaho QSO Party. See
<http://idahoncj.info/qsoparty/rules.htm>

March 12 - Oklahoma QSO Party. See k5cm.com/okqp.htm

March 13 - North American Sprint. See
ncjweb.com/Sprint-Rules.pdf

March 13 - All Wisconsin QSO Party. See
www.warac.org/wqp/wqp.htm

March 13 - | Pennsylvania Charter Day, Holmesburg Amateur Radio Club, 3341 Sheffield Ave, Philadelphia, PA 19136. Commemorates the granting of the Charter from Charles II to William Penn which founded "Penn's Woods" in 1681. SASE to WM3PEN.
qrz.com/db/wm3pen

March 17 – St. Patrick's Day

March 19 - Louisiana QSO Party. See
laqp.louisianacontestclub.org

March 19 - All Virginia QSO Party. See
www.qsl.net/sterling/VA_QSO_Part

March 19 – VE Exams

March 21 – Conneaut Club Meeting

March 27 - Easter