



NVARC

Signal



VOL. XXXIII...No. 6

WWW.N1NC.ORG

June 2024

In This Issue

Working POTA	1
Treasurer's Report	2
Radio Merit Badge	2
Dan Pedtke KW2T, SK	3
Which Logging Software?	4
VHF Aurora Operations	5
President's Corner	6

Working POTA John KK1X

I started out the year with a stated goal of making 500 contacts a month in the Parks On The Air program. May turned out to be challenging. There was a lot of crappy weather. There were Coronal Mass Ejections (CMEs) from the sun that disrupted radio communications for days. I even had one day where I was completely skunked. Yeah, I could have stayed there calling CQ, but after a half hour with nothing, I went home.

Next Meeting: 20 June 2024

June will feature two guest speakers.

John, K1JEB, will go over Field Day plans and what we can expect now that we have management.

Bruce, K1BG, will talk about planning for HamXposition – the northeast ARRL convention that takes place in August.

Hope to see you there!

Monthly Meetings

NVARC General Meetings are scheduled for the third Thursday of the month at 7:30pm local time at the Pepperell Community center.

Meetings are not held in July or August.

While I did a little bit of operating at Pearl Hill State Park and Leominster State Forest, to get my 500 contacts, I started to operate at a little spot up near the old Moore Field in Ayer where the Nashua River (US-8014) and the Oxbow NWR (US-0327) happen to overlap. In POTA terms, that's a "two-fer", where I get credit for two contacts with one QSO. I did lots of those to get my 500 contacts in May.

Weekly 2-meter Net

The NVARC Information Net is held Monday nights at 7:30pm local time on the 2m N1MNX repeater, 147.345 MHz, +100PL.

Jim, N8VIM has been improving the repeater incrementally over the past several months.

Treasurer's Report Ralph KD1SM

Income for May was \$15 in membership fees. Expenses were \$200 for the annual liability insurance premium, leaving a net expense of \$185 for the period.

Current balances:

General fund \$3,198.65
Community fund \$6,878.25

As of 6 June we have 42 members who are current with their dues and 45 renewals outstanding. Renewal months are in the member list on www.n1nc.org in the Member's area; check yours on <https://www.n1nc.org/Members/Roster> or you may also email me. Special thank you to those of you who mail your renewals or use PayPal without a reminder.

To pay membership dues via PayPal see the instructions in the same Members area.

If you are joining ARRL or renewing your membership please note ARRL's instructions to enter your NVARC membership information. As a Special Service Club, the ARRL expects a majority of Club members to also be ARRL members and will send a portion of your new or renewal ARRL membership fee back to the Club. Contact Ralph for further information if you need it.

Radio Merit Badge & Field Day Tim Chase KB1ZVR

The Scouts are coming, the Scouts are coming! This year's Field Day is coming together. Not to steal any thunder from the team of dedicated individuals who are putting everything together but there is also another aspect that we are adding this year: Radio Merit Badge for Scouts BSA.

Scouts from three adjacent Scouting America Council have been offered the opportunity to attend a Radio Merit Badge Course being led by me, the Scoutmaster of Troop 28 in Dunstable. As of the writing of this article we have 4 Scouts signed up.

The two-part course begins before Field Day, teaching how radios work, two-way communications, EM spectrum and schematics. Field Day teachings will cover safety, different types of equipment, and most importantly, get each Scout on the air!

Here is what I'm asking of the Club:

1. Come out to Field Day; seeing people active in our hobby will help the Scouts get excited about it.
2. Be ready to support them on the air; they need to operate, use q-codes where appropriate, and log the contacts they make.
3. Stay tuned for future updates; Bruce, K1BG, and I have talked about possibly offering a Technician course in late summer/early fall; the plan is to have these young people get excited about radio so they want to get their license.

If you know a Scout who might be interested in completing Radio Merit Badge, please have them email me at: register@troop28-2.trooptrack.email

Dan Pedtke KW2T, SK

As many of you know, Dan Pedtke, KW2T, recently became a silent key. Dan first came on the local scene in April of 2011 when he gave the club a presentation on "Digital TV Signals", and he became a fulltime member in April of 2012.

Dan participated on the club in many ways, including being guest speaker at club meetings, writing articles for the Signal, and participation in Field Day. He initiated "Tech Night" which ran for many years, spinning it off into "Dan's Tech Night". No one could better detail Dan's background better than Dan. This is from his webpage, www.danstechnight.com/WhosDan.html:

"Dan Pedtke ("ped-key"), KW2T, is the founder and organizer of Tech Night.

Dan is an RF hardware engineer. Having built his first transmitter in 5th grade for a science fair, his career has taken him from broadcast transmitters to nuclear accelerators, from consumer products to military, from vacuum tubes to FPGA software radio coding. Dan holds the highest FCC commercial and amateur radio licenses, and has taken the highest level electromagnetics courses offered at Michigan State University, where he worked on the world's highest energy heavy ion accelerator at the National Superconducting Cyclotron Lab.

He has worked with RF and antennas all his career, from consumer electronics to cryogenically cooled LNA front ends at the National Radio Astronomy Observatory, from 100 KHz to 99 GHz. He has been VP of Engineering and CTO at 3 companies, and has shepherded many electronic products from cradle to grave.

There isn't much in electronics he has not done, from software coding in C++ and python, to all parts of radio design, from power supplies to instrumentation amps, analog and digital audio and video, HTML to Matlab, and drones to satellites. With 8 patents, his work can be found protecting Boston's Logan Int'l Airport, on top of many mountain peaks in the US, at hospitals and universities, and in low earth orbit.

Dan has a BSEE and BA in Economics from the University of Notre Dame, and has done graduate work at Rochester Institute of Technology, and Michigan State University. Dan currently works at a drone company in Boston, MA, and does freelance consulting. He has had a ham license since 1971, 49 years as of 2020. He is past president of 4 different ham radio clubs, starting



in high school, and including the Rochester VHF Group.

In his free time, Dan keeps track of his 5 homeschooled kids (3 are hams), and hikes and bikes and canoes the local venues, and is a 37 year member of the National Railway Historical Society, and so he occasionally chases trains. He is a beekeeper, and is a member of the SCA (google it) where he goes by

Gildemir of the East and does archery with a longbow. Dan plays keyboard and bass guitar, and has some skill at the French horn and trumpet. He has a current first aid and CPR card, and was a past volunteer ambulance EMT."

Dan recently found his "dream job", being employed by his alma mater, the University of Notre Dame in South Bend, IN, as the Wireless Institute hardware engineer.

RIP OM.

Which Logging Software? Bruce K1BG

Since the dawn of the personal computer, radio amateurs have been asking themselves: What software is the best one to use? While it's a personal choice, there is data that shows what people are using.

Contest logging software for personal computers was first developed in the mid 1980s. "CT" by K1EA was very popular through the 1990s. Originally developed for the MS-DOS operating system, it gained instant success. Proceeds from the sale of CT were generously donated by K1EA to build the New England "PacketCluster".

PacketCluster consisted of a 220/440 MHz backbone with 2 meter access points that was used for sharing "DX spots" between amateurs before internet use became commonplace.

There were competing products. Some had the identical look and feel and as CT. CT did not adapt as MS Windows became more popular, the internet took over, and technology advanced. I'm also guessing that K1EA's interests went elsewhere, but that is speculation on my part. CT was a fantastic product in its day!

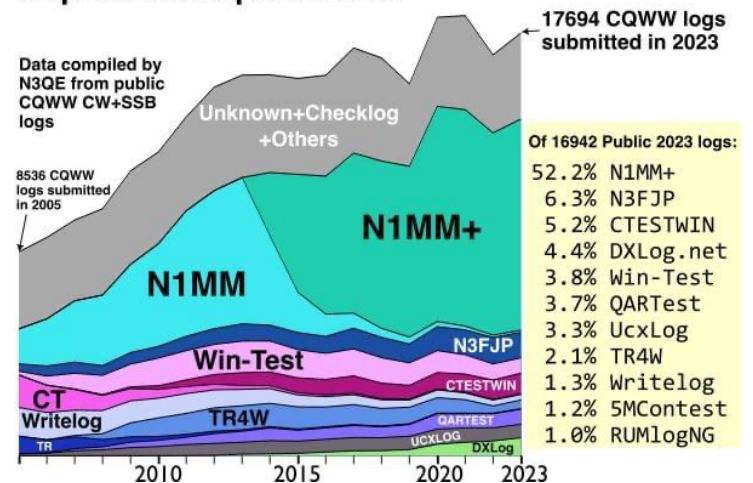
Starting in the 90's, CT was replaced by a variety of different products. I am by no means an expert on all the products out there. My favorite program, because it became extremely popular as CT's replacement, was N1MM (later replaced by N1MM+, which is what we use on Field Day). Why do I like it? I've been using it for so long, I see no need to use anything else. It does everything I need to do (and many things I will never use). It supports any radio and every contest that is out there. The support is phenomenal. And you can't beat the price (it's free!).

I've used Win-Test on Field Day in the UK, and a lot of people say great things about N3FJP. You will pay for both of these products. Some of the arguments against free software is that the product won't have features and lack support that a pay-for product will give you. Having said that, I saw N1MM speak about N1MM+ software,

and I understand his points that counter these arguments. BTW, it was a very impressive talk. Two things happened over the last week that made me think about all of this. First, a question came up at a Tiny's breakfast last week about contest software. And second, this graphic came up in a conversation in a Facebook group last week.

As it turns out, when you submit a "Cabrillo file" (Cabrillo is the standard file format used for reporting contest scores to contest sponsors), it contains data referencing which contesting program generated the file. N3QE researched log submissions for the CQ Worldwide contests, and the results are in the attached graphic.

Top CQWW contest loggers 2005-2023 <https://Radiosport.World/>



The results: In 2023, N1MM+ was used by a whopping 52.2% of the participants who submitted scores. In second place was N3FJP with 6.3%. It should be noted that one Facebook commenter stated that according to a 2022 CQ Magazine Contesting Column: "N3FJP's logger is especially popular among low-scoring US and Canadian hams". A variety of other programs (including Win-Test) are included in the list.

I hope this gives you some things to think about regarding contest logging programs. Again, my personal preference is my own. If you are interested, research what is out there, particularly if you are buying software.

VHF Aurora Operations Les N1SV

As the current solar cycle continues towards its predicted 11-year peak in 2025 / 2026, HF propagation has been exciting. But along with the increased sunspot activity is an increased number of Coronal Mass Ejections (CME). CMEs launch plasma and magnetic fields out into space. When a CME occurs in the direction of earth, it can cause a geomagnetic storm to occur, which can create an Aurora also known as the "Northern Lights". This occurs predominantly at high latitudes, but can exist farther South if the Geomagnetic Storm is strong enough.

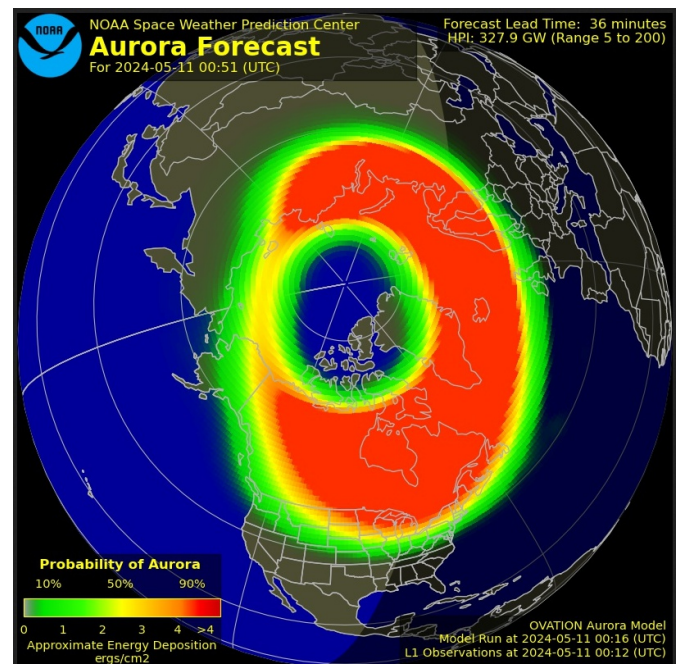
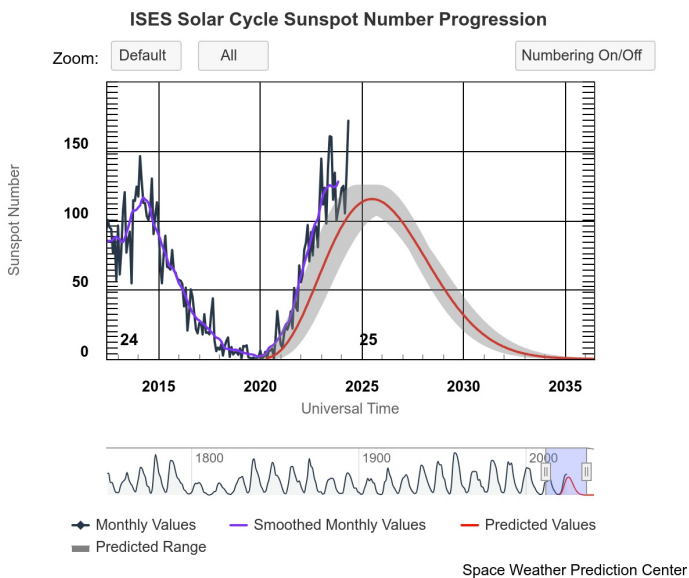
While auroras can cause radio blackouts to occur on the HF bands, on the VHF+ bands it's just the opposite. An Aurora can be used as a reflecting medium for signals 50 MHz and above. A CME on May 10, 2024 caused the strongest

Aurora in 20 years to occur. This was only the 2nd time I've been lucky enough to have been in the right place at the right time to take advantage of it.

To use an Aurora as a reflective medium, I point my antenna North or just slightly off of North. One of the characteristics of communicating via an Aurora is the absence of any audio tone information on received signals. On SSB everyone sounds like they're whispering. Here is a link to an example of SSB during a June VHF contest

<https://www.k9mu.com/sounds/50mhz/k9mujunecontest.mp3>. On CW there is a lack of audio definition, making it sound like "whooshing". Here is an example of CW contact during an Aurora

<https://www.youtube.com/watch?v=5EEzI MMV3mQ>. Because of this, the preferred mode is slow speed CW. Distances you can communicate vary and are a lesson in Geometry. During this recent Aurora I was able to work nine stations on 2m with the farthest one being just over 700 miles away. On 222 MHz, I only managed two contacts but one was also just over 700 miles. This is a very rare and unique propagation mode that I hope to experience again.



**President's Corner
Bruce K1BG**

As I prepare this month's President's Corner article, I'm thinking about Field Day and how many volunteers it takes to make things run smoothly. Taking place the 4th full weekend in June (June 22nd and 23rd this year), it requires a commitment by a number of club members to be successful. Many club members have been doing Field Day for so long that it's second nature. For newer hams, it's a great learning experience.

Rather than go into all of the details and thank everyone in advance, I'll only say that John, K1JEB, has volunteered to be out Field Day Chairperson this year, and he is doing a great job. We've had several Zoom sessions to coordinate activities, and we have volunteers for different responsibilities. If you are interested in attending next week's Zoom session, contact John, K1JEB. One of the new activities planned for this year is a Boy Scout Radio Merit Badge program that will take place, thanks to Tim Chase, KB1ZVR, who will be coordinating activities. Please attend the June meeting and see what's being planned, or better yet, come out to the Field Day site and participate. We can always use the extra participation at any level, and a great time is had by all. I hope to see you there.

I missed last month's meeting because I was visiting the Dayton Hamvention. Hamvention is the largest gathering of radio amateurs worldwide and it takes place – guess where – in Dayton, OH, every May. For much of this year's Hamvention I was visiting exhibitors, trying to get them to exhibit at HamXposition (HamXposition is the northeast convention which takes place

in August). Several interesting things I heard or saw out there – First, HamXposition claims a record turnout of 33,861, which beats the previous record of 32,472 (which was pre-Covid). It was noticeably more active, particularly on Friday (when it rained in the morning) and Sunday (when things are winding down).

On visiting booths to try to sign them up for HamXposition, I would politely start the conversation with the question "How's business?" Virtually every vendor I spoke with replied in a very enthusiastic and positive way. Many vendors I spoke with on Saturday were sold out by noon. Business was great! A good omen for amateur radio.

And finally, my observation was that there were more young people in the crowd at Hamvention than I've seen in a long time. For me, this was the most exciting takeaway of all!

Finally, NVARC is still looking for a host for our annual summer picnic/BBQ. It's easy to do – host the site, make a barbecue grill available for cooking, and supply paper plate, napkins, condiments, etc. NVARC will reimburse you for the shareable items you supply. It's a great way to meet other club members, build relationships, and if you are so inclined, show off your stuff. And since you are the host, you get to decide all the particulars – date, time, and so forth. Please let me know if you are interested. While we do publish the Signal, NVARC does not traditionally hold summer meetings, and our plans for 2024 are no different. Our next scheduled meeting is for the third Thursday of September. Please have a safe and enjoyable summer.

Aurora Borealis in Maine
(see N1SV article page 4)



**HAM
RADIO
OUTLET**
WORLDWIDE DISTRIBUTION

224 N Broadway STE D12 | Salem, NH 03079
Tel: 603-898-3750 | Fax: 603-898-1041
www.hamradio.com

Fran Purcell

Electronics Plus

480 King Street
Littleton, MA. 01460

fpurcell@electronicsplus.com
Hours: M-F 9-6, Sat. 9-5

(978) 486-3375

Nashoba Valley Amateur Radio Club
PO Box 900
Pepperell MA 01463-0900
<https://n1nc.org>

President: Bruce Blain K1BG
Vice President: Les Peters N1SV
Secretary: John Bielefeld K1JEB
Treasurer: Ralph Swick KD1SM

Board Members:
Fred Darling KB1RGT (2024-2025)
John Griswold KK1X (2024-2026)
Jim Hein N8VIM (2024-2027)

N1NC Trustee Bruce Blain K1BG

Join NVARC! Annual dues are
\$15 individual, \$20 family

Contact us on the N1MNX repeater:
442.900(+), PL100
147.345(+), PL100
53.890(-), PL100

This newsletter is published monthly. Submissions, corrections, and inquiries should be sent to editor (at) n1nc (decimal) org to reach the newsletter editor.

Editor: John Griswold KK1X
(C)2024 NVARC