

SIGNAL



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and their locations and/or shacks alongside signal reports, stands out even more and continues a nearly century old tradition in the hobby.

NVARC HELPS AGAIN WITH CARD SORTING IN NOVEMBER FOR THE W1 QSL BUREAU

de PHIL W1PJE

At the November meeting, more than a dozen participants helped NVARC sort a large number of QSL cards for recipients throughout the "1"¹ call prefix in New England.

In the current era of electronic logging through the [ARRL's Logbook of the World](#) and related services, the tangible act of receiving a physical QSL card - many with intriguing pictures of worldwide hams

¹Note that since call areas are no longer necessarily related to physical locations, some "1" recipients can be farther afield.



Extending the practice of the past few years, the club used homemade double-sided sorting units constructed out of US Postal Service small mailing boxes as a lightweight alternative to the heavier all-wooden sorting boxes used in past events. The event is a highly anticipated part of NVARC's meeting calendar and always provides a great social opportunity to connect, or reconnect in many cases, with fellow hams. Club resources provided pizza and soda for the sorters mid-way through the evening, which clocked in at just under two hours.

Eric Williams KV1J is the W1 QSL bureau co-manager. He writes: "Thank you

to the Nashoba Valley Club for your contributions and support to the New England call area hams. The QSL Bureau only works because of the many hands that pitch in to process the cards. It is labor intensive but fun especially with the great friends in the Nashoba Club.”

NVARC sorted 15,000 cards this year, compared to smaller amounts in the past few years - 12,000 in 2022 and 7,500 in 2021; 2021 had reduced international volume due to COVID restrictions. An in-

teresting note: Back in 2015, the overall volumes were higher, and the club sorted 16,500 cards. Even more impressive, in 2011 and for a few years before that, volumes reached 20,000 cards² in one night for NVARC!

Mark your calendars for next November’s sorting night, and let’s continue this valuable tradition of service to fellow radio operators near and far.

Letters From Our Members

Good evening, I came across a topic that may be of some interest to the club. I know there are several of us interested in POTA, and was watching a Youtube video regarding a relatively new protocol for 2m radios, that new hams could use, as well as creating a network across the country that standardizes freqs for use with POTA/SOTA activities, outdoor emergencies, etc.

As the creator is *far* better at explaining this than I am, I am including a link to the website, as well as the video fully explaining the protocol and its usage, by its inventor.

www.sierraradio.net/adventure-radio.html

[YouTube video](#)

Fraternally,
Bill Reed, KC1WTR

²There’s a milestone we could achieve again - W1PJE

THE DELTA LOOP EXPERIMENT

de JOHN KK1X



"Delta Dusk" antenna.

After³ my testing with the Half-Square got underway, and I had a reasonable process for getting two supports erected, I thought it would be fun to examine the Delta Loop. I'd had great success years ago with a horizontal loop. Why not give it a go? The alleged advantages of a delta loop are ground independence (it needs no radials) and broad bandwidth, albeit within one band. Unfortunately, it is like the Half-Square in that it's for a single band, a trait it also shares with dipoles.

I had prior loops of 40 and 80 meters, both horizontal, roughly square in shape, about 30 feet above ground level. These

seemed to work well, but when the squirrels took them down, I didn't replace them. For this exercise, I'm going to use a delta loop as it can be supported with one mast.



Loop end.

Until I get a couple of 50-foot masts, it looks like a 20m loop is the limit for this project. I could probably have fit a 30m loop, but there's too little POTA (Parks On The Air) activity. While I am not necessarily building antennas specifically for POTA use, I find that POTA is helpful for the testing phase, and RBN and PSKReporter are very helpful for this and operating in general.

Using the same 26-gauge silicone wire I used for the half-square, I measured out $1005/14.1 = 71.25$ feet (plus a foot for leads) and tinned the ends. The ends of the wire were treated with a thimble and a wire tie.

The polarization of the delta loop can be changed from horizontal (feed from top

³See previous issue of the Signal for John's "Half-Square" article.

At the design frequency of 14.1 MHz, the antenna performs quite nicely. The antenna was oriented within a few degrees of North-South, and the directionality of the loop is obvious. I managed to make about twenty POTA contacts in an hour. All contacts were domestic, primarily in the 4 and 8 call areas. On the left is a picture of the 20m coverage after running for 15 minutes or so. The inverted raindrops are monitoring stations. The elongated blobs are monitoring stations that heard me. The picture on the right illustrates the gray-line propagation of the antenna – which was awesome!



"Thimble".

The antenna was duplicated simply by stretching it out alongside a length of very flexible 16-gauge silicone-insulated orange wire. Hi-vis is a positive for portable antennas. I again kept about a foot of wire at the ends for finishing and divided the remainder into thirds. I then applied thimbles to the two corners, and applied thimbles about eight inches from the ends. The ends were finished with spade lugs and glue-lined heat shrink tubing. The spade lugs were crimped and

soldered.

I eventually took the antenna out to the "test range". The top corner was at about 35 feet and the bottom was about two feet off the deck. Fed in the corner with a 4:1 balun and a 25-foot RG8X feedline, I measured SWR as 1.34 @ 14.196 (the lowest point) and 1.39 @ 14.078 (FT8 is at 14.074). I wasn't going to shoot for anything better. . . I set up to operate POTA for my standard 1-hour antenna test, and managed 28 contacts, mostly 8's and 9's. I think 28 contacts in an hour is above average, so I'm relatively pleased with this antenna. I thought the 20m propagation was pretty weak during that test.

I do recognize that this antenna is kind of large, and thus rather a pain to erect. The wires tend to twist up on themselves, but I think that's more a matter of how it's stored than a fault of the antenna. I might put this one out in the side yard for a while.

Sticking with my theory that SWR is adversely affected by a phasing line of the wrong length, I shortened that by six inches (yes, I measured) by sliding the support piece along the wire. I had to in turn shorten the adjacent leg by six inches to compensate. The SWR rose to 2.2 at the same 14.105 measurement point. I must be on to something. I slid the support back a foot, shortened the vertical leg a foot, and measured an SWR of 1.5. That's close enough for John's house.

73, de KK1X

ON CONVERTING A 10 METER YAGI TO 12 METERS

de RODNEY HERSH WA1TAC

With the greatly improved propagation conditions on the higher HF bands this autumn, the author decided that a better antenna than his low dipole was needed. Initially, two options were considered, a 5/8 wavelength ground plane vertical and a delta loop hung from a high tree limb. However, neither offered much increase in gain and the delta loop would have a restricted azimuth pattern. Then the thought occurred that it might be possible to convert an old, unused, Gotham 10 meter beam to operate on 12 by lengthening the elements. A description of that effort follows.



Figure 1. Wire Extension to Yagi Element.

The Gotham beam dates back to around 1980; it was a rugged, four element yagi on a ten foot boom and used a gamma match for impedance matching. Antenna dimensions for a three element, 12 meter beam were obtained from the ARRL Antenna Book, 21st Edition, which gave lengths of 246, 228.5, and 216 inches for the reflector, driven and director ele-

ments respectively. The 10 meter Gotham beam had lengths of 208.5, 201, and 196 inches for the same three elements; hence, additional lengths of 37.5, 27.5, and 21 inches were required for resonance in the 12 meter band. It was decided to use heavy copper wire for the added lengths with half of the total extensions attached to each end of the 10 meter elements. Stainless steel hose clamps were used for attaching the extensions as shown in Figure 1.



Figure 2. Gamma Match (Boom is just off the right edge of the picture).

After the beam was assembled and attached to a mast outside, electrical tests were conducted using a MFJ-259 Antenna Analyzer. It showed that the resonant frequency was lower than desired indicating that the elements were too long. Two possible explanations for the lower resonant frequency are the larger diameter of the Gotham elements compared to those in the ARRL design and the proximity of the beam to a six meter beam

mounted above the 12 meter on. To raise the resonance, a two inch length was cut off each end of the copper wire extensions which increased resonance to just below 25 Mhz but with a high VSWR indicating that the gamma match was not adjusted properly. Figure 2 shows a picture of the gamma match before the antenna was mounted on the mast.

The gamma match appears to be a tapped, series LC resonant circuit. Hence, lowering its resonance from 28.5 to 24.9 Mhz dictates the need for a longer length. As luck would have it, there was sufficient length in the original match element to lower the VSWR to about 1.5:1 over the desired portion of the 12 meter band. This value is well within the range

of present antenna tuners and amplifier pi-networks.

While no quantitative testing of gain and front to back was performed, on-the-air observations indicate around an S-unit gain in receive strength and approximately a 20 dB front to back ratio. No claim can be made of its being an optimum design but it is an improvement over a low dipole. Multiple DX contacts have been made using it. The best part is that the total investment was about \$12 for the six hose clamps. This modification could also be applicable to a CB yagi.

73, Rod

THE IMPORTANCE OF KEEPING A STATION LOG

de BRUCE K1BG

I had a recent email exchange with newer club members Libby, KC1RKH, and Adam, KC1RTD, on the reasons and importance of keeping a station log. I thought I'd share my thoughts on the subject.

From the beginning of Amateur Radio licensing in the United States in 1912 right up to 1974, radio amateurs were required by FCC regulations to log all transmissions. On June 25 of that year, the requirement was abruptly dropped by the FCC, effective July 10, 1974⁴.

When I say, "all transmissions", I mean just that. My old logbooks are full of CQs (every CQ was logged), every station I called that did not come back to me, etc. Many lines of my logbook had transmissions that did not result in contacts. Logs held the date, time, station called, frequency, emission type, power (then measured in input power!), and time of ending QSO. Additional information, such as signal reports, name and QTH, QSL sent and received, etc., were not required but were typically logged. With the exception of my very first logbook (which was lost

⁴CQ Magazine, September 1974, page 4. <https://archive.org/details/73-magazine-1974-09/page/4>

the monitor with a common-mode filter. Problem solved - but that is for another article.

These days, many people still keep paper logs. You can't search them the way a computer can, but they are still a great way of keeping records. Computer logging has gotten much more popular, and it's much more automated. If your rig is interfaced to the computer, then things like date, time, and frequency are all entered for you. No mistakes! Remember to periodically back up your data. There are also on-line services (like QRZ.COM) where you can keep your station logs. One comment here - ARRL's Logbook of

the World is a misnomer. It was never designed as a logbook (in the traditional use of the word). It is used as an alternative to sending (and receiving) QSL cards for awards. I highly recommend using it - it's just not good as a general logger.

There are many programs for computer logging out there, and some are free. But that is the subject for another article. Especially for newer hams, I encourage you to keep an accurate log. In the long run, I think you'll be glad you did.

Bruce, K1BG

CURIOUS WHO USES LoTW?

THE LOGBOOK OF THE WORLD

LoTW users list
by HB9BZA

SY2A (Mount Athos) was the last current DXCC entity to appear on LoTW.
All current DXCC entities are now on LoTW!
KH4 and KH7K Finally not deleted! Details here.

LoTW users list (196,425 calls in 340 current DXCC entities - updated on 03-DEC-2023)
Great news: the ARRL released the full users list on July 29th, 2017! More details [here](#).

[LoTW Users](#)

NVARC MEMBER BENEFITS

OUTGOING QSL BUREAU CARD SUBMISSION

NVARC will pay the fee and postage for members' outgoing cards; you need to provide proof of ARRL membership.

POWERPOLE CONNECTORS

NVARC purchases 30 amp PowerPole connectors and re-sells them to members at a reduced cost. \$5.00 for 10 connectors; each connector consists of one red and one black housing and two contact pins.

NVARC EMAIL REFLECTOR

From The Editor

It was great to have been the editor of the Signal for the past year and a half. I have learned a lot about the club and its members—a truly interesting journey. Now is the time for me to step down and clear the way. There is no doubt that with such a wealth of human resources, including a Professor of English and two experienced ex-editors, the club will have no difficulty finding a worthy successor. The club may also decide to appoint several members to manage the production of the newsletter, effectively forming the Newsletter Committee, as described in the By-Laws. In any case, it will be someone new who will take the Signal to new literary heights in the New Year. I wish the new editor success.

I want to thank all who contributed to the newsletter: Bruce K1BG, John KK1X, Greg N1DAM, Joe K1YOW, Phil W1PJE, Skip K1NKR, Adam KC1RVK, Les N1SV, and Rodney WA1TAC. I hope you also had fun and a sense of satisfaction by writing the articles and seeing yourself in print. Thank you again, and best wishes.

For those interested in applying for the position of the club's newsletter editor, please reach out to the club's board for more information.

Vlad, W1MTI

THE TREASURER'S REPORT

Income for October and November 2023 was \$285 in membership fees and \$5 donation. Expenses were \$117.53 for the November QSL sort refreshments and \$3.60 for PayPal fees, leaving a net income of \$168.87 for the period.

We received a donation from the Squanacook River Runners in the amount of \$250 in appreciation of our communications support for the 2023 Groton Road Race. This is added to our Community Fund.

Current balances:

General fund	\$3,175.40
Community fund	\$6,878.25

Welcome to new member Tom Baillio W1PKX of Groton. Tom lists his special interests as home brewing and CW.

Thank you to the many members who sent their renewal dues in the past two months. As of 6 December we have 50 members who are current with their dues and 34 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 consider letting Ralph send in the paperwork for you. The Club will buy the stamp and will get a commission from ARRL. As an Special

Service Club, the ARRL expects a majority of Club members to also be ARRL members. Contact Ralph for further information if you need it.

Ralph, KD1SM

NVARC BOARD MEETING

December 6, 2023

Meeting Start Time: 7:30pm

Board members present:

Bruce, K1BG, John, K1JEB,
Phil, W1PJE, Ralph, KD1SM.

Others present: None

The Board approved reimbursing Dennis K1LGQ \$30.00 for the August Picnic expenses.

December's general meeting topic is 'Boat Anchor Petting Zoo' night. Bring any Boat Anchor restoration project (must have one or more vacuum tubes used in the project to qualify) and do a show and tell.

Bruce will be reserving the Community Center Building, from the Town of Pepperell, MA, for the upcoming 2024 year club meetings.

Phil W1PJE will get the information Eric KV1J, from the QSL Bureau, concerning last meeting's QSL Card Sorting.

Meeting adjourned at: 8:40 pm

Secretary John Bielefeld, K1JEB

NVARC GENERAL MEETINGS

NVARC General Meetings are scheduled for the third Thursday of the month at 2430 UTC (7:30pm, Eastern Time), except for July and August, when no General Meetings are held. When held, meetings are at the Pepperell Community center.

DECEMBER GENERAL MEETING

Next General Meeting is scheduled for December 21, 2023 at 7:30pm. December has traditionally been "Homebrew Night". Anything constructed at home – home made items, restoration projects, kits, custom software. Anything that is not 100% commercial is welcome. Please come and talk about what you've been

doing.

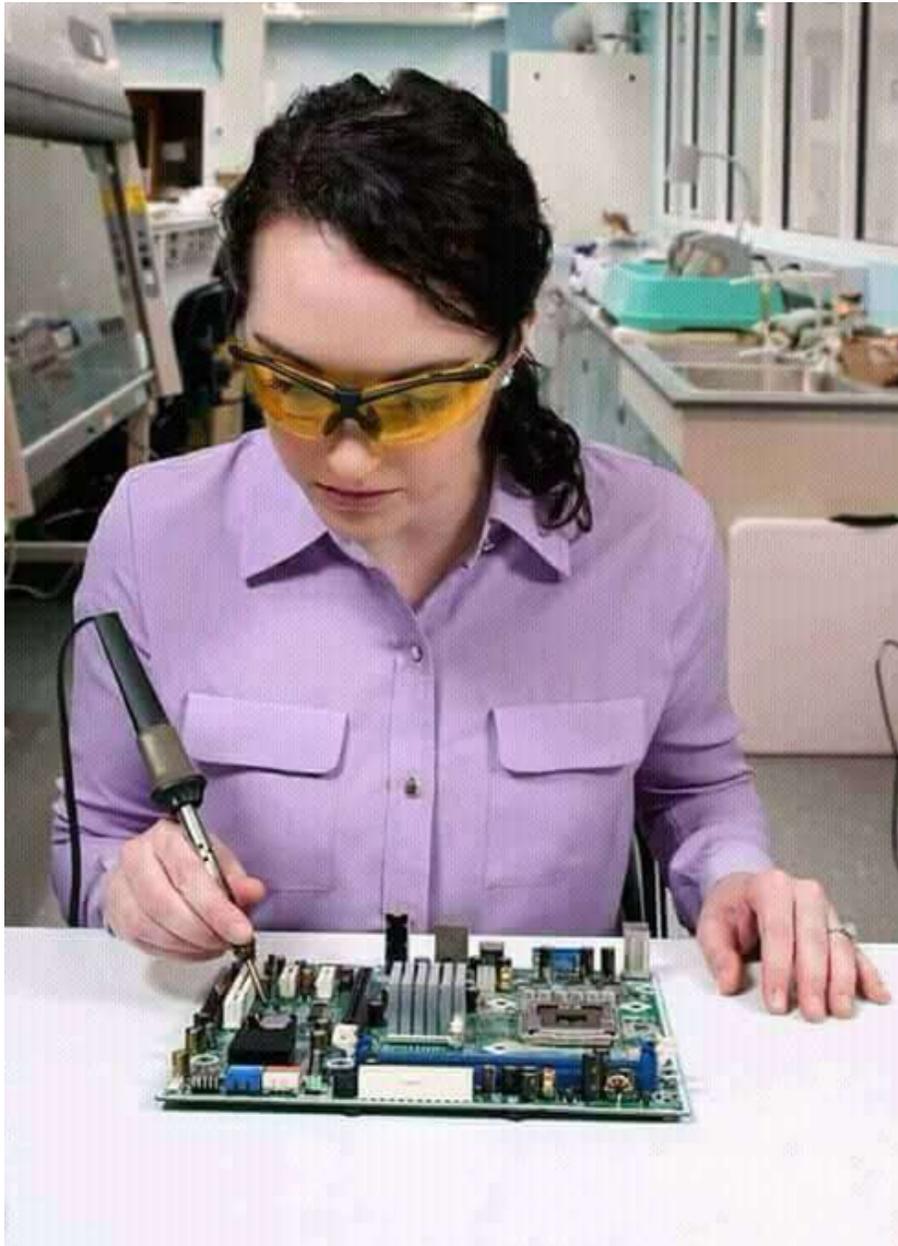
Homebrew night will be shared with "Boat Anchor Petting Zoo." If you would like to show off a piece of vintage gear, bring it to the December meeting and be prepared to talk about it. To qualify, the equipment must contain a vacuum tube. That's it! And if you bring a recently restored boat anchor, you can qualify for both. I hope to see you at the December meeting. It will be fun.

NVARC'S 2 METER NET

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

The repeater has been recently repaired by James, N8VIM - check it out!

Strays



This photo explains the recent high incident of cold solder joints at the Yumaguchi Assembly Facility in Osaka.

Contest Calendar

DECEMBER

- 16 [OK DX RTTY Contest](#)
- 16/17 [Croatian DX Contest](#)
- 23 [RAEM Contest](#)
- 26 [DARC Christmas Contest](#)
- 30 [YOTA Contest](#)

JANUARY

- 1 [AGB New Year Snowball Contest](#)
 - 1 [SARTG New Year RTTY Contest](#)
 - 6 [ARRL Kids Day](#)
 - 9 [Worldwide Sideband Activity Contest](#)
 - 13 [YB DX Contest](#)
-
-



**Nashoba Valley
Amateur Radio Club**

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<http://www.n1nc.org/>
www.youtube.com/@nvarc

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James Hein, N8VIM 2021-2024

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Librarian: Peter Nordberg, N1ZRG

N1NC Trustee: Bruce Blain, K1BG

**Join NVARC! Annual
membership dues are \$15;
\$20 for a family.**

NVARC general meetings are scheduled for the third Thursday of the month at 7:30pm, Eastern Time. NVARC thanks Medtronic, Inc for providing the teleconferencing services under their employee volunteer support program for non-profit organizations.

Contact us on the N1MNX repeater.

442.900(+), 100Hz

147.345(+), 100Hz

53.890(-), 100Hz

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor: editor@n1nc.org

Articles and graphics in most PC-compatible formats are OK.

Editor: Vladimir A. Goncharov, W1MTI

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Have YOU Paid Your NVARC Dues?



See: <http://www.n1nc.org/MembersRoste>
for your renewal month.

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