



Nashoba Valley  
Amateur Radio Club

# SIGNAL

A club since 1992



Since 1993



Since 1996

de N1NC

December 2016

Volume 25 Number 12

## This Month's Meeting

December is Homebrew Night (and January will be Short Subjects Night). These are informative sessions put on by the membership itself. Plan on attending, but better: plan on presenting something. We want to hear from you!

## The President's Corner

Hard to believe, but before this newsletter goes to print we will be only a couple of weeks from New Year's Day.

I had hoped to be more active in NPOTA during the year but setting up the vehicle to operate mobile/portable took more time than I thought. Still I activated the Lowell National Historic Park two times and the Lamprey Wild and Scenic River once. With 15,456 registered Chasers, I thought it would have been easier to log many more contacts than I did. The top NPOTA entity, which is the California National Historic Trail, has logged 14,571 contacts but Lowell has only 1687 contacts logged. Some people were very active and the leading Activator has logged 468 activations. N1NC by comparison has 4 activations. There are 1354 Activators registered but about 450 of those are for a single activation. Once you get down to the 250th Activator, the numbers are in the single digits. N1NC is ranked 482 of 1354 with our four activations. Going into the year, I thought we would have been more active.

I hope to put the mobile set up back together to get in one or two more activations under my belt before the end of the month.

Remember this month's program depends on YOU. Bring along those Homebrew projects to show off. Plus, we are still looking for presenters for the January Members' Short Subjects meeting program. If you intend to present, contact a Board Member or Officer.

Over the years, we have lost a few NVARC members but have only added "In Memoriam" entries to the website sporadically. With a general move to update the website, I would like to see entries added for Earl WR1Y, Dan N1LLG, and Larry W1ESR. I'm looking for a volunteer to at least collect information that would be the basis for such an entry for each Silent Key. Later, we can review and create the final document. In the same way, the three entries that exist already could be improved—especially if someone knew the SK personally.

No one expressed interest in being the focal point for Tech Night. We had only five attendees in October and three in November. So we decided to use the December session to plan for the upcoming Thinking Day On The Air. After that, if no one steps forward we will suspend Tech Night.

I am still looking for Emergency Coordinator and Public Information Officer volunteers.

I hope everyone has a safe and happy holiday season.

73, Stan KD1LE

## Last Month's Meeting

What a meeting! What a large turnout. (Normal attendance is just below 50% of paid membership; this meeting's was 62%.)

Mack's talk on railroad communications was eye-opening. The most important take-away was that, irrespective of the technology used, accurate, consistent message communications is paramount when lives are at stake.

We welcomed an influx of new members. Their interests, talents, and skills enhance the stable of Elmers among us. It also invigorates many of the pockets of activity and interest in the club. Remember, NVARC remains a local, all-service club.

An unexpected highlight was Phil (W1PJE) Erickson's proposal to establish a Haystack-NVARC partnership. Phil also amazed us with some incredible recordings of a Q5/S5-7 SSB EME signal from Sweden.

Meeting program speakers are set all the way to March or April. It looks like a great year ahead.

## Editor's Note

### Open Channel D

That's what Napoleon Solo ("The Man from U.N.C.L.E.") said each time he spoke into his pen to communicate.



NVARC has a number of communications media. Some are point-to-point, some broadcast. Some are one-way, some half-duplex. One is even full-duplex, if you can get a word in edgewise.

There are meetings and Saturday breakfasts for face-to-face. We use the repeater for our immediate over-the-air needs.

The Reflector is great for internal, one-to-all stuff. It's especially effective for quick announcements and for Elmering.

Bruce K1BG puts out an e-mail "blast" to the local ham community informing them about upcoming NVARC meetings and activities. Good advertising.

Then there's the Newsletter. It's both an internal and an external asset. The *Signal* is NVARC's "official communication of record." It is provided to members and associates, plus patrons of HRO in Salem and Electronics Plus in Littleton. We're about the only club in the region that provides "take me away" newsletters to the general technical community. It's good advertising, but is seen mostly by the "already converted."

Our webpage presents our self image to the world. Webpages host news, reference material, records, etc. They are principally one-way communications and require that the user seek them out in order to extract information. Ours was an early entry into the webpage world (kudos to the farsighted originator and maintainer), but it's showing its age in both style and content. Kayla W2IRY has taken on the job of updating [www.N1NC.org](http://www.N1NC.org). Some clubs use their webpage for everything under the sun (announcements, blogs, topic-specific forums, membership renewals, selling club clothing, and on, and on). I don't think we intend to. We're a voluntary association of local Radio Amateurs, not a business.

Then there's Facebook. We don't currently have a Facebook presence. Some members are moderately in favor of establishing a presence; others are against it. ARRL CEO N2RF encourages it, saying that (like it or not) Facebook is where the world resides—and that it's the best way to access the younger generation. That's the upside. The downside, per a personal advisor of mine skilled in the medium, is that all social media require a continuous and active presence in order to work.

Well, I'm not even looking forward to Twitter for the tweets among us, Snapchat for those snappy chatters, Pinterest for the pin-heads, Tumblr for the social acrobats, and Instagram for the instant gratifiers. OMG, is my age showing?

We'll see.

73, Skip K1NKR

p.s., Annika was really livid when she read my last month's editorial: "How am I going to

get published if I have to wait for all those adults?" My apologies, dear granddaughter. You *are* on your way to getting your license, *aren't you?* That would get you published.

## News and Happenings

### Tech Night

Last month's Tech Night didn't get advertised. Consequently, there were only three attendees, who spent their time discussing possible future topics and projects. No conclusions, though.

This month's Tech Night will be (or was, by the time you see this) a planning session for February's Thinking Day On The Air. We have some local Girl Scout troops who will probably enroll, so the event looks like it may be held here in Massachusetts this year.

## On the Air



## The Technical Corner

### From the Extra exam

E1A07 Which amateur band requires transmission on specific channels rather than on a range of frequencies? [97.303]

- A. 12 meter band
- B. 17 meter band
- C. 30 meter band
- D. 60 meter band

This an easy one. The answer is D. There are five specific "channels" in the 60 Meter band:

Channel 1	5330.5 kHz
Channel 2	5346.5 kHz
Channel 3	5357.0 kHz
Channel 4	5371.5 kHz
Channel 5	5403.5 kHz

Because the channels are narrow there is a specific frequency to be used for each approved mode (USB, CW, and Digital). See the ARRL website at <http://www.arrl.org/60m-channel-allocation> for more information. This band is available to Amateurs holding a General license or above. Since the frequency availability is so limited, care must be taken not to interfere with other signals. This band is shared with government users and we are secondary, so we must not interfere with any other signal.

de Stan KD1LE



This isn't strictly Ham Radio-related, but it's at least in the "Tech" vein. I have been subscribing to an email newsletter whose author insists that a way to better employment is by writing an appropriate blog and essentially becoming so famous through that blog that potential employers are beating down your door trying to hire such a clever fellow at ever-escalating rates of compensation.

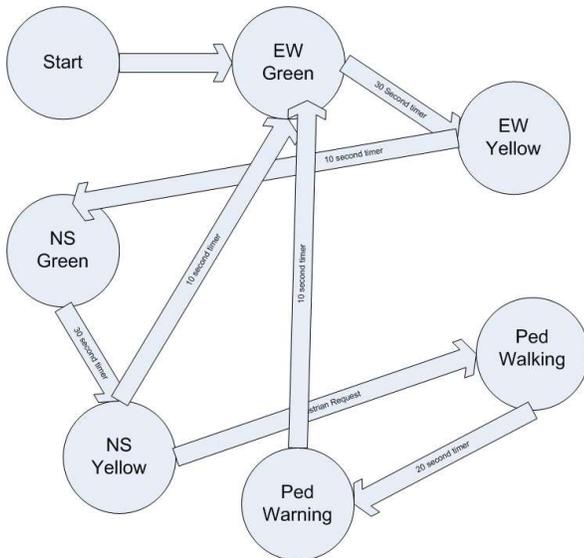
Well, I think I'm a little too clever to actually believe this entirely, but I enjoy a challenge, and this plays into another one of my volunteer activities, so I thought I'd have a go of it.

I started (another) blog, this one at <http://johngriswold.tech/embedded> to write

about Embedded Systems Engineering, which is mostly what I do for a living. Being a glutton for punishment is only part of the reason I chose Drupal for the blogging platform. I was at the time trying to resurrect the web site for another club—New England QRP—which had (no lie!) been hacked by what appeared to be Islamic terrorists who had the site redirecting to display videos of fundamentalist fighters running through training. I never saw the videos. As soon as the hack was discovered, the site was shut down.

In any event, I purchased the domain and installed Drupal. Over the past few months I've been adding a little content sporadically to describe a traffic light controller simulation I built up with an Arduino connected to a solderless breadboard.

I started with an explanation of what I was trying to accomplish, then went into a system design effort using a Finite State Machine (FSM) to describe the actions of the controller. Then I inserted a pedestrian walk request button to make things a little more challenging.

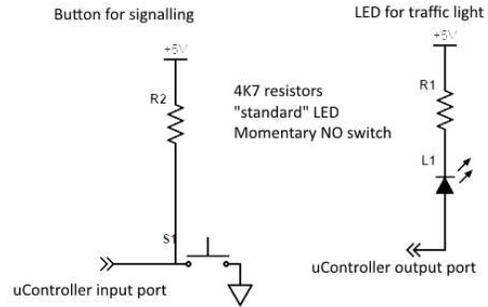


After that and some minor redesign, I wrote a first-pass prototype “sketch” (Arduino nomenclature for a program) which I fully expected to work... I really did.

I have been pretty busy of late with other projects (web sites, fiber projects, other club activities, and oh, WORK!), so it took a while to get around to the prototype hardware. I finally managed to get a few hours together over Thanksgiving weekend. I had to run

over to Electronics Plus in Littleton to buy solid hookup wire. I must have some around, but it was easier to just buy more of it.

I had designed the circuits already, so it was just a matter of building eight of them with different color LEDs and connecting them to the Arduino.



That's when the real fun began. The standard Arduino development suite isn't that robust, as it turns out. All debugging is carried out by printing to a serial monitor. This is OK for small systems like this, but for larger systems it is less than ideal. I would have preferred a better development system for this small project too. That might be fodder for another article!

After recognizing that the lights didn't operate like I'd intended, I started adding debug statements. The red lights would turn on, for instance, but I hadn't built in provisions for actually turning them off. Several other less significant problems were solved, one at a time, including a startup diagnostic that lit the LEDs in sequence, then turned them off (and finally a little glitz to turn them all on, then off, all repeated five times for a little showmanship), just to make sure that the circuits were all working properly.

The last thing to get debugged was the pedestrian request switch, which wasn't quite programmed correctly for the particular Arduino I was using. The switch wasn't pinned out quite how I had imagined either, but it all worked out in the end.

I think I'll bring the final product to the Show & Tell in December.

de John KK1X

## Strays

Ageing hobby??? Hiram Percy Maxim (W1AW) was 42 when he first entered Amateur Radio and 45 when he proposed forming the ARRL on 6 April 1914. The ARRL was incorporated in February 1915.

## Treasurer's Report

Income for November was \$65 from membership fees and \$51 from the October meeting book/hardware raffle. Expenses were \$18.80 for newsletter postage leaving a net income of \$97.20 for the month.

Current balances:

General fund \$2,832.56

Community fund \$4,886.41

As of 30 November we have 45 members who are current with their dues and 14 renewals outstanding. Thank you to those of you who hand in your dues before Ralph comes to you. Please check your renewal status on the roster circulated at the monthly meeting or ask Ralph.

de Ralph KD1SM

## Board Meeting Notes

Board meeting 12/1/2016

Attending: Stan KD1LE, John KK1X, Rod WA1TAC, Ed N1YFK, Jim AB1WQ. Observing: Skip K1NKR

Continued renewal of John (GM3TCW) Kelly's honorary membership was approved.

Treasurer's report [posted elsewhere in this issue] was received.

Property List was adjusted to account for loaner equipment and advertising signs.

Meeting programs are set:

December and January, members' Home-Brew Night and Short Subjects Nights

February, Dick K1HC (visitor) on the Brendan Award

March, DXpedition Report (visitor to be arranged)

April, Joe K1YOW (member) on VHF Propagation and/or Meteor Scatter

Respectfully submitted,  
de John KK1X

## Club Services

### The Reflector

As mentioned elsewhere in this issue, we have an e-mail reflector. You are missing out if you aren't using it. It's our best internal, one-to-all medium. Got a news item? Post it. The rest of the club will see it. Need advice but don't know who the subject's Elmer is? Ask. There's a lot of skill and experience waiting to help.

### Member Recognition

NVARC sponsors up to five recurring member recognition awards. In November 2008 the Board initiated a recognition program to acknowledge contributions of individual Club members in achieving the 5 principles of the Amateur Radio Service. See <http://www.n1nc.org/Recognition> on the club website.

### Loaner Equipment

A NVARC-owned station, consisting of a Kenwood TS-451 transceiver, an Astron RS-35M power supply, and a Cushcraft R7 antenna have recently "completed service" at the QTH of a new licensee and are back to being available.

## Calendar

### Upcoming Events

#### December

- 2-4 Nashua ARC Extra class
- 3 Flea market, Windsor CT

#### January

- 21 WARC Flea market, Whitman MA

#### February

- 4 CVFMA Flea market, Springfield VT
- 18/19 NVARC's support of Girl Scout Thinking Day On The Air (maybe here!)
- 18 AARC Flea market, Marlboro MA

#### March

### Upcoming Operating Activities

#### December

- 2-4 ARRL 160 Meter

10-11 ARRL 10 Meter  
18 Rookie Roundup – CW

**January**

1 Straight Key Night  
7 Kids Day  
7-8 RTTY Roundup  
21-23 VHF Sweepstakes

**February**

13-17 School Club Roundup  
18-19 ARRL DX - CW

**March**

Are you a “contest nut?” See <http://www.arrl.org/contest-calendar> (Contest Corral) for month-by-month listings of both ARRL and non-ARRL contests.

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**Nashoba Valley  
Amateur Radio Club**

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<http://www.n1nc.org/>

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**Vice President:** Jim Hein N8VIM  
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**Treasurer:** Ralph Swick KD1SM  
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Rod Hersh WA1TAC, 2015-2018  
Jim Wilber AB1WQ, 2016-2019

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**Photographer:** Ralph Swick KD1SM  
**PIO:**  
**Librarian:** Peter Nordberg N1ZRG  
**Property Master:** John Griswold KK1X  
**N1NC Trustee:** Bruce Blain K1BG

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

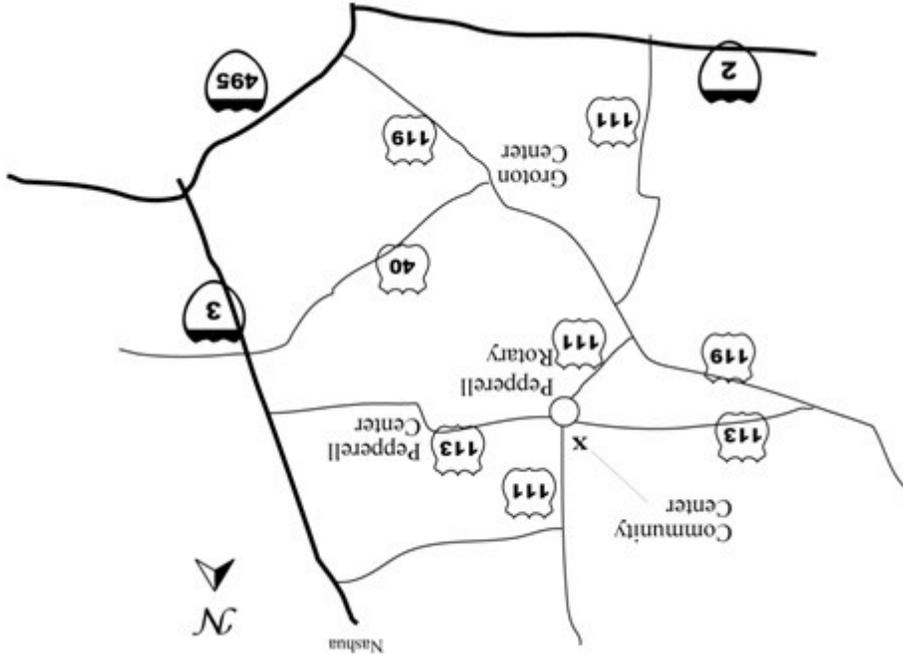
Meetings are held on the 3rd Thursday of the month at 7:30 p.m. in the Pepperell Community Center.

Contact us on the N1MNX repeater.  
442.900 (+), 100Hz  
147.345 (+), 100 Hz  
53.890 (-), 100Hz

This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most PC-compatible formats are OK.

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Your article could have had all this space!



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