

SIGNAL

A club since 1992



Since 1993



Since 1996

de N1NC

March 2018

Volume 27 Number 3

This Month's Meeting

Andy Stewart, KB1OIQ, (President, PART of Westford) will join us for our March meeting. Andy will talk about the BITX40/uBITX QRP kit radios from India. He is currently heavily involved with these radios. He will describe the kit, and since it is Arduino based, will also be talking about some of the programming to make it work. Andy is also in the unique position of creating a version of the uBITX for blind ham radio operators. For more info see <http://hfsigs.com>.

The Library's annual book sale is the week of our meeting so we will be meeting at the Pepperell Lawrence Library, upstairs in the Art Gallery.

The library is up the street from our usual meeting location. Going west out of the Pepperell rotary on Route 113, the library is on the left about a quarter mile. If you get to the Town Hall and blinking light, you have gone too far.

The President's Corner

NVARC has been active this past month with the regular Club meeting, Arduino Group meetings, and the Girl Scout Thinking Day on the Air activity.

The Arduino Group has been very active with software and hardware updates to the original QST-published antenna analyzer (AA). Bill, AB1XB, has been making software improvements, some of which have been incorporated into the software distrib-

uted by other hams. We are currently exploring the calibration and accuracy of the several AAs that have been built. The meetings have also been extended with a new project to build a higher accuracy Log Amplifier-based Antenna Analyzer.

Unfortunately, the Londonderry Girl Scout event was canceled by the sponsoring troop.



But the Shirley event went on as scheduled with better than originally anticipated attendance. About 40 girls participated in the morning event. As in the past, this activity gives us the challenge of a "winter Field Day" as we had to shovel snow around the tower trailer during set up this year. The event was published on the Eastern Mass Girl Scout Facebook page and on the Nashoba Valley Voice news site at http://www.nashobavalleyvoice.com/ci_31706294.

I read that the ARRL has proposed increasing the HF privileges for the Technician class. Kudo's to Bruce, K1BG, for his efforts on this matter.

On a different subject, I have been reading up on a new concept in realm of power production. It is called Virtual Power Plants (VPP). Australia is moving forward with renewables like wind and solar in a big way. They have inked a deal with Tesla to install 5 KW rooftop solar systems coupled with a 13.5 kWh PowerWall 2 storage device on homes. The project was started with 1100 installations on selected homes. It will be followed by 24,000 installations and when completed will include 50,000 households in South Australia. It is scheduled to be completed by mid-2022. The goal is to produce 250 MW of solar power coupled with 650 MW of storage as a Virtual Power Plant.

There are several smaller projects underway. One is a community in Hawaii and another is a collection of 29 companies there. Another is a planned 2900 home Arizona community of "Jasper." (Don't ask me why the name is in quotes. That is the way it was reported.) Their solar coupled with 23 MWh of storage will be a Virtual Power Plant supplying up to 80% of the energy the community requires. The storage will save excess energy during the day and, if needed, will draw power for use or charging from excess baseload generation from a nuclear plant overnight.

Japan has been pursuing VPP's with seven projects underway as of 2016.

This concept has spawned a number of new software companies creating software to manage the exchange of power and track of the value of power used or contributed by each member.

73, Stan KD1LE

News and Happenings

TDOTA

This was our fourth year supporting Girl Scout Thinking Day On The Air. Despite a last-minute cancellation for Saturday's New Hampshire activity (it turned out to be cookie delivery day), Ayer/Shirley's activity on Sunday was a resounding success (Massachusetts has a different delivery day). Special thanks and congratulations go to leader Elizabeth Flagg's organizational and creative

skills for her work in making Ayer/Shirley an exemplary TDOTA event.

Over the years, our TDOTA participation has resulted in great publicity for NVARC. Thanks to Jill, KB1SWV, we pretty much got the ball rolling here in the United States. More importantly though, we've introduced something in excess of two hundred young people to the science and excitement of Amateur Radio.



Photo by Sherry Anders

February's Meeting Highlights

What makes a successful meeting?



Gather twenty-nine of your closest friends.



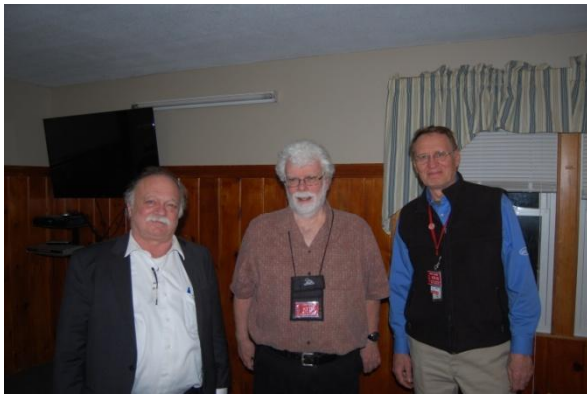
Award a QST Cover Plaque to Joe, K1YOW.



Have a great speaker like Steve, NA1T, talk about EMCOM organization and technology. (And have him accompanied by three or four New Hampshire ARES officials.)



Have Mike Raisbeck, K1TWF, the ARRL New England Division Assistant Director, add his thoughts.



And have the Assistant Director accompanied by Tom Walsh, K1TW, the Eastern Massachusetts Section Manager and Pete Stohrer, K1PJS, the New Hampshire Section Manager.

K1NKR photos

CVRC Hamfest

I would like to invite the Members of the Nashoba Valley Amateur Radio Club to attend our CVRC Hamfest/Flea Market.

de Mickie W1MKY, and Dale, AF1T

The Contoocook Valley Radio Club 2018 Hamfest/Flea Market will be held Sunday March 18.

- Table set-up at 6:30am; vendors set up at 7:00am; hamfest starts at 8:00am and ends at 2:pm. The raffle drawings are at 1:00pm. Raffle Grand Prize is a Yaesu FT-60R Dual Band HT! (Be sure to put your name and address on the back of the Raffle Ticket. You do not have to be present to win the grand prize). Door prizes will be picked once an hour, so hold on to your \$3.00 admission ticket.
- Registration for the VE tests starts at 9:00am. VE session starts at 9:30am, SHARP.
- Speakers start at 9:00am.
- Hot coffee, hot dogs, baked beans, juices, and sodas, and, homemade pastries will be available all day.
- A hidden transmitter hunt will be going on in the parking lot.

Admission is \$3.00 for buyers, \$10.00 for sellers. Admission price for sellers includes a free table. Please do not bring your own. There is a limited supply of tables. Electrical outlets will be on a first come, first served basis.

Jeff Shaw, KB1WTI, is heading the hamfest up. To reserve a Table, call Jeff at: 603-717-2862 or email at: events@k1bke.org. The CVRC Web-site is: www.k1bke.org. Please refer to the Hamfest/Flea Market Flyer for details, at: www.fleaflyer.k1bke.com.

HamSCI

(Amateur Radio Science Citizen Investigation)

On Friday-Sunday , 23-25 February, I accompanied Phil, W1PJE, and Drs Anthea Coster and Larisa Goncharenko (all of the MIT Haystack Observatory) to attend and speak the 2018 HamSCI Workshop. The workshop, hosted by research professor and HamSCI organizer Nathaniel Frissell, W2NAF, was held at the New Jersey Institute of Technology in Newark NJ.

The workshop's agenda centered on a review of the results and science surrounding last summer's

eclipse, but also introduced a project under consid-



eration for the development of a personal “space weather” station. All this supports the HamSCI objectives:

- Advance scientific research and understanding through amateur radio activities.
- Encourage the development of new technologies to support this research.
- Provide educational opportunities for the amateur community and the general public

Participants were from across the board: Haystack, NASA, eleven universities (from three countries), the president of (and a director of) TAPR, the editor of CQ Magazine, at least two college radio clubs, and NVARC. Most, but not all were hams.

Phil gave the workshop keynote address at a banquet held off campus. He’s promised a repeat performance for an upcoming NVARC meeting.



The workshop agenda—with PDFs of the papers presented—is at <http://hamsci.org/hamsci-workshop-2018-agenda>. And PBS highlighted the workshop (<https://www.nitvonline.org/news/video/giving-old-technology-new-life-modern-world/>).

(above photos by W2NAF)
de K1NKR

NVARC International

A few weeks ago, I went over to Haystack and I, Phil, (W1PJE), and HamSCI founder Nathaniel (W2NAF) had a SKYPE session with Hans, ZS6AKV, in South Africa. Hans saw my December QST article on sporadic E and weather and wanted to do some stories aimed at African hams showing them how hams can contribute to science. The link <http://www.ee.co.za/article/amateur-radio-conduct-real-science.html> points to the well written article Hans wrote. He plans on working with Nathaniel and Phil again showing some of the eclipse results in a future article.

de K1YOW

Editor’s Note

What a meeting last month! What a month last month. (It sure made assembling the newsletter easier.)

73, Skip K1NKR

On the Air

District Landshut

Field Day Feeling in U08

by Siegfried Deutinger, DF9RD

Amateur radio—what does the normal citizen understand about this concept, if he has even heard of it? Correct: There are people who sit in their basements, a shack they call it, swinging soldering irons and pleasing themselves mischievously. If all the building parts are put together correctly, in the end it functions as it should. Whoever thinks that is all there is to amateur radio has forgotten something. Something that is not permitted to be left out of amateur radio. Nothing, that each can do for themselves in the still of the night.

Naturally there is, as with every competition, a final place and awards. But a prerequisite is the teamwork. For as the name “field” says, all that will be needed must first be built. Many hands are necessary there. Naturally important

is the weatherproofing of the radio station for the operation. A tent is good, a cargo van is better. Antennas must be high—that means a mast, a crank-up mast is better. Naturally, power is needed. For this contest no firm connection (to the power lines) exists; power will be self generated. Batteries are good, a power generator is better. Care with the culinary end: sausage sandwiches and water are good, BBQ and beer are better. Allowing the evening to end quietly is good, a

FUNKBETRIEB	
OV Landshut	
Fieldday-Feeling bei U08	
[Photo of people at a radio station]	
[Text columns]	
[Table with columns: Name, QTH, QSO, etc.]	

campfire and technical discussions are better.

The Field Day Contest

On the weekend of 3 & 4 July, it was the amateurs from Landshut from U08. They were again in the countryside, in Kemoden bei Vilsheim. The Landshuters, are they not the ones who in 2016 came very close, about eight points short, of the club master championship and received an inconceivable second place? Correct, that is them. They have already for many decades been successful in Kemoden. With this entry came, as reported before, a simple wire antenna hung on a 12 meter high crank-up mast, and a Kenwood TS-850 with 100 watts output power. The power consideration was a 20 kW Diesel generator. With this equipment both operators Bernhard Buttmer, DL6RAI, and Martin Hautsch, DL5RMH, reached 857,658 points. This achieved first place in the CW part with the submitted logs.

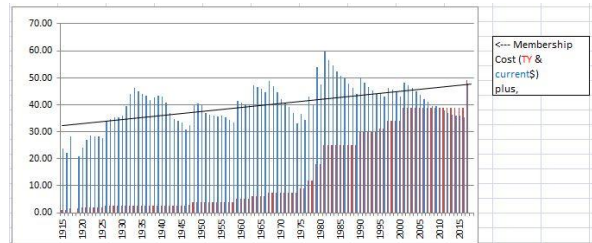
The UKW [*i.e.*, UHF...ed.] Group, DQ7A, namely DG8AM and DL6NAL, in the meantime, doggedly pursued the goal to make a few QSOs on 23 cm. As we could confirm, it was not easy to find QSO partners with the narrow antenna beamwidth. The farthest contacts succeeded to OK2 and OM3 (circa 470 km.). One QSO with S53D succeeded first; after one with 0N4KST (we) prayed to turn the antenna back to JN68.

Around 3 o'clock in the morning, a strong thunderstorm appeared that suddenly and completely scared away the visitors around the campfire. After the lightning strikes came ever closer, we shortly decided to pull the ripcord and completely disconnect the short wave station for 10 minutes. In the village it (lightning) had struck and split a large tree down the middle. By luck we were spared. Results (to the right) under reference 1. Additional info about OV Landshut U08 under reference 2. **[References omitted. Ed.]**

translated from CQ-DL, the magazine of the Deutscher Amateur-Radio Club, by WA1TAC

[June's ARRL Field Day is coming, folks! Ed.]

Strays



QST has been published since December 1915, with only an eighteen-month period of non-publication due to World War I. QST subscription is included in ARRL membership. As of December 2017, 1206 issues of QST had been published totaling 190,025 pages.

In the early years Hiram Percy Maxim and Clarence D. Tuska distributed free QSTs to solicit membership in the newly-formed American Radio Relay League. Throughout nearly a century, the cost of ARRL membership and a QST subscription has ranged from \$1.00 to \$49.00 in "then-year" dollars. This equates to equivalent current dollar costs of from \$23.93 to \$49.00 per year. The most relatively expensive year was 1981, when that year's \$25.00 dues would have had a current dollar cost of \$65.56!

A linear regression trend line shows that dues seem to be raised after they have fallen significantly behind inflation. Had the best-fit purchasing power trend line over the lifetime of publication been followed, ARRL membership would cost \$49.00 today. (It does.)

The period of 2001 to 2016 (15 years), when dues were \$39.00, is the second longest period in the life of the League without a dues increase. Dues were \$2.50 from 1926 to 1946 (21 years) and \$4.00 from 1948 to 1958 (11 years).

The basis for these calculations was the consumer price index (CPI) for 2017.



NVARC Swap Shoppe. I have a QST collection from 1993 to present that I am sending to recycle if there is no interest.

de KD1LE

Board Meeting Notes

Board meeting 3/1/2018

Attending: Stan KD1LE, Jim N8VIM, John KK1X, Ralph KD1SM, Rod WA1TAC, Jim AB1WQ, Ed N1YFK. Observing: Skip K1NKR.

- Stan to contact Andy Stewart KB1OIQ - club coordinator - for a March meeting topic.
- Phil Erickson might be able to do a SDR Dongle talk, and Skip can do a talk on HamSci.
- April - elections - Rod is leaving the fold.
- Rod has a friend who is with AMSAT - might be able to do a talk in the fall.
- Arduino group scheduled through the Summer at the Community Center.
- Thinking Day on the Air in Shirley - larger than anticipated. 40 girls or so.
- Stan and Jim AB1WQ to check internet connection at Community Center.
- Current balances: [reported elsewhere by Treasurer]
- ARES Academy March 24 in NH nh-ares.org @NH State Fire Academy near Concord.
- Groton Road Race April 29.
- Canoe Race has been cancelled.
- Marathon April 16.

Respectfully submitted,
de John KK1X

Treasurer's Report

Income for February was \$30 from membership fees, \$63 from the February meeting book & stuff raffle, and a \$5 donation. Expenses were \$19.60 for newsletter postage leaving a net income of \$78.40 for the month.

Current balances:

General fund \$3,016.49

Community fund \$5,061.52

As of 1 March we have 43 members who are current with their dues and 20 renewals outstanding. Thank you to those of you who hand in your dues before I come to you. Please check your renewal status on the ros-

ter circulated at the monthly meeting or ask me.

de Ralph KD1SM

Club Services

Outgoing QSL Service

Sure we sort incoming cards for the W1 Bureau, but do you remember that we also send Bureau cards out on behalf of members? The big DX contests are October and March. Our card shipments go out late fall and late spring. **A shipment is being prepared now.** Save on postage; see Rod WA1TAC.

Saturday Breakfast. Not officially a club function, but a consistent part of club life. A dozen or so members (and some wives who are members, and some wives who are not, and some non-members who aren't wives or husbands) rendezvous at Tiny's in Ayer for breakfast at 8am on the dot. Somehow, no matter what food is ordered, no matter how fast the service is, no matter what the conversation topics are, we pull out at 9am. Odd...

Calendar

March

- 4 NEARC Antiques, Brookline NH
- 18 CVRC Hamfest, Henniker NH
- 24 NH ARES training workshop, Concord, NH

April

- 7 FARA Flea Market, Framingham MA
- 15 MIT Flea, Cambridge MA
- 16 Boston Marathon
- 22 Eastern VHF/UHF Conference, Manchester CT
- 29 Groton Road Race

May

- 4,5 NEARest, Deerfield NH
- 20 MIT Flea, Cambridge MA

June

- 17 MIT Flea, Cambridge MA

Upcoming Operating Activities

2018

- International Grid Chase (all year!)
- Science Milestones event (all year!)

March

3-4 International DX contest – Phone

April

12-15 W1MGY Titanic event

15 Rookie Roundup – Phone

21 International Marconi Day

May

1-31 (Go make a QSO!)

June

9-11 June VHF Contest

16 Kids Day

23,24 Field Day

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**

PO Box # 900
Pepperell Mass 01463-0900

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

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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.

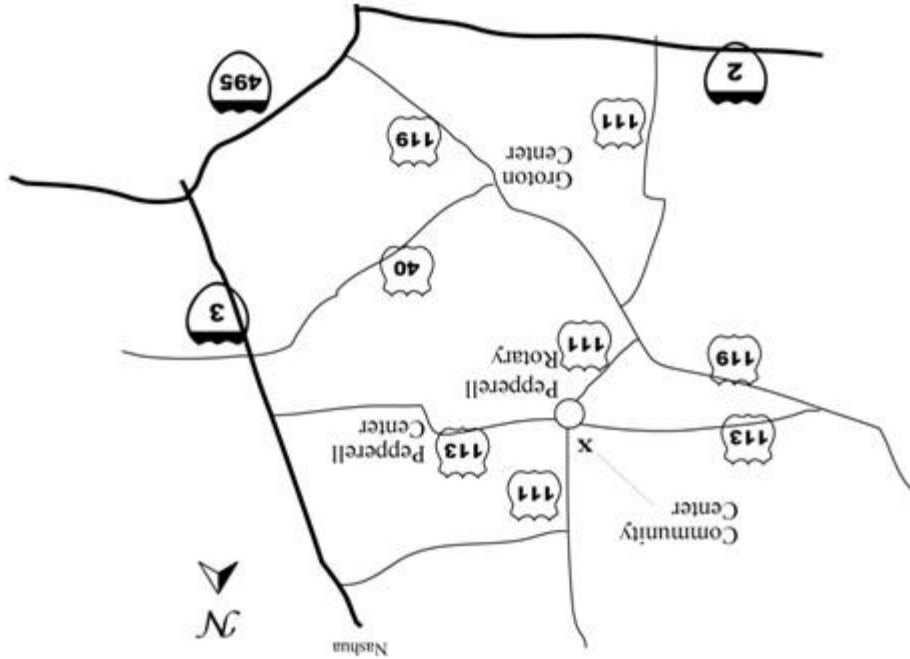
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This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most PC-compatible formats are OK.

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Nashoba Valley Amateur Radio Club

PO Box 900

Pepperell, MA 01463-0900

