



SIGNAL



de NINC

February 2007 Volume 16 Number 2

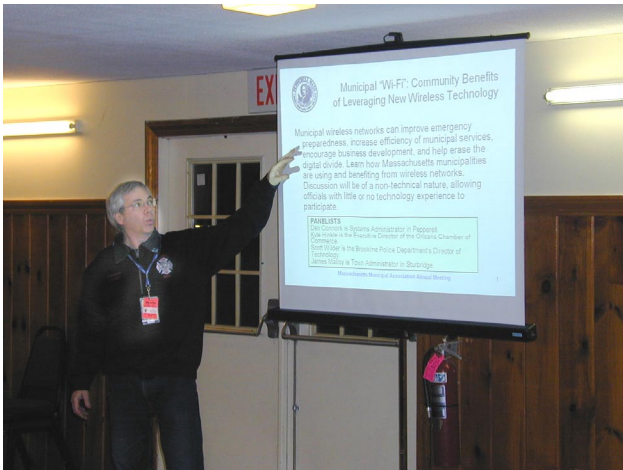
This Month's Meeting

This month's program will be by John WA1PBJ on the Cell Phone System. John is a Cellular Engineer for Verizon Wireless.

We will be updating member information in the club yearbook. Please check your information with Ralph.

Last Month's Meeting

The program for the January meeting was Members Short Subjects.



Den KD2S presented an abbreviated version of a presentation he made at a meeting of Massachusetts Municipal Organizations in Boston on town wide band wireless systems



Peter KB1LZH presented on a software package he has been using called DXLab. The package does regular logging, QSL card and label printing, contest logging, propagation prediction, award tracking, rig and antenna control and more.



Dale AB1GA led a discussion triggered by the recent R & O eliminating the Morse code requirement. The discussions covered opportunities for encouraging new hams, new members and such.

Earl WR1Y brought along show and tell which were mechanical gadgets he built that transform a rotary motion into another shape such as an ellipse. The third device automatically centers a pointer on an object placed between its sides



The raffle winners and their booty were;
Stephen WA4LDL ARRL Antenna Compendium
Peter KB1LZH Prototype Board
Bob W1XP FCC Rule Book

Attendees at the January meeting: Dale AB1GA, Bruce K1BG, Ken K1JKR, Skip K1NKR, Gary K1YTS, Hank KB1JLA, Peter KB1LZH, Stan KD1LE, Ralph KD1SM, Den KD2S, John KK1X, Don N1HVA, Les N1SV, Peter N1ZRG, Joel W1JMM, Jim W1TRC, Bob W1XP, Erik W1ZBT, Rod WA1TAC, Stephen WA4LDL, Earl WR1Y and guests Tom Farnsworth and George KA1TTZ.

Board Meeting

This months board meeting topics.

Future meeting presentations

Discussed the possibility of running general or extra class classes or having some mentoring available for members since code is no longer a requirement.

Should start thinking about Field Day June 23rd-24th.

Treasurers report.

Possibility of the Club providing Web space for the CM2MN NTS net Webpage.

CW Licensing Requirement Dropped

ARLB005 It's official! Morse code requirement ends Friday, February 23.

The ARRL has posted all relevant information on these important Part 97 rule revisions on its "FCC's Morse Code Report and Order WT Docket 05-235" Web page, <http://www.arrl.org/fcc/morse/>.

From The Editor

As we start into the new year I want to thank everyone for the contributions to the newsletter. I am always looking at newsletters from other clubs to check for ideas, activities, etc. We can be proud of our effort and especially the large number of quality member written articles. I would encourage everyone to write an article on something you have done, an event you operated in or anything that might be of interest to our members. Articles have covered a wide range of subjects such as operating from other countries, visiting with foreign hams, construction, equipment reviews, and historical. So there should be an area that everyone can contribute their experience, observations, or expertise.

Read the following article to see the reach of our newsletter.

Keep up the good work....Stan

Communication from VK

The following email was received from a ham in Australia....Stan

Dear Stan,

I have been checking your club's Signal Newsletter on the web for over 3 years. To my great surprise, one of your members checked in to our local 2M repeater, here in Hobart, Tasmania.

This is how I was able to talk to Larry KB1ESR. Imagine what his response was (not even knowing me) when I asked if he still support a fine looking beard on his chin.

It was truly wonderful to chat with Larry. He was leaving the next morning and there was no chance to catch up. I always notice (via the newsletter) that Larry is a very active member. Well you can add to that, he is also great to talk to on air. I do hope that

Larry enjoyed his short stay in Tasmania. Please pass on my kind regards.

I will continue to read your monthly newsletter as I always enjoy the stories. Besides, it is always good to read what others on the other side of the world are doing. Congratulations on your newsletter and indeed your very active club.

Very kind regards
Vincent Henderson VK7VH

Treasurers Report

Income for January was \$45 from member dues, \$2 from ARRL membership renewals, \$48 from the December meeting book raffle, \$24 from newsletter advertising, and \$1.08 from bank interest. Expenses were \$15.60 for newsletter postage leaving a net income of \$104.48 for the month.

Current balances:

General fund	\$4,046.90
Community fund	\$2,136.83

As of 8 February we have 57 members who are current with their dues and 5 renewals outstanding. Please check the member roster that is circulated at the monthly meeting if you do not remember your renewal date. Your membership date also appears on your newsletter mailing label.

If your ARRL membership renewal is coming up, leave your renewal with me at a Club meeting and the Club will pay the postage. As a Special Service Club, the ARRL lets us retain a small portion of the dues that we forward to them.

If you are not yet an ARRL member, please consider joining our National Association for Amateur Radio. Ask at any Club meeting if you want to know the benefits of membership. Of course, the Club gets a somewhat larger commission on new memberships that are submitted through us.

Ralph KD1SM

PSLIST

February
17 Sandwich NH Sandwich Notch 60 Sled Dog
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

March

2-4 Laconia NH Laconia Sled Dog Races
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

April
16 Hopkinton MA Boston Marathon
Steve W3EVE 508.922.9688 w3eve@arrl.net
pls register via <http://www.amateur-radio.net/marc>

May
19-20 Portsmouth NH NH Lung Clean Air
Dave KA1VJU ka1vju@cnharc.org

Jun
16-17 Mt WashngtnNH Mt Washington Road Race
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

Jul
7 Mt WashngtnNH Newton's Revenge cycle race
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

Aug
18 Mt WashngtnNH Mt. Wash. Bicycle Hill Climb
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

19 Mt WashngtnNH Mt. Washington Century Ride
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

Sep
29 Bristol NH NH Marathon
Cliff N1RCQ n1rcq@amsat.org or Dave KA1VJU
ka1vju@cnharc.org

EMA All Hands Meeting

Eastern Massachusetts ARRL Section Manager Art Greenberg K1GBX took office the beginning of January and started his term with an invitation to all Hams in the section to come to an "all hands" meeting. The location was convenient and Stan KD1LE, Dale AB1GA, and Ralph KD1SM attended. 35 other Amateurs also participated. Most were involved in the ARRL field organization in some way, many with ARES appointments, several NTS folk, along with Ron W1PLW, the Public Information Coordinator, Rob KD1CY, Section Emergency Coordinator, and Carl N1FY, Assistant Section Manager.

The agenda was open, with Art inviting written questions from the participants about anything that was on our minds, from ARRL issues to general issues concerning Amateur Radio.

Art began the meeting with a personal observation that the future of the hobby depended on being able to attract young people into the hobby. This led to some discussion of low-cost kits for self-contained transceivers or transceivers that would use a desktop computer for audio input and output. Art also raised an idea he is pushing to recommend the ARRL publish a youth-oriented periodical separate from QST.



Art then introduced Bryce KB1LQC and Brant KB1LQD, two high school seniors from Chelmsford who started the Chelmsford High School Amateur Radio Club in October 2005. Bryce and Bruce gave a short history of their efforts, how they came to be interested in forming a club, how they found a teacher willing to sponsor the club, and their plans to keep the club self-sustaining after they graduate.

Several key points came from the presentation by these two outstanding fellows and the lengthy Q&A period that followed. Bryce and Brant persuaded the faculty sponsor of their mountain bike club, who also was a science teacher, to sponsor the Amateur Radio club. They subsequently persuaded this teacher to earn his own Amateur license; KB1NKW. An equipment grant from the ARRL Big Project program was a major milestone in the early life of the club. PART sponsored the club for the Big Project application.



In response to several audience questions about what help could be provided by others, Bryce and Brant emphasized that the club was successful because it was a place for young friends to 'hang out'; that older Hams were too much like parents and teachers and their (our) help would be more valuable behind the scenes than outwardly participating in the club.

The two said that their fellow club members were not so attracted by the technology (unlike themselves); Amateur Radio provided a way to communicate with friends with on-air study groups, etc. The novelty of operating on repeaters wears off quickly whereas HF continues to hold interest because "you never know who you'll find on the air." They also noted that the high school age group was a more responsive target than younger people, as high schoolers were less dependent on their parents for purchasing equipment and providing transportation to participate in Amateur Radio activities. Both also emphasized that the term "Ham Radio" was a turn-off and they were careful to always refer to their activities as "Amateur Radio" with their peers.

Later discussion topics of the meeting concerned the impact of the new band plans on the CW traffic nets, the role of the NTS system as further training for ARES communications functions, and ARRL's proposed national database of ARES volunteers.

The meeting adjourned with Art inviting everyone to send him feedback on the usefulness of this meeting. The general consensus was that the meeting was worthwhile and similar meetings should be held regularly.

More detailed minutes of the meeting were posted by KD1CY at <http://ema.arrl.org/local/ARRL-All-Hands-Meeting-Summary.pdf>

- Ralph KD1SM

Emergency Communications Resources

Independent Group

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

Homeland Security

<http://www.dhs.gov/index.shtm>

FEMA/NIMS

<http://www.training.fema.gov/emiWeb/IS/>

Course List

<http://www.training.fema.gov/EMIWeb/IS/crslist.asp>

Suggested list IS-100,200 and NIMS-700,800

One of the components of an emergency plan is the Emergency Communications Plan. This should be important to us. The ARES communication plan is available from the Eastern Mass ARES site.

<http://ares.ema.arrrl.org/>

Under EMA Frequency Plan in the left frame area.

The RACES plan is available at

<http://ares.ema.arrrl.org/local/racesplan7-1-03.pdf>

The local frequency of interest is the PART machine at 146.955- pl 74.4.

Our local communications plan, call it the NVARC Communications Plan, is less complicated but everyone should be aware of it. They are listed in the information box at the end of every newsletter.

Simplex frequency is	146.490
Repeaters	53.890 – 100Hz
	147.345 + 100Hz
	442.900 + 100 Hz

The 53.890 and 442.900 repeaters are battery powered so in case of power failure they will still operate. In the case of such a failure use the repeaters only when necessary to conserve power. Currently they are capable of two days moderate use. We are planning to increase that to three days of higher duty cycle usage with the addition of two more batteries at the site. Each repeater will be put on a separate set of batteries so that exhausting one set of batteries will not bring down both repeaters. The two meter repeater is not currently backed up and since it consumes the most power there is no plan to do so.

NVARC Club Net

The club net meets on the 442.900 repeater. Subjects discussed recently; new licensing requirements, repeater work and upgrades, East Mass Section Manager meeting at Boxboro. Recent participants include Dave N1MNX, Bob W1XP, Bob AB1CV, Joel W1JMM, Larry KB1ESR, Skip K1NKR, Gary K1YTS, Ralph KD1SM, Stan KD1LE, Les N1SV, Richard KB1MBR, Ken K1JKR, Den KD2S and Peter KB1LZH.

The net is a good place to bring information for the club and questions or discussions. The net meets at 8:00 PM Monday evenings on the 442.900 N1MNX repeater.

Flea Markets

February

17 Algonquin ARC Marlboro MA

18 Antique Radio, Westford MA

24 Vermont State Convention Milton VT

March

17 Eastern CT Pomfret CT

18 CVRC Hamfest Henniker NH

30-31 Maine State Convention Lewiston ME

31 Londonderry NH IRS

April

1 Spring Flea Market Framingham MA

15 MIT

21 Greater Portland Hamfest S. Portland ME

July

14 Pen-Bay ARC Union ME

September

16 Western CT Hamfest Newtown CT

Contest, DXpeditions and Special Events

The information for a DXpedition can be quite detailed and may include bands, dates, number of stations, and times of day they plan to work certain continents so I can not list it all here. But if a country or prefix is of interest you can get more information at www.425dxn.org.

Contests 2007

February

17-18 ARRL International DX Contest CW

23-24 Russian PSK WW Contest

24-25

CQWW 160 SSB

North American QSO Party RTTY

North Carolina QSO Party
 March
 3-4 ARRL International DX Contest Phone
 11 North American Sprint RTTY
 17 BARTG Spring RTTY Contest
 DARC HF-SSTV Contest
 24 CQWW WPX Contest SSB
 May
 CQWW WPX CW last full weekend
 June
 9-11 ARRL June VHF QSO Party
 23-24 ARRL Field Day
 July
 CQWW VHF 3rd full weekend
 September
 CQWW RTTY DX 4th full weekend

DXpeditions

Call	Location	Until
OX3PG	Greenland	June 07
TU2/F5LDY	Ivory Coast	31 August 07
T68G	Afghanistan	March 2007
5U5U	Niger	March 1,2
ST2R	Sudan	April 2007
J20SA	Djibouti	From 1 April
V73NS	Kwajalein	From 1 May
OX3PG	Greenland	Jun 2007
9V1CW	Singapore	2008
8Q7IM	Maldives	Nov 2007

See www.425dxn.org for more listings

Advertisements



DICK WILBORG W1ZC
 JOHN ROSE WW1Z

BELTRONICS, INC.

AMATEUR RADIO SERVICE DIVISION

www.beltronics.net

hamrepairs@beltronics.net

603-465-2422
 800-323-5876

P.O. BOX 330
 19 PROCTOR HILL RD.
 HOLLIS, NH 03049
 FAX 603-465-3320

Tell them you saw it in the Signal. Advertisers should contact the NVARC Treasurer for information.

ARRL Letter

LEAGUE ROLLS OUT EMERGENCY RADIO PUBLIC RELATIONS CAMPAIGN, WEB SITE

"Ham Radio . . . Getting the message through for your family and community" is the theme of the League's 2007 public relations campaign. The "Emergency Radio" Web site <<http://www.emergency-radio.org/>> debuted this week. ARRL Media and Public Relations Manager Allen Pitts, W1AGP, says the 2007 PR initiative picks up the momentum ARRL public information officers started during the just-ended "Hello" campaign.

"As we begin launching the new emergency communications campaign, the friendships and good will developed in Hello will aid in future promotions of Amateur Radio," Pitts said. "For 100 years, radio in its many forms has saved lives and aided in crises. We have a great legacy and a bright future."

The new Web site is a partner to the "Ham Radio . . . Getting the message through for your family and community" brochure now available and, in fact, already starting to make the rounds. "If an emergency or disaster should happen, the new 'Ham Radio . . . Getting the message through' site has the capability to quickly upload current information, providing PIOs with words and pictures to circulate to the media while the event is still news," Pitts explained.

As both the brochure and the "Ham Radio . . . Getting the message through" Web site note: "Amateur Radio . . . has consistently been the most reliable means of communication in emergencies when other systems failed or were overloaded." The campaign stresses that ham radio works and works well and it doesn't require any external infrastructure, such as telephone lines or even the Internet, to get the message through.

The Web site provides page space for emergency communication and disaster relief organizations to tell about their work. "So far, SKYWARN, MARS, SATERN and RACES have taken advantage of our offer, showing the versatility of ham radio in disasters and emergencies," Pitts says, "and more are expected."

The campaign also emphasizes that ham radio is fun and a good way to keep in touch with friends or family. "You can have this capability for yourself and your family," the campaign points out, inviting members of the general public to get an Amateur Radio license and become active in emergency communication through the Amateur Radio Emergency Service

(ARES) or other organization. A "How to Get Started" tab on the Web site offers step-by-step instructions.

ARRL BOARD ACCEPTS NATIONAL EMERGENCY RESPONSE PLANNING COMMITTEE REPORT

The ARRL Board of Directors accepted the Report of the National Emergency Response Planning Committee (NERPC) when it met January 19 and 20 in Windsor, Connecticut. Upon dissolving the committee with its thanks, the Board set in motion a process to identify and implement action items in the report as soon as possible. ARRL First Vice President Kay Craigie, N3KN, chaired the 13-member NERPC, charged with developing comprehensive recommendations to improve the League's response to regional, national and international disasters. Among other things, panel members evaluated the responses and actions of ARRL and the Amateur Radio Emergency Service (ARES) during Hurricane Katrina as well as lessons learned.

"If 'lessons learned' are not followed by 'behaviors changed,' then the lessons have not been learned at all," the report concludes. The report describes disaster preparedness as "a moving target, moving faster all the time." No recommendations, plans or systems should be considered "the permanent answers for all circumstances and hazards," the report asserts.

The unprecedented scope of the Katrina response placed ARRL Headquarters into a leadership coordination role through national-level requests for help from served agencies such as the American Red Cross. While the level of expertise in emergency communications and emergency management among US radio amateurs is growing, the report noted, so is the expectation that the ARRL provide first-rate leadership and guidance.

Among the report's wide-ranging recommendations and suggestions:

- * enhance ARRL and ARES training in basic message handling.

- * develop a continuing education course covering installation, configuration, and use of Winlink 2000 for e-mail.

- * formally establish a national ARES volunteer database for use during major disasters and establish training criteria.

- * institute a Major Disaster Emergency Coordinator (MDEC) function to coordinate responses to large-scale national or regional disasters or emergencies.

- * become better acquainted with the emergency response needs of distant ARRL sections, such as Pacific, Puerto Rico, Virgin Islands and Alaska.

- * improve working relationships with national-level served agencies.

- * ensure ARRL staff training in the Incident Command System (ICS) and National Incident Management System (NIMS) and, as necessary, adapt ARRL's emergency response structure to the Unified Command model.

In addition, ARRL President Joel Harrison, W5ZN, has appointed an ad hoc committee to study issues relating to background investigations as they apply to ARRL Amateur Radio volunteers and to recommend a background investigation policy.

In other matters, the Board adopted five legislative objectives for the 110th Congress. The League will seek legislation to extend the requirement for "reasonable accommodation" of Amateur Radio station antennas to all forms of land use regulation, including deed covenants, conditions and restrictions (CC&Rs). It also will seek legislation requiring the FCC to conduct a comprehensive evaluation of the interference potential of broadband over power line (BPL) systems. Based on the findings, the League wants Congress to instruct the FCC to adopt improved BPL rules to prevent BPL deployments having the potential to cause "destructive interference." US Rep Mike Ross, WD5DVR (D-AR), has submitted such a bill, HR 462.

In addition, ARRL will seek recognition of Amateur Radio's "unique resources, capabilities and expertise" in any legislation addressing communication issues related to emergencies, disasters or homeland security; oppose legislation that diminishes the rights of federal licensees in favor of unlicensed -- and especially unintentional -- emitters, and support the complementary legislative objectives of other radiocommunication services, especially as they relate to spectrum access and interference protection.

Legislative relations consultant John Chwat of Chwat & Company Inc told the Board that the congressional shift of control to the Democratic Party will have a significant impact on telecommunications legislation, policy, FCC actions and perhaps even the League. Emergency communication is a hot topic this year, he pointed out, and this could permit the League to take different approaches to issues from those tried in the past.

The Board also accepted the report of the Technology Task Force (TTF). Chaired by ARRL Pacific Division Vice Director Andy Oppel, N6AJO, that panel advised the League to continue the Software Defined

Radio and Digital Multimedia Above 50 MHz working groups and establish a new working group to explore activity detection for digital modes. The TTF also recommended that the ARRL demonstrate and promote viable digital voice technologies.

SUITSAT-2 GOES TO COLLEGE

Eleven electrical engineering students at The College of New Jersey had a hand in designing some of the software defined radio (SDR) hardware that will fly aboard SuitSat-2. The college seniors signed up last fall for "Software Defined Radio," taught by adjunct professors Bob McGwier, N4HY, and Frank Brickle, AB2KT -- both members of the Amateur Radio on the International Space Station (ARISS) SuitSat-2 team.

The second-generation SuitSat will have a software designed Amateur Radio transponder (SDX) on board. SuitSat-2 is being viewed as a test bed for the hardware AMSAT hopes to launch on its Phase 3E Eagle satellite.

McGwier and Brickle designed practical, goal-based experiments for the students' projects with an eye toward turning out something that would be a useful SuitSat-2 component. Team members Steve Bible, N7HPR, and Joe Julicher, N9WXU, provided circuit boards employing "bleeding-edge" technology -- dsPIC33F 16-bit direct memory access digital signal controllers. Brickle says the circuits will serve as SuitSat-2's heart and brain.

Early on, the students studied signal processing and communication theory as well as what Brickle calls "esoteric corners of computer science." Then, using Matlab -- a high-level technical computing language - - the students implemented modulators and demodulators for SSB, FM, BPSK and AFSK.

"Students get a little bit of verbal swimming instruction, and then we toss them straight into the ocean," is how Brickle described the process.

By mid-semester, the students were designing their experiments and getting them up and running. Boards were powered up without diagnostic hardware or software, since that's how the circuitry will be on orbit -- "walking a tightrope without a net," as Brickle sees it.

"Given the complexity of what the SDR/SDX in SuitSat-2 will be required to provide, the applications will need to run in an unprecedented software environment: pre-emptive multitasking under freeRTOS," he explained. FreeRTOS is an open-source, round-robin operating system for embedded devices.

Instead of being scared off, the students ran with the challenge and demonstrated obvious enthusiasm, Brickle reports. "We will be doing a very good thing if we continue to involve these kids, and more like them, in our future AMSAT projects," he said. What surprised him most, he added, was that the students focused on taking new approaches to "very fundamental engineering issues that aren't flashy or trendy." McGwier, who's AMSAT-NA's vice president of engineering and a member of the AMSAT Board of Directors, remarked that both students and teachers shared in the excitement.

The SuitSat-2 team, under the leadership of Lou McFadin, W5DID, has been working on the design of a power converter for the solar panels, the internal housekeeping unit, the antenna mount, the transmitting and receiving hardware and how it will mount atop the suit's helmet. An ISS crew could launch SuitSat-2 during a spacewalk as early as next fall. SuitSat-2 could have an operational lifetime of six months or more. -- Rosalie White, K1STO/ARISS

PRESIDENT EXPRESSES APPRECIATION TO AMATEUR RADIO OPERATORS

President George W. Bush has written the ARRL to recognize the just-ended Hello Amateur Radio public relations campaign and to extend "greetings to all those celebrating 100 years of voices over the airwaves." The president said the centennial of Reginald Fessenden's landmark Christmas Eve 1906 voice broadcast "opened the door for technological advances" that improved the lives of people around the world.

"I appreciate all who work in radio, and I am grateful to the Amateur Radio operators who provide emergency communications that help make our country safer and more secure," President Bush wrote. "Your good work strengthens our society and represents the American spirit."



THE WHITE HOUSE
WASHINGTON

January 8, 2007

I send greetings to all those celebrating 100 years of voices over the airwaves.

Radio plays an important role in informing, entertaining, and protecting people everywhere. At the turn of the last century, Reginald Fessenden pioneered wireless communications and opened the door for technological advances that have improved the lives of Americans and individuals around the world. This occasion is an opportunity to remember Fessenden's broadcast of voice and music over the air a century ago and a chance to celebrate the many ways radio has enriched our lives and our Nation.

I appreciate all who work in radio, and I am grateful to the amateur radio operators who provide emergency communications that help make our country safer and more secure. Your good work strengthens our society and represents the American spirit.

Laura and I send our best wishes. May God bless you.

ARRL Media and Public Relations Manager Allen Pitts, W1AGP, conceived and developed the Hello campaign. He says that while that initiative is formally over, ARRL public information coordinators and officers will take advantage in the new year of the momentum it generated.

"As we begin launching the new Emergency Communications campaign, the friendships and goodwill developed in Hello will aid in future promotions of Amateur Radio," Pitts commented. "For 100 years, radio in its many forms has saved lives and aided in crises. We have a great legacy and a bright future."

The grand finale of the Hello campaign December 29-30 involved special event operations from W1AW (see The ARRL Letter, Vol 26, No 02, Jan 12, 2007), W1F at Brant Rock, Massachusetts (see below), and GB1FVT in Scotland.

The theme of the ARRL's 2007 public relations initiative is "Ham Radio . . . Getting the Message Through for your Family and Community." It will focus on Amateur Radio's capability to provide reliable emergency communication when traditional systems fail or become overloaded.

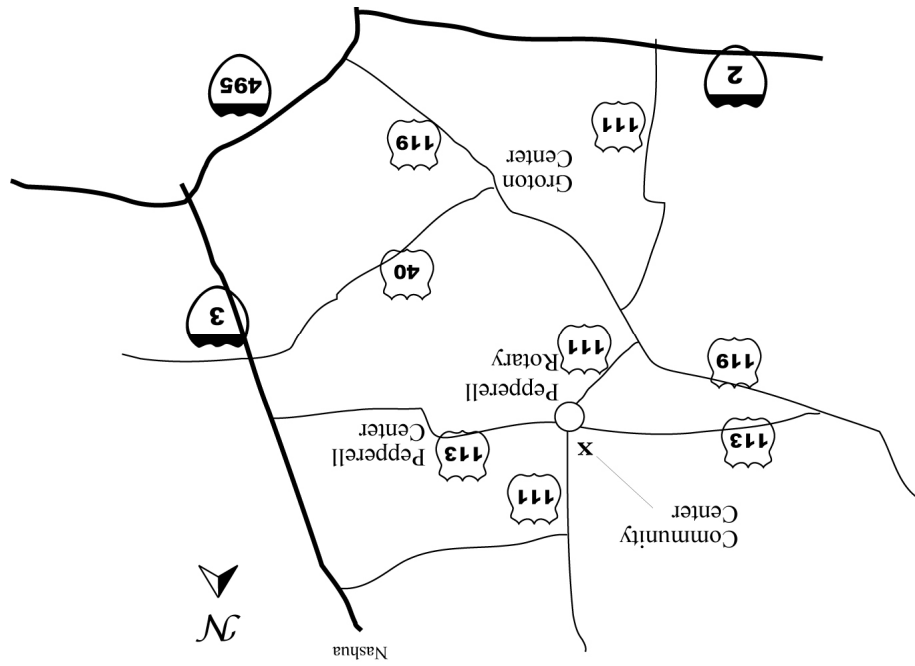


**Nashoba Valley
Amateur Radio Club**

PO Box # 900
Pepperell Mass 01463-0900

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

President: Stan Pozerski KD1LE
Vice President: Peter Nordberg N1ZRG
Secretary: John Griswold KK1X
Treasurer: Ralph Swick KD1SM
Board Members:
Bob Reif: W1XP 2004-2007
Les Peters: N1SV 2005-2008
Joel Magid W1JMM 2006-2009
Editor: Stan Pozerski KD1LE
Emergency Coordinator: Den Connors KD2S
Photographer: Ralph Swick KD1SM
PIO: Dave Peabody N1MNX
Librarian: Peter Nordberg N1ZRG
Property Master: John Griswold KK1X
N1NC Trustee: Bruce Blain K1BG
Meetings are held on the 3rd Thursday of the month
7:30 p.m. - Pepperell Community Ctr.
Talk-in 146.490 simplex
442.900 + 100Hz Repeater
147.345 + 100 Hz Repeater
53.890 - 100Hz Repeater
This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are OK.
Copyright 2007 NVARC



Nashoba Valley Amateur Radio Club

PO Box 900

Pepperell, MA 01463-0900

