





de N1NC

October 2007 Volume 16 Number 10

#### This Month's Meeting

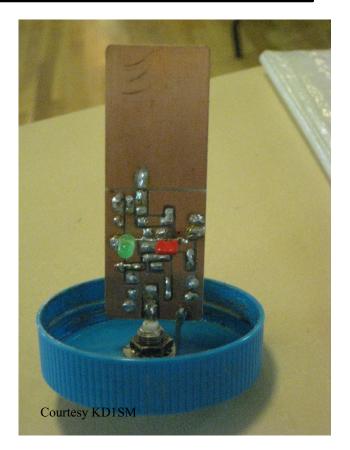
This months meeting is our annual QSL card sort. It will be the first test of the six sorting boxes we built. We have invited PART and MARA to participate. Bring a friend. NVARC will provide pizza and soft drinks after the sort. We expect to sort approximately 20,000 cards at the meeting. If your callsign is in the '1' area you'll get a chance to pick up your cards early.

#### Last Month's Meeting

Last months meeting program was a presentation by Bob W1XP on "600 Meters The New Ham Band."



Bob described the rules currently governing the use of the band and the limited licensing currently in effect. He also covered the propagation characteristics of the band, how it was different than the other adjacent bands and why it might be useful for things like emergency communications.



Bob also covered the subject of antennas for the band and the extreme size because of the long wavelengths. Fortunately there are options such at the active antenna above for receive.

### Repeater Upgrades

Many improvements to the repeaters have taken place over the summer.

The two meter repeater antenna was upgraded from a simple groundplane to a high gain vertical with funding from the North Middlesex Area Emergency Planning Committee (NMAEPC). This project was completed by Ralph KD1SM, Bob W1XP, Leo K1LK, and Stan KD1LE. Ralph did most of the work.

The six meter repeater was moved to a second set of batteries funded by the NMAEPC with a new bus system and current measuring shunt built and installed by Bob W1XP and Stan KD1LE

Power problem to the repeater building was resolved by Ralph KD1SM, Bob W1XP and Stan KD1LE.

The electrical box was painted.

The end of September a Work party was assembled to paint the repeater building which hadn't been painted for several years.





Working on the painting was Dave N1MNX, Joel W1JMM, Skip K1NKR, and Stan KD1LE.

Soon we will be closing up the building for winter and doing the various battery, power, and antenna checks so we don't have to go up there in bad weather.

## **Townsend 275<sup>th</sup> Anniversary Parade**

Sunday September 23 members supported the Townsend 275th Anniversary Parade. Gary K1YTS had been planning the support for month's attending the regular parade planning meetings. One challenge for an event like this is that it is a one time event for the organizers. It remained to be seen how well the planning and event would unfold. It was going to be a long day for participants and spectators and poor weather could make things difficult at best but when planning for an event like this for over a year that is completely out of your control.

Then it was the morning of the big day. The weather was with us sunny, dry, and not too warm. Much like Saturday some of us met for breakfast at 8:30 so that we could be on site and setting up by 9:30 that Gary had targeted. It is a good thing we took time out for breakfast as that was the last time most of us saw food until after the event.



Everything was moving along and it was obvious from the activity in the center of Townsend that there were going to be a lot of people. By 9:30 we were on site setting up net control at the Spaulding School. Ralph KD1SM delivered an Ez-Up shelter that Jeanine N1QIT provided. This worked out great as the net control and other operators visiting NCS would have been toasted on the long day. Stan KD1LE provided the table and chairs. With the operators arriving everyone helped set up the shelter and equipment. Antennas were assembled and attached to the shelter leas for the two radios we were using. We used the FT8900 from Pepperell Emergency Management and the Groton Emergency Management antenna as well as Ralph and Stan's equipment for NCS. Though communications were planned to be simplex on two meters we also made

arrangements to use the 146.315 Fitchburg repeater as a backup.



Once net control was on the air Gary gathered the troops and handed out assignments. Operators were stationed at the four parade staging areas, start, finish, Town Common, and two parking areas where participants and spectators were going to be bused to and from. As the day progressed Bob AB1CV who shadowed the parade director helped manage the Start Area. This is where the four staging areas plus the large floats lined up on Route 119 would be merged on to the parade route.



John KK1X, Ray KB1LRL, Charlie KT1I and Tom K1JHC each help coordinate at the color coded staging areas. Here the 250 or so divisions marching in the parade would be assembled arriving in their own transportation or being bused from the remote parking sites. Stan and Ralph operated NCS from the front of the Spaulding School using simplex two meters with a backup frequency. Communications were good to all locations. The net was run primarily as a free net with NCS helping to sort out problems. John N2YHK, Matt KB1OJH, Penney and Jack KB1OZL

operated from the finish and NMRHS parking area. John, Matt and Jack are members of the Worcester RACES group (WECT) and came up from the Worcester area to help support the parade. Wayne coordinated busing from the HBMS parking. Larry KB1ESR was set up in the Townsend Communications Center to relay information in whatever direction was necessary to the Townsend Police. The police were challenged by the need to shut down both Route 119 and Route 13 which cross in the center of town and to maintain detours for traffic for four and one half hours. So their presence inside the detours was very limited. Gary bounced from location to location fielding questions, problems and reassigning personnel. One thing that became apparent early was that managing the bus situation was going to be critical. The original plan had put groups of buses on specific routes undirected. John, name, and the finish crew jumped in managing bus requirements working with the parking ops and the bus drivers even getting some of the participant buses into the movement of people. Critical times as the start approached and as the parade disassembled on Main St as the divisions passed the finish were all taken in stride.



On schedule roads were shut down and traffic subsided and for a while there were only the shuttle buses and vendors on Route 119. Then at 2 PM the parade was started. With only a few instances of groups not getting to the start in order and the usual slinky effect along the parade route the participants were funneled into the parade for more than two hours. The first participants reaching the finish before half the parade was on the route. Over the course of the day the various start, finish, NCS, parking, managed the business of keeping people, parade, and information flowing. A great job was done by all.

Ray KB1LRL, Tom K1JHC, Charlie KT1I, Jack KB1OZL, John KK1X, Larry KB1ESR, Bob AB1CV, Barry W1HFN, John N2YHK, Penny, Matt KB1OJH,

Stan KD1LE, Ralph KD1SM, Gary K1YTS and Wayne N1CKM

Stan KD1LE

#### **Lightning Protection**

Lightning protection is something we often think about with antennas of all sorts in the air and the many conductors that feed signals from them to our shacks. The August ARRL ARES E-Letter listed a Web site link on the subject of station lightning protection.

http://members.cox.net/pc-usa/station/ground0.htm

#### **Board Meeting**

This month's board meeting discussion topics.

Stan reported on the Townsend 275<sup>th</sup> Parade. Everything went well. Our brochure display was set up at net control on Main St. We had some takers but most of the interest was focused on the parade. The brochures and pocket stands are stored in the info box started by Dave N1MNX. If you know of a location that would be suitable to leave a few see Stan or Ralph. Some ideas are local businesses that have public bulletin boards, restaurants, electronics stores, libraries, community centers, senior centers, and meeting places.

Gary presented on the status and changes in the Townsend 275<sup>th</sup> Anniversary Parade plan.

We are working on meeting presentations for the fall. This month will be our QSL card sort and we have the cards from the W1QSL Bureau. We have invited PART and MARA to the meeting. Pizza and drink budget approved.

Several members have said they have short presentations for the January Short Subjects Night. We still need a few more to fill out the program.

In attendance Ralph KD1SM, Bob W1XP, Joel W1JMM, Stan KD1LE, John KK1X, Gary K1YTS and Les N1SV.

#### **Adopt A Highway**

Our September cleanup was Saturday the 22<sup>nd</sup>. With the Townsend 275<sup>th</sup> parade on Sunday we chose to move it to Saturday for September.

Thanks to Bob AB1CV, Gary K1YTS, Larry KB1ESR, John KK1X, Peter N1ZRG, and Stan KD1LE for their participation.

This month's cleanup is Sunday October 21<sup>st</sup>. This is the next to last cleanup for the year. It would be good to have eight people for the last two cleanups so we can do a complete job.

#### **ARRL Letter**

## SON OF FIRST HAM TO OPERATE IN SPACE TO FOLLOW IN FATHER'S FOOTSTEPS

Richard Garriott, KE5QNX, son of Owen Garriott, W5LFL, will be launching into space and living aboard the International Space Station in October 2008 as a client of Space Adventures. Owen Garriott operated the world's first Amateur Radio Station from space, W5LFL, as part of the Spacelab mission on the space shuttle Columbia (STS-9) in 1983; he is on the Astronaut Advisory Board of Space Adventures. Space Adventures is a company that allows private citizens the chance for space travel on Russian Soyuz spacecraft at an estimated cost of \$30-55 million per person. Richard, who is Space Adventures vice chairman, has applied for his grandfather's call sign, W5KWQ. He plans on making Amateur Radio on the International Space Station (ARISS) contacts when he is in space.

Richard will be the sixth private citizen to venture into space. According to his Web <a href="http://www.richardinspace.com">http://www.richardinspace.com</a>, his "main objective for his mission is to encourage commercial participation. By fostering the involvement of individuals, companies and organizations in his spaceflight Richard hopes to demonstrate that there is commercial potential in private space exploration, while furthering the understanding of space. Richard plans to demonstrate this by taking on various commercial projects, corporate sponsors for his mission activities and by helping companies market their products though their association with an actual space mission."

A self-described experienced terrestrial explorer -- "I have traveled to all seven continents on adventures that have included tracking mountain gorillas in Rwanda, canoeing down the Amazon, diving in a submarine to the Titanic and trekking Antarctica in search of meteorites" – Richard says on his Web site that he is excited about his trip into space. "Journeying to space has been a dream of mine since I was young. So for me, space exploration was tangible, it was part of my family's DNA. But I was also acutely aware of the costs and complexity that kept it under

the purview of the government. There was no imaginable way I was going to get a front-row seat like my father." Richard, 46, is the first American second-generation astronaut. In Russia, Sergey Volkov, 34, a pilot, is set to fly to the ISS as commander next spring. His father, Aleksandr, rocketed into orbit in the 1980s and early 1990s.

The first commercial research partner involved in Richard's space mission is ExtremoZyme, Inc, a biotechnology company co-founded by his father. According to his Web site, "Richard will operate an ExtremoZyme protein crystallization experiment loaded with proteins, many of which have important cellular functions and are often associated with common human diseases. Having access to these superior crystals will enable researchers to learn more about the molecular structure of these proteins, which is essential for protein engineering and drug design."

A well-known computer game developer, Richard, also known in the gaming world as Lord British, was the owner of now-defunct Origin Systems. The company is best known for gaming software such as the Ultima fantasy computer role-playing game series, Wing Commander and Crusader. Richard then founded Destination Games, which has since merged with NCsoft where he is an executive producer; his new game, Tabula Rasa, is set to be released by NCsoft later this month.

Rosalie White, K1STO, ARRL ARISS Program Manager, said, "With Richard's fame with the general public and Owen's fame in the science industry and with ham radio operators, Richard's planned ARISS educational activities should generate a great deal of interest for ham radio in all ages and types of people. This will be good for Amateur Radio and ARISS. The ARISS Team is really looking forward to supporting his ARISS school goals; we were so pleased to hear that he's already earned his ham license."

Richard lives in Austin, Texas. His home, Britannia Manor, has been featured on MTV. -- Thanks to Fred Maia, W5YI, for some information.

## ARRL/TAPR CELEBRATE 26TH ANNUAL DIGITAL COMMUNICATIONS CONFERENCE

The ARRL and TAPR held their 26th Annual Digital Communications Conference this past weekend, September 28-30, in Hartford, Connecticut. The DCC is an international forum for radio amateurs to meet, publish their work and present new ideas and techniques. Presenters and attendees had the opportunity to exchange ideas and learn about recent

hardware and software advances, theories, experimental results and practical applications.

With more than 150 in attendance during the threeday event, ARRL Chief Operating Officer Harold Kramer, WJ1B, said, "It was exciting to see and hear about the latest developments in Amateur Radio digital technology. The depth of knowledge, commitment and enthusiasm were very impressive and bode well for the future of Amateur Radio."

According to QST Editor Steve Ford, WB8IMY, many of Friday's seminars were devoted to the Automatic Position Reporting System (APRS). Bob Bruninga, WB4APR, gave the first session of the conference, "The APRS Local Voice Repeater Initiative." Bruninga is the developer of APRS.

Other seminars at the conference included "The Flex 5000 and Software Defined Radio Software," "HPSDR Update," "AMSAT's Phase IV," "A Method for Automatic Image Balancing in IQ Mixer Based Software Defined Receivers" and "Suit-Sat 2 Update." Ford also gave a standing-room-only seminar on an introduction to HF digital.

Ford said one of the highlights at the DCC was the NUE-PSK device. This gizmo makes it possible to do PSK31 without a PC. There is no word yet on when kits will be available for this item. "The latest Flexradio software-defined transceiver also drew a great deal of attention," Ford said. RPC Electronics debuted their all-in-one APRS tracker (2 meter transmitter, packet TNC and GPS receiver in one compact package). The company said it would be available for sale in December, just in time for holiday giving.

A popular feature of the DCC was the Demonstration Room. This was a place for participants to set up their projects for everyone to see, as well as a place for vendors to demonstrate their equipment.

ARRL New England Division Director Tom Frenaye, K1KI, spoke to conference participants Saturday morning, welcoming them to the DCC. TAPR held their annual meeting later that day.

The 2008 Digital Communications Conference will be in Chicago, but no date has been set. Check out the TAPR Web site <a href="http://www.tapr.org">http://www.tapr.org</a> for more information.

## ARRL AND MARS TEAM UP FOR WASHINGTON DEMO

The ARRL and Virginia radio amateurs associated with the Army Military Affiliate Radio System (MARS) put their emergency communications skills to the test on October 3, demonstrating to members of Congress and other Federal agencies how ham radio continues to work when other means of communications are disabled during hurricanes or other natural or man-made disasters. The demonstration took place in a compact portable communications center erected on the Capitol grounds near the Rayburn House Office. More than 50 MARS operators from Virginia, Maryland, West Virginia, Pennsylvania, Delaware and other states participated in the event.

According to the scenario issued by exercise planners, the event assumed a Category 3 hurricane named Quincy that deposited heavy rains over a multi-state area on October 2 and made landfall in the Delaware, Maryland and Virginia region later that day. The "storm" moved north into New Jersey and Pennsylvania, turned counterclockwise and traveled southward before returning to the Atlantic through the Carolinas and Georgia on October 5.

During the exercise, MARS operators also monitored other Amateur Radio emergency frequencies and coordinated the exchange of messages across their networks as well, honing their ability to work with other radio emergency providers such as the Amateur Radio Emergency Service (ARES).

ARRL Emergency Preparedness and Response Manager Dennis Dura, K2DCD; ARRL Chief Development Officer Mary Hobart, K1MMH, and ARRL Media and Public Relations Manager Allen Pitts, W1AGP, made the trek down to Washington. "As the unusually hot October sun fried us, despite the lack of sunspots," Pitts said, "representatives of ARRL, MARS and the Southern Baptist Disaster Response organizations fought poor propagation to make contacts through the day primarily on VHF, 20 and 40 meters. Dennis Dura worked the ARRL's HF rig most of the day as W1AW/3. Arkansas Congressman Mike Ross, WD5DVR -- one of only two Amateur Radio operators in Congress -- also made contacts from the site."

Pitts said that the ARRL team used the "When All Else Fails Banner" at the site. "We hoisted the banner in front of the Capitol dome. It attracted many vacationing hams in the area who stopped by to see what was happening, and some even were able to be brief 'guest operators.' But the day was mostly spent showing Amateur Radio capabilities to the Congressional staffers and others who work behind the scenes to make the wheels of government go. Janet Worthington, KB3PDS, of Chwat & Co – the ARRL's lobbying firm -- was able to use the demon-

stration as a topic and drop off ARRL materials about HR 462 <a href="http://thomas.loc.gov/cgibin/query/z?c110:H.R.462">http://thomas.loc.gov/cgibin/query/z?c110:H.R.462</a> and Amateur Radio in every congressional office."

MARS operators used a variety of modes to move messages from the originator to the final recipient, depending on the operating conditions in place at the time. Operators used voice, CW and WinLink2000 to move messages. WinLink uses an e-mail-type interface, making it simpler for served agencies to send and receive their emergency traffic.

MARS volunteers are required to complete a variety of training courses to be a part of the program. They use personal radio equipment and are capable of operating on emergency power when conditions dictate. Many members are former servicemen and women who first learned radio communication skills while serving in the Army. MARS is a Department of Defense sponsored organization of Amateur Radio operators trained and equipped to provide emergency communications for military and government agencies when normal links are interrupted by accident, natural calamity or hostile action. W1AW recently received a MARS call sign - AAN1ARL. For additional information about Army MARS, visit their Web site at <a href="http://www.netcom.army.mil/mars/">http://www.netcom.army.mil/mars/</a>. --Some information provided by Jeff Slusher, KE5APC/AAT3PD, Public Relations Manager for Virginia Army MARS.

## NASA TV SHOWS LAUNCH, DOCKING OF SPACECRAFT, MORE

If you have ever wanted to see what goes on when a spacecraft launches into space or docks with the International Space Station (ISS), be sure to check out NASA TV <a href="http://www.nasa.gov/ntv">http://www.nasa.gov/ntv</a> on your computer. You can watch live coverage of preparations for the launch, the launch and even the docking and hatch openings and closings as spacecraft arrive and leave the ISS.

NASA's Expedition 16 Commander Peggy Whitson, Soyuz Commander. Flight Engineer Yuri Malenchenko, RK3DUP, and Malaysian spaceflight participant Sheikh Muszaphar Shukor, 9W2MUS, are set to launch October 10 at 1321 UTC from the Baikonur Cosmodrome in Kazakhstan. Their Soyuz TMA-11 craft is planned to dock to the station on October 12 at 1427 UTC. Coverage for this event begins October 10 at 1230 UTC. Coverage of the Soyuz docking with the ISS, opening of Soyuz's hatch door and the post-docking news conference from Moscow begins October 12 at 1400 UTC.

NASA Flight Engineer Clay Anderson, KD5PLA, who has been on the station since June, will remain with Whitson and Malenchenko until the arrival of space shuttle Discovery on the STS-120 mission. NASA astronaut Dan Tani, KD5TXE, will arrive on that mission to replace Anderson, who will journey home on Discovery.

Expedition 15 Commander Fyodor Yurchikhin, RN3FI, Soyuz Commander and Flight Engineer Oleg Kotov and Shukor will return to Earth October 21 at 1032 UTC in their Soyuz TMA-10 spacecraft now docked to the ISS. Yurchikhin and Kotov have been aboard the station since April. Coverage for this

# ARRL CONTINUES TO DEAL WITH DEPARTMENT OF DEFENSE OVER PAVE PAWS SITES

The ARRL participated in a teleconference call on Wednesday, September 19, with the Department of Defense (DoD) regarding Amateur Radio repeaters interfering with the Air Force's PAVE Paws radar system.

According to ARRL Regulatory Branch Manager Dan Henderson, N1ND, "The DoD acknowledges that it has seen changes at some repeater sites, but not all of them." He said the DoD has revisited the Massachusetts repeaters, located near Otis Air Force Base on Cape Cod, to "remeasure the numbers. Some Massachusetts repeater owners have volunteered to completely turn off their systems and some others have made changes, but more is needed at both PAVE Paws radar sites."

The DoD, Henderson continued, has identified additional sources of interference in Massachusetts. "This was not really unexpected and is part of what has become an ongoing project. The ARRL will begin working with these repeater owners as soon as the DoD provides us with specific information," he said.

In California, where more than 100 repeaters are being scrutinized by the DoD, Henderson said the majority of repeaters have not been mitigated: "The Air Force has not had a chance to revisit Beale Air Force Base for new measurements, but it will be happening soon."

Reports have circulated that a number of California repeater owners have decided to take no further action about mitigating the interference unless they receive official notice from the Federal Communications Commission. "If these reports are true," Henderson said, "it is unfortunate. The FCC has stayed

abreast of the discussions between the League and the DoD, and they are prepared to act appropriately if they are contacted by the DoD."

He continued: "The DoD has indicated they are willing to allow the ARRL to continue its attempts to mitigate the interference; however, they have expressed a sense of urgency that this must come to a conclusion. Those waiting for FCC action may find it coming sooner rather than later."

#### 1296 MHZ WAS #1 AWARDED TO TEXAS HAM

Al Ward, W5LUA, of Allen, Texas, is the first person to achieve the ARRL's Worked All States (WAS) on 1296 MHz, making him 1296 MHz WAS #1. Ward first started on his pursuit January 25, 1977, with his first 1296 MHz contact with Leroy May, W5HN (SK). His 30 year quest ended last week, with confirmed contacts with Wyoming, Utah and Idaho, giving Ward his last three needed states, thanks to Paul Perryman's, WA5WCP, EME DXpedition.

"I couldn't have done this without Paul," Ward said. "Also, thanks to Ron Roche, K0ALL, and Barry Malowanchuk, VE4MA, in North Dakota for number 47 in August. Without them, it just wouldn't have been possible." After collecting his 50th QSL card, Ward drove from his home in Texas to Little Rock, Arkansas so ARRL President Joel Harrison, W5ZN, could verify his cards and complete his WAS paperwork. "Verifying QSL cards from 30 years of activity brought back a lot of memories of several stations active on 1296, many who are Silent Keys now," Harrison said.

#### **Treasurers Report**

Income for August was \$60 in membership dues, \$2 from ARRL membership renewals, and \$1.24 from bank interest. Expenses were \$16.40 for newsletter postage and \$250 for the annual liability insurance premium leaving a net expense of \$203.16 for the month.

Current balances:

General fund \$4,102.12 Community fund \$2,136.83

As of 11 September we have 54 members who are current with their dues and 12 renewal 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.

Welcome to new member Tony DiCenzo KX1G of Pepperell and welcome back to Dennis Marandos K1LGQ.

If you are not yet an ARRL member please consider joining and showing your support for the programs developed by our national organization. If you let me send in your membership then the Club pays for the stamp and receives a portion of your ARRL dues.

Ralph KD1SM

#### **PSLIST**

Oct 19-20 Cambridge MA Head of the Charles Regatta1Jeff K1EMS RWJeffA@comcast.net

#### **NVARC Club Net**

The club net meets on the 442.900 repeater. Subjects discussed recently; Field Day wrap up, Cookout planning and post party comments, Winchendon triathlon from participants, repeater projects such as battery and antenna replacements.

Recent participants include Dave N1MNX, Bob W1XP, Bob AB1CV, Joel W1JMM, Larry KB1ESR, Skip K1NKR, Gary K1YTS, Ralph KD1SM, Stan KD1LE, Les N1SV, Richard W1LTN, Ken K1JKR, Den KD2S.

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

October 12-13 NEAR-Fest (Deerfield) Deerfield NH 21 MIT

November 3 IRS Flea Market

2008 August 22-24 NE Division Convention Boxboro

#### **Advertisements**



603-465-2422 800-323-5876

FAX 603-465-3320

P.O. BOX 330 19 PROCTOR HILL RD. HOLLIS, NH 03049

W1ZC

WW17

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

# 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

Oct 14 ARRL EME Contest
Oct 15 North American RTTY Sprint
Oct 16 School Club Roundup
21-23 USI W/VE Islands QSO Party
21-24 QRP ARCI Fall QSO Party
28-29 CQ WWDX SSB
28-29 10-10 International CW/Digital Contest

#### November

3-5 ARRL November Sweepstakes CW 10-11 WAE DX Contest RTTY 17-19 November Sweepstakes Phone 24-25 CQ WW DX Contest CW

December 30-Jan 2 ARRL 160 Meter Contest

January 5-6 ARRL RTTY Roundup 12-13 North American QSO Party CW 13 DARC 10 Meter Contest 19-20 North American QSO Party SSB 26-27 CQ 160 Meter Contest CW

February
2-3 Vermont QSO Party
2-4 Delaware QSO Party
23-24 CQ 160 Meter Contest SSB

#### 23-24 North American QSO Party RTTY

#### **DXpeditions**

Call	Location	Until
9V1CW 8Q7IM 9A60K	Singapore Maldives	2008 Nov 2007 12/31/07
9A07P SG60RK	Gotlamb Is	12/31/07 12/31
FO5RU T31XX FO0	French Polynesia Central Kiribati Clipperton Atoll	1/15/08 October 3/08

See www.425dxn.org for more listings



## Nashoba Valley Amateur Radio Club

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http://www.n1nc.org/

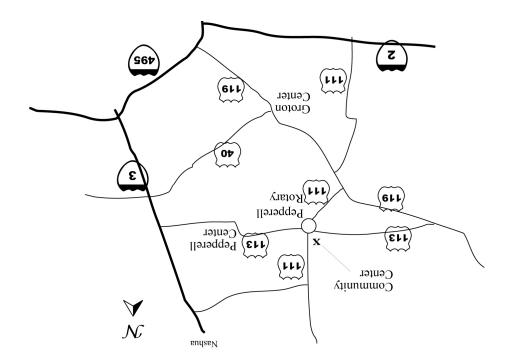
President: Stan Pozerski KD1LE
Vice President: Peter Nordberg N1ZRG
Secretary: John Griswold KK1X
Treasurer: Ralph Swick KD1SM
Board Members:
Les Peters: N1SV 2005-2008
Joel Magid W1JMM 2006-2009
Bob Reif: W1XP 2007-2010

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.

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