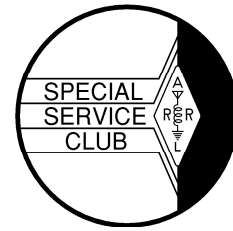




SIGNAL



de NINC

July 2008 Volume 17 Number 7

This Month's Meeting

We have no regular meeting in August. The cookout is August 9th

Meeting site info and maps on the back page and the NVARC Website.

Wear your badge to the meeting so new members can tell your name and you can introduce your self to them. It may be worth your while.

Last Month's Meeting

The program for the June meeting was an interactive discussion "What are you doing? What have you done?" The theme was to discover how many of the many aspects of Ham Radio our members have tried.

Skip K1NKR had prepared a two page "survey" as a guide to polling the members as to their activity and led the discussion. This took us through the many aspects of Amateur Radio and identified the members that were using or have tried it. Even with this extensive list other aspects and activities were added in the course of the discussion.

This led to many short discussions and also identified who you might contact if you were interested in more information on a subject.

Jun meeting attendees:

Dennis K1LGQ, Tom K1NNJ, Gary K1YTS, Wolf KA1VOU, Larry KB1ESR, Skip K1NKR, Phil KB1JKL, Nancy KB1KEF, Stan KD1LE, Ralph KD1SM, John KK1X, Dave N1MNX, Peter N1ZRG, Jim N8VIM, Joel W1JMM, Bob W1XP, Rod WA1TAC, Russ WR1Y

Need a Ride?

Do you need a ride to the club meetings? Do you know someone who does? If you do please contact Bob W1XP 978-448-6559 and leave a message. We'll see that you get to the meeting.

49th Longsjo Classic a Success

The first day of head-to-head bicycle racing in the 49th Fitchburg Longsjo Classic began with a light rain that steadily increased in the early morning. The volunteers took shelter under the canopy of the Wachusett Ski Lodge to get assignments and discuss the radio operations plan for the day.



Courtesy KD1SM

Above: Friday crew with Race Director Bill Chiarciharo, N1CPK, (front row, center).

By the time we deployed to our locations around the Mountain Road Race course on Friday morning the rain had stopped and we were treated to a fine day of Olympic-level racing.

Amateur Radio volunteers from MARA, NVARC, and the Mohawk Amateur Radio Club were stationed at 13 critical locations around the Road Race course.

Our task was to relay lead racer positions to the next location so that the course marshalls and Princeton and Westminster police officers could control the vehicle traffic. Had there been any serious medical emergencies we would also have been ready to get aid quickly to the affected parties. In addition to these primary responsibilities, we assisted with logistics communication between the finish line at the summit of Mt. Wachusett and the Race Director.

Sunday featured the Criterium race in downtown Fitchburg. Five radio operators covered this short course, alerting the marshalls to racers rounding critical intersections so that spectators could be kept off the course and providing communication in case of medical emergency.



Courtesy KD1SM

Above: Sunday crew with USCF Chief Referee Steve Crews, 3rd from left.

Thanks to the following operators for volunteering for this event:

Bob AB1CV, Tom K1JHC, Tom K1KKY, Gary K1YTS, Jim KA1GCN, Warren KA1JL, Martie KA1QCB, Larry KB1ESR, Ray KB1LRL, Stan KD1LE, Ralph KD1SM, John KK1X, Charlie KT1I, Ben N1XYT, Paul W1SEX, and Bob WA1VVT.



Courtesy KD1SM

Above: Racers cross the KOM line at the Wachusett Reservation Entrance while USCF officials prepare to record the leaders.



Courtesy KD1SM

Above: Bob AB1CV helped start each race. Here he is at the Start/Finish line with one group of racers ready to go.

Field Day

We kicked off Field Day preparations on Friday night with Gary K1YTS and Nancy KB1KEF volunteering to camp out. Though there had been weather concerns Friday set up went on without a hitch. We accomplished a lot with the CW antennas assembled and raised into a low height for the evening. The SSB station antennas assembled and ready to be raised. The tents for the CW, SSB, and R & R erected. The generator was put in place and power lines run.



Courtesy KD1SM

Above Bob W1XP and Ralph KD1SM managed the assembly and mounting of the CW antennas on the tower. The tower was guyed and left vertical but retracted for the night. The tower supported a four element yagi for 20 meters, a tri-bander for 10, 15, and 20 meters and an 80 dipole.

This year we decided to cut back on the structures for the CW antennas. We eliminated the Moxon antenna and moved the tri-bander to the 40 foot height on the 75 foot tower. This eliminated one support tower and one antenna. We also gave up on the 160 meter antenna. In the low sunspot environment the last few years we tried to get others interested in working 160 meters but we only made a few contacts each year. We replace the 160 meter antenna with an 80 meter antenna.

Assisting at the Friday set up were Ralph KD1SM, Bob W1XP, Leo K1LK, Gary K1YTS, Nancy KB1KEF, Stan KD1LE, Larry KB1ESR, Bruce K1BG, Jim N8VIM, Den KD2S, John WW1Z.



Courtesy KK1X

Above (L-R) Leo K1LK, Ralph KD1SM and Bob W1XP set up the tent for the VHF/Satellite station

Saturday was a busy day finishing up all the antenna raisings and station set ups but we were nearly finished when lunch was called at noon. Lunch was prepared by Lynda N1PBL. After everyone finished lunch the last station work was completed, antennas checked out with analyzers, and connected.

Visiting on Saturday were the ARRL West Mass Section Manager, ARRL East Mass Section Manager and Terry KA8SCP RACES Sector 1 Radio Officer.



Courtesy KD1SM

For emergency use we have been working with the North Middlesex Area Emergency Planning Committee on the use of Winlink for communications to MEMA. Den KD2S and Larry KB1ESR have put together a portable station for this use. Den built an NVIS 20 and 40 meter dipole guyed with the element to be used with it. At Field Day and with the help of Ralph KD1SM they put it on the air as a demonstration and sent and received messages via VHF and HF.

Saturday night ham dinner (how appropriate) with all the fixings was prepared by Karen KA1JVU, Cindy, Peggy, and Jeanine N1QIT.



Courtesy KK1X

Above the "tower crew" extend the extension ladder to full height for the SSB station tri-band.

After a brief rain storm Sunday morning Cindy and Larry cooked up breakfast. With about a dozen people on hand we had breakfast as a group. After everyone ate the stations went back on the air to continue the event.



Courtesy KD1SM

Above our station power lines are heavy cable with twist lock connectors and junction points are shielded from the weather and raised off the ground.

Dinner was attended by Karen KA1JVU, Cindy, Jeanine, Joseph N1QDZ, Peter N1ZRG, Leo K1LK, Ralph KD1SM, Bob W1XP, Bruce K1BG, Stan KD1LE, Darryl WA1GON, Lee KB1ELE, Gary K1YTS, Nancy KB1KEF, Tom K1NNJ, John KK1X, John WW1Z, Larry KB1ESR

At dinner we shutdown Jim N8VIM's diesel generator and switched over to the Groton Emergency Management generator for the night run. The idea being to share the load and test various pieces of equipment.

At two o'clock the contest was over. Some equipment had already been dismantled. Teardown started at full speed. By four o'clock thunder storms were on the horizon and faint thunder could be heard though it was hot and sunny at the site. The last equipment trailers were connected and we headed off the site. The gates were locked at 4:15 just as a heavy thunder storm arrived. In the next few minutes heavy rain and hail started falling.

Repeater Work

I'm sure no one thinks the repeaters just keep on running without any intervention. In the past month several tasks needed to be done.

Sometime late in the week before Field Day the power supply that charges the two banks of batteries that power the repeaters failed and we didn't notice. Although the repeaters ran throughout Field Day weekend by Monday morning the 440 machine was off the air. The six meter repeater ran until Monday evening when Bob W1XP and Stan KD1LE went up to investigate the 440 machine. After a few quick checks they determined the power supply that charges the batteries had failed. As a result the batteries that power the 440 machine had fully discharged. By now the batteries that power the six meter machine were not far behind. They pulled out the power supply which Bob took home to repair. Unfortunately that was all they were prepared to do at that time. Stan returned to the site later that evening with two battery chargers and put one on each bank of batteries. Each bank of batteries is roughly 300 AH so with six amp chargers it was going to take three days to bring the batteries up to full charge not counting the current drawn by the repeaters but at least they were back in service. Since the 440 batteries were more deeply discharged Stan took a 40 amp charger up on Tuesday to charge them for several hours at the higher rate. For several reasons high rate charging is best done with doors open and with someone monitoring. After several hours of charging he then put them back on the six amp charger.

Bob repaired the power supply and after four days on battery chargers they reinstalled the power supply. To make it easier to swap out the power supply it has been configured with Powerpole pigtails as have the leads to the bus bars. Changing out the power supply had always been a dicey affair as the batteries could easily supply 1,000 amps (though we have fused the individual batteries at 50 amps) if you put the wrench across

the lugs on the back of the power supply so this is a nice improvement.

With several weeks of preparations going on for Field Day mowing at the repeater site went by the boards. The week after Field Day Leo K1LK and Stan KD1LE spent an hour cutting down the two foot high "lawn". The repeater site needs to be cut every two weeks or so during the spring and summer.



Courtesy KD1SM

The tower guard that protects the repeater tower from being climbed started to disintegrate this spring. Bob W1XP and Stan KD1LE built a new tower guard. Bob provided all the materials and hardware to assemble the guard. Ralph KD1SM provided the stainless nuts, bolts and washers to replace the 40 or so screws temporarily securing the hinges and hasps to the plywood.

So as you see it takes all types of work to keep the repeaters on the air. There is Electrical, electronic, carpentry and grounds maintenance. I encourage everyone to contribute to the effort. Then of course there is always the dollars and cents aspect of keeping the three repeaters on the air.

The N1MNX repeaters cover the area of our club members and are supported by the users. Donations should go Dave N1MNX. Stan KD1LE

PSLIST

Every event needs communications volunteers

Date Location Event Contact Tel/Email
July

Jul 26 Devens, MA Alzheimer's Assn Memory Ride
Ralph KD1SM 978.582.7351 kd1sm@arrl.net

Board Meeting

Working on future speakers.

Field Day discussion

- Assessment of Popups vs screenhouses
- Generator and power issues
- Expenses
- Discussed the need for Field Day Chair approval for changes.
- Need commitments from people earlier to facilitate planning

Alzheimer's Ride late July Ralph will need support

Pepperell Rail Trail PATCH fund raiser for local food pantry needs communications support.

NVARC Cookout Saturday August 9th

Preliminary planning for cookout for August and budget approved.

Treasurer unavailable so closing Field Day expense books deferred.

Present at the meeting KD1LE, KK1X, N1ZRG, W1XP, K1NKR.

Adopt A Highway

Next road cleanup is Sunday, July 20th.

Treasurers Report

Income for June was \$110 in membership dues and \$25.95 in bank interest. Expenses were \$16.80 for newsletter postage, leaving a net income of \$119.15 for the month.

Current balances:

General fund	\$4,486.93
Community fund	\$2,386.83

As of 16 July we have 62 members who are current with their dues and 8 renewals outstanding. Please check the member roster that is circulated at the monthly meeting if you do not remember your re-

newal date. Your membership date also appears on your newsletter mailing label. You can always ask Ralph if you are in doubt.

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. Bring your check to a Club meeting or to Saturday breakfast payable to NVARC in the amount of your ARRL renewal and Ralph will do the rest.

Ralph KD1SM

ARRL Letter

PHILADELPHIA AREA HAMS NAIL ROGUE RADIO SIGNALS

When residents of a Philadelphia suburb complained <http://www.nbc10.com/investigators/16701097/detail.html?dl=mainclick> to an area television station about how their remote car door entry devices wouldn't work in the parking lot of a local department store, an investigative reporter for NBC-10 (WCAU) called everyone she could to help her discover why. No one knew anything -- until she called on some local ham radio operators.

"Many people lock and unlock a car by remote and don't even give it a second thought unless it doesn't work," said NBC10 reporter Lu Ann Cahn. "The mystery problem repeatedly occurs outside the Kohl's store in Royersford. When I went into Kohl's [to ask about this], they told me they had no idea [about this]."

Cahn said that shoppers told her that this has been going on for more than a year, and that some shoppers don't realize they might have to manually lock their doors: "One woman reported her laptop was stolen from her car after she thought she had locked it."

Shoppers theorized that it was the local power plant causing the interference, but Cahn said that officials at the plant said it wasn't them. Others thought that cellular telephone towers might be the culprit, but there are no cell towers in the area. "Police tell us that they can't figure it out either," Cahn said.

So after calling numerous places to help her out with this mystery, Cahn happened upon Reggie Leister, N3KAS, and Bob Rex, K3DBD, of the Pottstown Area Amateur Radio Club <<http://www.paarc.net/>>; Rex is Vice President of the club and Leister is the

club's Public Information Officer (PIO). And as hams do, they were quick to volunteer to help out.

Leister and Rex accompanied Cahn to the parking lot in question. Rex built an antenna out of aluminum tubing and hooked it up to a spectrum analyzer. "Somewhere in the vicinity of this parking lot," Leister said, "there is a big source of radiation, some sort of signal." When Leister aimed the antenna in the direction of the Kohl's store, he hit pay dirt. "There are actually two signals there. It looks like [they're] coming from the building," Rex said when he read the analyzer.

Leister and Rex moved in closer to the building and pinpointed that one signal was coming from one set of doors, while the other signal emitted from another set of doors. Rex, an engineer, said that the thing that bothers him about this is that the signals "are running constantly." When Cahn approached Kohl's management with their findings, she was told that "they will look into it."

"The FCC licenses radio signals and these ham radio operators say the fact that some signal is interfering with remote locks isn't good," Cahn said in her report. Rex concurred, saying, "The FCC rules are pretty clear on that. It might be something that's broken." Leister and Rex agreed that the store security sensors located at each set of doors might be the culprit.

Three days after Leister and Rex located the source of the interference, remote car door lockers worked again. "Kohl's will only say that they're working on it," Cahn said. "The FCC says it does sound like something malfunctioned and they have had reports of similar incidents in New York City and Tampa, Florida."

A few days after they found the signals, Leister explained that he and Rex did not think the anti-shoplifting detectors were the problem: "What we are guessing here is that they are probably connected to some kind of device that triggers a security camera to come on if there is a breach. Except instead of just sending out a quick 2-5 second (Part 15) blip, these seem to be on continuously and exceeding the permissible signal levels."

Cahn was quick to give on-air credit to the local hams who stepped up to the plate and helped crack this mystery: "We here at NBC10 were so curious as to why these remote car locks would just stop working, so we thought we should really try to solve this mystery. I have to give kudos to Reggie Leister and Bob Rex with the Pottstown Area Amateur Radio Club. They were so great and so excited. You don't

know how many people we called -- police, Triple A, car dealerships -- we called so many people trying to figure this out and nobody knew anything until we talked to these ham radio operators. They were so wonderful and they knew all about radio signals. They created their own gadgets to help us figure this out. We really want to thank them for their help with this."

A SUMMER OF E-SKIP

Tired of the lousy conditions on the HF bands? Come join the crowd on the "Magic Band." Each summer regardless of where the sunspot cycle is, sporadic E -- or E-skip -- blooms on 6 meters and sometimes even on the bands above that. What often appears to be a dead band jumps to life with signals -- some relatively close, only hundreds of miles away -- but some representing worldwide DX on 6 meters.

This year is no different. After a slow start, the 6 meter band came into its own in May and has been open in some direction from almost every location in the US almost every day. Sporadic E peaks around the summer solstice, on or around June 21, with a minor peak around the winter solstice, on or around December 21.

Each summer season has unique characteristics that are not predictable, but make the band so fascinating to follow. This year, the emphasis has been on paths to the west and northwest, extending much further east and south than normal. According to VHF expert and conductor of QST's "World Above 50 MHz" column Gene Zimmerman, W3ZZ, there have been several strong openings from Hawaii to the mainland that have included many areas other than the West Coast. Stations in the Mid-Atlantic, the Southeast and the Midwest have had good shots at KH6 in both May and June.

Zimmerman said that summer has brought a nice surprise: "The highlight of this season has been repeated openings to Japan that have mostly bypassed the West Coast and settled in the Southwest, the Southeast (especially Florida) and the Midwest; Japanese stations have even been heard, but not worked, on the East Coast. The latter is a very rare occurrence indeed."

Calling conditions to the Caribbean "outstanding," Zimmerman said that stations in that part of the world have been working the US and Canada, as well as many stations in Europe. "Ted Jimenez, HI3TEJ, in the Dominican Republic has even worked Japan, a tough path even on 10 meters. Inside the US, stations up to 1500 miles away have been easy

to get, and there have been lots of openings where the West Coast and the Pacific Northwest worked the East Coast and the Southeast."

Six meter operators should be alert for very short E-skip that indicates a rare increase in the maximum usable frequency (MUF) to a point where 2 meter E-skip -- or very, very rarely 222 MHz E-skip -- is possible. Zimmerman said there have been several 2 meter sporadic E openings and one 222 MHz E-skip opening this summer: "On May 29-30, 2 meter contacts were reported from Maine to Ohio, south to the Mid-Atlantic, to the Northeast, to South Carolina, Florida, Alabama, Louisiana in the south and Michigan, Western Tennessee and Southern Illinois to the West. The longest was 1477 miles from Maine (David Olean, K1WHS) to Louisiana (William Kemp, K5EMP)."

After small 2 meter E-skip openings on June 3-4 from the Northeast to the Midwest, Zimmerman said the bands blew wide open during the ARRL VHF QSO Party on June 15 with a report of two 222 MHz contacts: John Butrovich, W5UWB (EL17), of Orange Grove, Texas, to Vince Pavkovich, N0VZJ (EN35), of Big Lake, Minnesota; and Paul Trotter, AA4ZZ (EM96), of Charlotte, North Carolina, to David Rush, W5DDR (EM84), McAlister, New Mexico. "This extremely rare event has happened less than half a dozen times in the last 60 years," Zimmerman said. "Two meter E skip was everywhere: Texas; all over the Midwest and Mid-Atlantic; New Mexico to West Virginia, North Carolina, Kentucky and Tennessee; Colorado to Florida, West Virginia, Tennessee, Alabama, Georgia, Texas, Mississippi, Arkansas; Idaho, Oregon and Washington to the Midwest; Wyoming to Illinois, and Nevada to Iowa, North Dakota and Minnesota."

Zimmerman said that conditions are likely to continue to be very good until the middle of July when the E-skip traditionally begins to wind down. "Most areas of the country have not had good conditions to Europe, so that may still be something to look forward to," he said. "Two DXpeditions to rare Caribbean countries are coming up later in June -- to San Andres (HK0) and to St Barts (FJ). If you have an HF/VHF radio that covers 6 meters, put up a dipole or try your 80 meter antenna -- it should work on 6 meters as well -- and have some fun. You never know what you may work next."

GERMAN HAM CLAIMS FIRST DXCC ON 432 MHZ

The world of Amateur Radio DXing has passed a new milestone: On Friday, June 6, Jan Bruinier, DL9KR, of Niedernhausen, Germany, worked his

100th country on 432 MHz (70 cm) via moonbounce (EME) and CW.

Samek Zdenek, OK1DFC, and Hofbauer Zdenek, OK3RM, were getting ready to go on an EME DXpedition to Macedonia. Before they left, Samek asked Bruinier to help test out the equipment; Bruinier gave him a beacon, aiming a signal off the moon. According to VHF guru and conductor of QST's "World Above 50 MHz" column Gene Zimmerman, W3ZZ, this is done by transmitting a series of CW dashes and then stopping to listen for the signal to return a little more than a second later. The moon averages 384,000 km from the Earth; radio waves travel at ~300,000 km/sec.

After one of these transmissions, Bruinier was excited to hear Samek appear on frequency with a 549 signal. Thus, after an exchange of calls and reports, Bruinier's 100th country on 432 MHz was in the log. Once his QSL cards are confirmed in the near future, he will become DXCC #1 on 70 cm.

Bruinier's 70 cm EME operations began in 1977. He had followed the exploits of the early EME pioneers in QST, operators like KH6UK, W4HHK, W3GKP and W1FZJ who was conductor of the "World Above 50 Mc" during much of the 1960s. Jan and his family moved to a semirural location in Germany in 1976 where he could put up decent VHF antennas. Working initially on his own, he built an array of 16 ten-element quagis (antennas with single quad loop driven elements and reflectors and 8 Yagi directors) following the design described in QST by Wayne Overbeck, K6YNB (now N6NB). After a few false starts with other tubes, he obtained an Eimac 8938 and built a near-legal limit amplifier. The station exciter was a set of Drake twins as an IF strip using homebrew transverters with an increasingly sensitive group of GaAsFET preamplifiers, always working at the state-of-the-art.

As time progressed, Bruinier built a bigger amplifier capable of running 1500 W continuously to deal with the high duty cycle found in EME operation -- long, slow CW with two minute transmissions at a time -- and receiver systems that yielded noise temperatures of 60 kelvins that could detect 7 dB of noise when he pointed his array into the ground. He eventually transitioned from the quagis to an array of DL6WU design Yagis fed with 1-5/8 inch Heliac, currently having a gain of 28.4 dBd. For comparison, this is slightly more gain than the 28 foot Kennedy parabolic dish has at 432 MHz.

According to Zimmerman, the range of contacts covered by the 70 cm band is less than 1000 km; even under the most enhanced conditions, it is less

than double that. "To work the 100 entities needed for DXCC, EME communications are essential. EME is the most demanding form of operation there is in Amateur Radio," he said. "Every single aspect of the station must be optimized: The equipment, the antennas, the feed lines and most particularly, the talent of the operator. Even 1 dB may make the difference between a contact and no contact. Bruinier's achievement was accomplished the old fashioned way -- by dint of hard work, excellent equipment, big antennas and many, many hours on the air looking for new countries and not missing many, if any, DXpeditions to the many countries where there is no 432 MHz EME activity."

Bruinier told Zimmerman that many people going to many countries on all continents made this award possible: The Five Bells Group, the Yota Sawe Group, Michale Kohla, DL1YMK, and Monica; Bernd Mischlewski, DF2ZC; Mark De Munck, ON5FF (now EA8FF); Bernhard Dobler, DJ5MN; Mart Sakalov, SM0ERR; Dimitris Vittorakis, SV1BTR; Gudmund Wannberg, SM2BYA; Frank Hobelmann, DL8YHR; Joachim Werner, DL9MS, and Allen Katz, K2UYH, among others, as well as groups from Russia, Spain, France and Denmark.

If you would like to read more details about Bruinier's career as an EMEer, please look for his story in his own words in the "World Above 50 MHz" column in the September 2008 issue of QST.

NVARC Club Net

Topics discussed on the Club net recently; emergency communications preparedness, NMAEPC radio programming, programming member's mobile radios with common frequencies, Planning for Field Day, Field Day wrap up and suggestions, Winlink setup.

Recent participants include Leo K1LK, Bob W1XP, Larry KB1ESR, Skip K1NKR, Stan KD1LE, Les N1SV, Richard W1LTN, Den KD2S.

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

2008 Flea Markets

August
9 Rason Hamfest Ledyard CT
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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 2008

August

2-3ARRL UHF Contest

16-17 ARRL 10 GHz and Up Contest



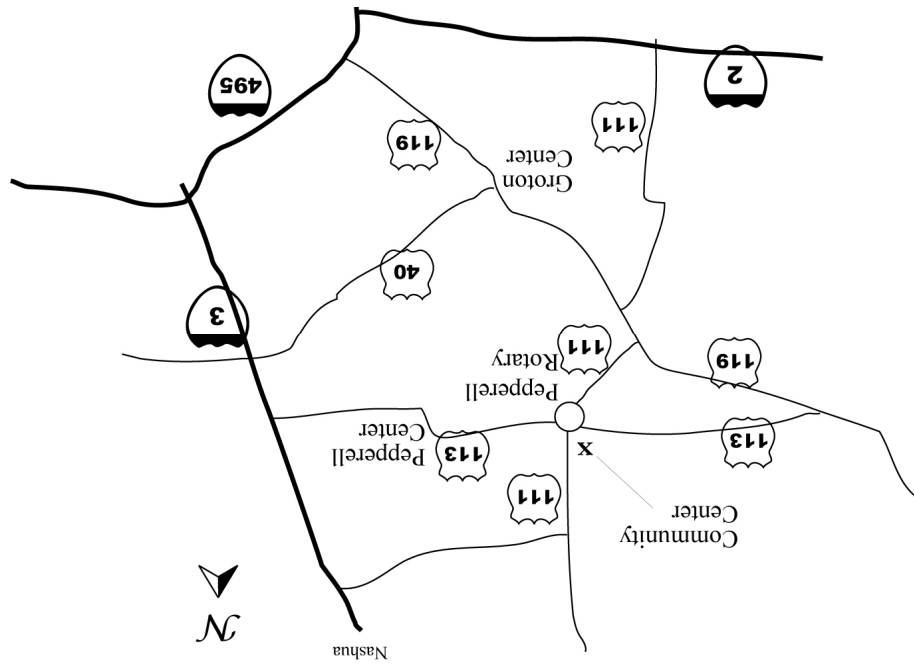
Nashoba Valley Amateur Radio Club

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Vice President: Peter Nordberg N1ZRG
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Bob Reif: W1XP 2007-2010
Skip Youngberg K1NKR 2008-2011

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PIO: Dave Peabody N1MNX
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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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