

# **Nashoba Valley Amateur Radio Club**



## **Nashoba Valley Amateur Radio Club**

PO Box 900  
Pepperell, MA 01463  
<http://www.n1nc.org>

### **June 2013**

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## June 2013 Update

This update includes the following pages.

Page	Date
Complete Yearbook	June 1013

To update your Yearbook replace all the existing pages with the supplied pages. Save the original pages to the side. Flip through both Yearbooks a page at a time and move the color picture pages from the old Yearbook into the “new” Yearbook. They should have the same text and page numbers. In a later update we will include replacement pages for the picture pages in the later sections. Though the Members information pages are dated March 2012 they were updated to July 2013.

The finished Yearbook should contain the following pages with the dates as noted.

## Page Revision History

Page	Revision Date
Cover	dated June 2013
i	(this page) 20 June 2012
ii	3 March 2012
iii-vi	20 June 2012
vii-xxviii	22 July 2013
1-1 – 1-24	1 September 2008
1-25-1-37	20 June 2012
2-1 – 2-17	1 September 2002
2-18 – 2-20	1 September 2005
2-21 – 2-33	1 September 2008
2-34-2-58	20 June 2012
3-1 – 3-13	21 June 2001
3-14 – 3-16	25 April 2003
4-1 – 4-14	4 March 2012
5-1 – 5-15	1 March 2007
5-16	26 September 2002
5-17	1 March 2007



# **The Nashoba Valley Amateur Radio Club**

## **Year Book 2005**

Established 1992  
ARRL Affiliated 1994  
ARRL Special Service Club 1996

Board meetings are held the first Thursday of the month at  
7:30

General meetings are held the Third Thursday of the Month  
at 7:30 PM at the Pepperell Community Center



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## **Silent Keys**

Den Connors KD2S was a long time member of NVARC. He held several positions including Vice President and Emergency Coordinator. Den was active in TAPR.....

Jim Hanson W1TRC was a long time member of NVARC. He made several club presentations and was a contributor to QST.

## **1992 Club Organization**

President	Earl Russell WR1Y
Vice President	Bruce Blain K1BG
Treasurer	Ben Akins KB1FJ
Secretary	Duane Long KD1JY
Board of Directors 1992-1992	
Board of Directors 1992-1992	
Board of Directors 1992-1992	
Adopt A Highway Coordinator	
Librarian	
Newsletter Editor	
Public Information Officer	
Property Master	
Emergency Coordinator	
VE Team Liaison	Ken Atkins K1JKR

## 1993 Club Organization

President	Stan Pozerski KD1LE
Vice President	Scott Pyles WX1J
Treasurer	Ben Akins KB1FJ
Secretary	Duane Long KD1JY
Board of Directors	
Board of Directors	
Board of Directors	
Adopt A Highway Coordinator	
Librarian	
Newsletter Editor	Pat Taber KC1TD, Roger Bisbo, Clint Talmadge KD1OL
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KB1HO
Emergency Coordinator	Den Connors KD2S
Awards Manager	Pat Taber KC1TD

## 1994 Club Organization

President	Stan Pozerski KD1LE
Vice President	Scott Pyles WX1J
Treasurer	Ralph Swick KD1SM
Secretary	Duane Long KD1JY
Board of Directors	
Board of Directors	
Board of Directors	
Adopt A Highway Coordinator	
Librarian	
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Earl Russell WR1Y
Property Master	
Emergency Coordinator	

## 1995 Club Organization

President	Stan Pozerski KD1LE
Vice President	Bruce Blain K1BG
Treasurer	Ralph Swick KD1SM
Secretary	Jeremy Bisbo KB1AWE
Board of Directors 1993-1996	
Board of Directors 1994-1997	Craig Kalley N1ABY
Board of Directors 1995-1998	Dwight Fitch AA1MT
Adopt A Highway Coordinator	
Librarian	
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Earl Russell WR1Y
Property Master	
Emergency Coordinator	

## 1996 Club Organization

President	Erik Piip	KA1RV
Vice President	Bruce Blain	K1BG
Treasurer	Ralph Swick	KD1SM
Secretary	Stewart Jackson	K1YET
Board of Directors 1994-1997	Craig Kalley	N1ABY
Board of Directors 1995-1998	Dwight Fitch	AA1MT
Board of Directors 1996-1999	Bob McArthur	KE1ED
Adopt A Highway Coordinator		
Librarian		
N1NC Trustee	Bruce Blain	K1BG
Newsletter Editor	Stan Pozerski	KD1LE
Public Information Officer	Earl Russel	WR1Y
Property Master		
Emergency Coordinator		

## 1997 Club Organization

President	Erik Piip KA1RV
Vice President	Bruce Blain K1BG
Treasurer	Ralph Swick KD1SM
Secretary	Stewart Jackson K1YET
Board of Directors 1995-1998	Dwight Fitch AA1MT
Board of Directors 1996-1999	Bob McArthur K1QT
Board of Directors 1997-2000	Wolf Seidlich KA1VOU
Adopt A Highway Coordinator	Bob McArthur K1QT
Librarian	
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Earl Russell WR1Y
Property Master	
Emergency Coordinator	

## 1998 Club Organization

President	Erik Piip KA1RV
Vice President	Den Connors KD2S
Treasurer	Ralph Swick KD1SM
Secretary	Bob Crews K1VA
Board of Directors 1996-1999	Bob McArthur K1QT
Board of Directors 1997-2000	Wolf Seidlich KA1VOU
Board of Directors 1998-2001	Earl Russell WR1Y
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Earl Russell WR1Y
Property Master	
Emergency Coordinator	

## 1999 Club Organization

President	Erik Piip KA1RV
Vice President	Den Connors KD2S
Treasurer	Ralph Swick KD1SM
Secretary	Ian Norrish NZ1B
Board of Directors 1997-2000	Wolf Seidlich KA1VOU
Board of Directors 1998-2001	Earl Russell WR1Y
Board of Directors 1999-2002	Bob Reif W1XP
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Jon Kinney N1JGA
Property Master	
Emergency Coordinator	

## 2000 Club Organization

President	Erik Piip KA1RV
Vice President	open
Treasurer	Ralph Swick KD1SM
Secretary	
Board of Directors 1998-2001	Earl Russell WR1Y
Board of Directors 1999-2003	Bob Reif W1XP
Board of Directors 2000-2003	open
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Jon Kinney N1JGA
Property Master	
Emergency Coordinator	

## 2001 Club Organization

President	Erik Piip KA1RV
Vice President	Earl Russell WR1Y
Treasurer	Ralph Swick KD1SM
Secretary	Ian Norrish NZ1B
Board of Directors 1999-2002	Bob Reif W1XP
Board of Directors 2000-2003	Den Connors KD2S
Board of Directors 2001-2004	Craig Kalley N1ABY
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	open
Property Master	
Emergency Coordinator	
Photographer	Ralph Swick KD1SM

## 2002 Club Organization

President	Erik Piip KA1RV
Vice President	Earl Russell WR1Y
Treasurer	Ralph Swick KD1SM
Secretary	Ian Norrish NZ1B
Board of Directors 2000-2003	Den Connors KD2S
Board of Directors 2001-2004	Bob Reif W1XP
Board of Directors 2002-2005	Les Peters N1SV
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Ron Wood KB1GID
Property Master	
Emergency Coordinator	
Photographer	Ralph Swick KD1SM

## **2003 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2001-2004	Bob Reif W1XP
Board of Directors 2002-2005	Les Peters N1SV
Board of Directors 2003-2006	Dave Peabody N1MNX
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Ron Wood W1PLW
Property Master	John Griswold KB1HO
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## **2004 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2002-2005	Les Peters N1SV
Board of Directors 2003-2006	Dave Peabody N1MNX
Board of Directors 2004-2007	Bob Reif W1XP
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Ron Wood W1PLW
Property Master	John Griswold KB1HO
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## **2005 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2003-2006	Dave Peabody N1MNX
Board of Directors 2004-2007	Bob Reif W1XP
Board of Directors 2005-2008	Les Peters N1SV
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KB1HO
Webmaster	Les Peters N1SV
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## 2006 Club Organization

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2004-2007	Bob Reif W1XP
Board of Directors 2005-2008	Les Peters N1SV
Board of Directors 2006-2009	Joel Magid W1JMM
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KB1HO
Webmaster	Les Peters N1SV
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## **2007 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2005-2008	Les Peters N1SV
Board of Directors 2006-2009	Joel Magid W1JMM
Board of Directors 2007-2010	Bob Reif W1XP
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KB1HDO
Webmaster	Les Peters N1SV
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## **2008 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KB1HDO
Board of Directors 2006-2009	Joel Magid W1JMM
Board of Directors 2007-2010	Bob Reif W1XP
Board of Directors 2008-2011	James Youngberg K1NKR
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KB1HDO
Webmaster	Les Peters N1SV
Emergency Coordinator	Den Connors KD2S
Photographer	Ralph Swick KD1SM

## **2009 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Peter Nordberg N1ZRG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KK1X
Board of Directors 2007-2010	Bob Reif W1XP
Board of Directors 2008-2011	James Youngberg K1NKR
Board of Directors 2009-2012	Joel Magid W1JMM
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KK1X
Webmaster	Ralph Swick KD1SM
Emergency Coordinator	Larry Swezey KB1ESR
Photographer	Ralph Swick KD1SM

## **2010 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Bruce Blain K1BG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KK1X
Board of Directors 2008-2011	James Youngberg K1NKR
Board of Directors 2009-2012	Joel Magid W1JMM
Board of Directors 2010-2013	Bob Reif W1XP
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KK1X
Webmaster	Ralph Swick KD1SM
Emergency Coordinator	Larry Swezey KB1ESR
Photographer	Ralph Swick KD1SM

## **2011 Club Organization**

President	Stan Pozerski KD1LE
Vice President	Bruce Blain K1BG
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KK1X
Board of Directors 2009-2012	Joel Magid W1JMM
Board of Directors 2010-2013	Bob Reif W1XP
Board of Directors 2011-2014	James Youngberg K1NKR
Adopt A Highway Coordinator	Stan Pozerski KD1LE
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KK1X
Webmaster	Ralph Swick KD1SM
Emergency Coordinator	Larry Swezey KB1ESR

## **2012 Club Organization**

President	Skip Youngberg K1NKR
Vice President	Larry Swezey KB1ESR
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KK1X
Board of Directors 2010-2013	Bob Reif W1XP
Board of Directors 2011-2014	Roland Guilmet NR1G
Board of Directors 2012-2015	Rod Hersh WA1TAC
Adopt A Highway Coordinator	
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Dave Peabody N1MNX
Property Master	John Griswold KK1X
Webmaster	Ralph Swick KD1SM
Emergency Coordinator	Larry Swezey KB1ESR

## **2013 Club Organization**

President	Skip Youngberg K1NKR
Vice President	Jim Hein N8VIM
Treasurer	Ralph Swick KD1SM
Secretary	John Griswold KK1X
Board of Directors 2011-2014	Dan Pedtke KW2T
Board of Directors 2012-2015	Rod Hersh WA1TAC
Board of Directors 2010-2016	Bob Reif W1XP
Librarian	Peter Nordberg N1ZRG
N1NC Trustee	Bruce Blain K1BG
Newsletter Editor	Stan Pozerski KD1LE
Public Information Officer	Roland Guilmet NR1G
Property Master	John Griswold KK1X
Webmaster	Ralph Swick KD1SM
Emergency Coordinator	Larry Swezey W1ESR



# Club History

This history was compiled in 2001 and 2002 by Stan KD1LE from the archives of the Signal and other sources.

BC (before the club)

The Pepperell Amateur Wireless Association submitted its Constitution and Bylaws to the ARRL in February 1963. The first officers and members of this association were Lee Fenton K1TSD President, Burrell Hatcher K1SAW Vice President, Gary Busler K1YTS Secretary, Marcia Newell KN1YRC Treasurer, David Newell K1KRG, Oscar Wilder Jr K1MHX, Ken Hallet W1ZTS, Albert Rondeau Jr KN1YUE, Sidney Mason KN1UIF, David Fenton KN1YUC, Douglas Waite KN1YSJ, Walter Elliott, Barbara Fenton, and James Crothers.

In the beginning...

There had been two public service-oriented groups. In Groton, Earl Russell WR1Y had run several license classes and had organized hams for Groton Civil Defense. This led him to become interested in organizing local hams to provide communications support for things like canoe events and parades as well as civil defense.

In Pepperell, a group of hams had been meeting for breakfast for several years. They had also provided communications for exercises with the Pepperell

Ambulance Service under the ARES banner. Ben KB1FJ, the Pepperell RACES Radio Officer was a regular at these breakfasts. Deke AA6DF, Bruce K1BG, Fred WA1TNY were part of this group.

It was through Ben that the Pepperell group became aware of Earl's Groton activity. In February of 1992 Earl organized a meeting of hams for what was proposed to be the Groton Amateur Radio Club. Part of the idea was to form liaisons with other area hams in Pepperell and Westford. As a result of Earl's meeting the combined group established the Nashoba Valley Amateur Radio Club (NVARC). Thirteen hams signed the document founding NVARC in Groton, Massachusetts in April of 1992. They were Earl Russell WR1Y President, Bruce Blain K1BG Vice-President, Nelson Bramer now N1LZ, Treasurer, Duane Long WB1GUO Secretary, James Ford N1KSI Board Member 3 year, Ian Norrish NZ1B Board Member 2 years, Erik Piip KA1RV Board Member 1 year, John Nugent KA1TZU, Caldwell Smith W1FKW, Dale Klippin N1KTY, Terry Stader KA8SCP, Robert Mignard N1DVC, and Bennie Akins KB1FJ.

Early in NVARC's life Earl felt it was important to have a distinctive and highly visible club badge. So he designed the badge with as strong a red as he could find and line drawing of the radiation pattern of a dipole and had them printed. That drawing became the club logo for all purposes from the masthead of the Signal to the club banner and patches.

An influx of new members who had the desire to advance their license class called for code practice so in August of 1992 NVARC instituted a slow speed net on ten meters (28.166 MHz). By popular demand of members needing to increase their code speed the net resumed in 1995 on 28.123 MHz and continued until 1998. Many of the new members subsequently passed their 13 and 20 WPM tests during that period.

Shortly after NVARC was founded, Pat KC1TD started a newsletter, the Signal, which began as just a page or two handed out at the meetings. During its first year the Signal guardianship passed to Clint N1KGW and then to Roger N1OJW. Stan KD1LE assumed editorship in 1993.

The three years prior to NVARC Pepperell hams did back yard Field Days. In 1992 we participated in our first Field Day as a club. The event took place in the hay field on Route 119 along the Nashua River. See “Pepper Hill’s Flying Field Day” in May 1995 QST for a feel of how Field Day was conducted in those years. The author was our first newsletter editor. After two years feeding the mosquitoes at this site we moved in 1994 to the fields behind the Norma Roach Middle School in Groton where we held Field Day each year through 1998. In 2001 and 2002 the Field Day site shifted to the Pepperell Conservation Land (apple orchard) on Heald St. where we ran QRP Field Days on battery power. Wolfgang KA1VOU was Field Day Coordinator in 2001 and 2002 and ran them on a QRP and “lite” theme. In 2000 Stan KD1LE started a detailed Field Day Chairman’s log to record,

for each Field Day, details of the event that might be valuable to those running future events. The idea was to record what worked and what didn't, where it was run, what permissions were required, who participated, who provided what equipment or expertise, etc. This would be particularly valuable to someone new trying to organize Field Day or after a break in club participation. This logbook has been valuable to participants in subsequent Field Days.

In 1992 we supported the first Groton Road Race with a small crew of 12 hams. The Net Control Station, run by Terry KA8SCP from Westford, was set up on a picnic table in front of the Groton Norma Roach Middle School. We have continued to support this race every year. Over the years the operation has become more complex to support the growth of the race to approximately two thousand participants. Erik KA1RV has been the coordinator since the very first race. We currently operate three nets with two net control operators to coordinate the activity of over 35 radio operators involved in the course coverage and support functions. Below is a view of net control in 2000.



Courtesy Ralph Swick ©Apr 2000

Each year from 1991 through 1996 we ran Novice/Tech classes and helped many area people get licensed. Classes were held for two years at the Groton Central Fire Station and two years at the Varnum Brook Middle School in Pepperell and then back at the Fire Station in Groton.

In 1992 through 1995 we set up a display of HF, VHF, and digital equipment at the Septemberfest in Groton. The code practice oscillator display at the booth was a consistently good draw for the young people. They enjoy learning to send their name in Morse Code.



Courtesy Karen Reif © Sept 1992

Above left to right are Ian (1/2 person), Jim KD1PI, and Earl WR1Y. The 'wall' and NVARC raised letters were created by Earl WR1Y to be used at public events to attract interest. Karen KA1JVU created the poster displays. Below are Jim KD1PI and Ben KB1FJ.



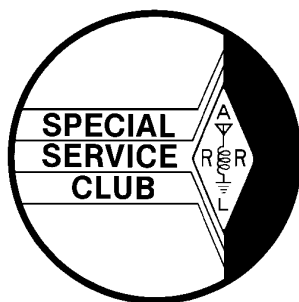
Courtesy Karen Reif © Sept 1992

In 1992 we started supporting the Harvard Classic 100K Bike Race with Duanne WB1GUO as coordinator for the first three years. Stan KD1LE took over coordination in 1995 and we continued to provide communications for it until it ceased in 2000 due to conflicts in scheduling with other town events.

The club was showing its obvious public service bent already but in the fall of 1992 we added support for the three-day Pepperell Fall Classic Soccer Tournament. Alan W7RCP coordinated ham communications for two years, then Scott WX1J coordinated the event from 1994 to 1996. Ian NZ1B took over coordination in 1997. We continued to support this event.

The club met at the Pepperell VFW for three years from 1992 to 1995. In September 1995 the meetings were moved to the Pepperell Community Center where we continue to meet on the third Thursday.

In 1993 the club made the commitment to fulfill the requirements of ARRL Affiliated Club and was accepted to that status by the ARRL. Having been affiliated for several years and meeting all the requirement of an ARRL



Special Service Club in 1996 we applied and were granted this more select title which we proudly display on our newsletter and elsewhere.

In 1993, at a Saturday breakfast meeting, Ben KB1FJ and Jeanine N1QIT talked about the club needing a banner. After some discussion colors were chosen. Jeanine adapted the logo that had been designed for the badge and evolved for the newsletter and created a club banner of black on gold.

In 1993 the first Classy Junque drawings were held at club meetings. They were a free raffle of items donated by members.

In 1993 the club initiated the NVARC QSL Bureau as a member benefit. The club QSL manager collects members' outgoing QSLs, batches them together and pays the postage and fee for outgoing QSL cards sent to the Bureau.

The August 1993 Signal has the first mention of fox hunting as the then President Stan KD1LE returned from the Manchester Convention excited about his experience in the fox hunt held there. Fox hunts with the Montachusett Amateur Radio Association (MARA) and the Minuteman Repeater Association (MMRA) followed. In 1997 NVARC fielded its first automated FoxBox radio beacon for fox hunting. On-foot hunts were scheduled in area towns using this device. In the spring of 1998 the second generation NVARC FoxBox was put in the field so that members could practice radio direction finding on a continuous basis. This version was computer controlled and provided one week of unattended operation. Besides

wooded area haunts this fox is a regular at the ARRL Boxborough Convention.

A 440 voice repeater and 2 meter packet node in Pepperell had been set up and operated by Ben KB1FJ at Erik W1ZBT's QTH since 1990. In 1994 club members built a repeater shack for the repeater and node at a new location under agreement with the Pepperell Water Department with support from Pepperell Emergency Management. In 1999 control of the repeater and packet node transferred to Dave N1MNX. Over the years the services supported at the site have expanded and improved. The shack now houses repeaters for 6 meters, two meters (under construction), 222 MHz, 440 MHz, and 2 meter packet. The 6 meter and 440 MHz repeaters remain available for 2-3 days on battery power after a power failure. See the Activities section for pictures.

In 1994 Stan KD1LE created a club brochure to be used at events as a handout to attract members.



In 1995 we started the practice of replacing summer meetings with a Club cookout in July or August.



Courtesy Ralph Swick © Aug 2001

In 1995, being the public service oriented club we were, members KD1LE and KD1SM started the Public Service List (PSLIST). The list compiled activities in the New England region that needed ham radio operators and published it on packet and to email. Eventually the list was also published on the Web at <http://purl.org/hamradio/publicservice/nediv>.

Bruce K1BG researched available callsigns and found that N1NC (which might be spoken as number one nashoba club) was available. He submitted FCC paperwork for an NVARC club call and the callsign of N1NC was assigned in February of 1997. Bruce remains the trustee for the callsign.

In 1997 NVARC joined the MassHighways Adopt-A-Highway as one of the first clubs to join the program. Jim AA1PO pursued State paperwork for months to

make this happen. He became the liaison to MassHighways. We maintain a two-mile stretch of route 119 from the Florence Roach Middle School in Groton to Shirley St. in Pepperell with a monthly litter pickup. In return the State provided a sign at each end that credits the club with the maintenance. The State has also supplied us orange safety vests that we use at public service events. On page 20 of the February 1998 issue of QST a picture similar to the one below was printed.



Left to right (back) Ralph KD1SM, Jim AA1PO, Erik KA1RV, Larry KB1ESR, Herm WW1HR, Ian NZ1B, Craig NIABY (front) Earl WR1Y, Stan KD1LE.

As a benefit of our road cleanup commitment, by 2002 we had accumulated enough safety vests to have

one for each operator at the Groton Road Race, which is the largest event we run.



The vests have been customized with an NVARC patch on the front and “RADIO” in large characters on the back so that we will be identified in a crowd.

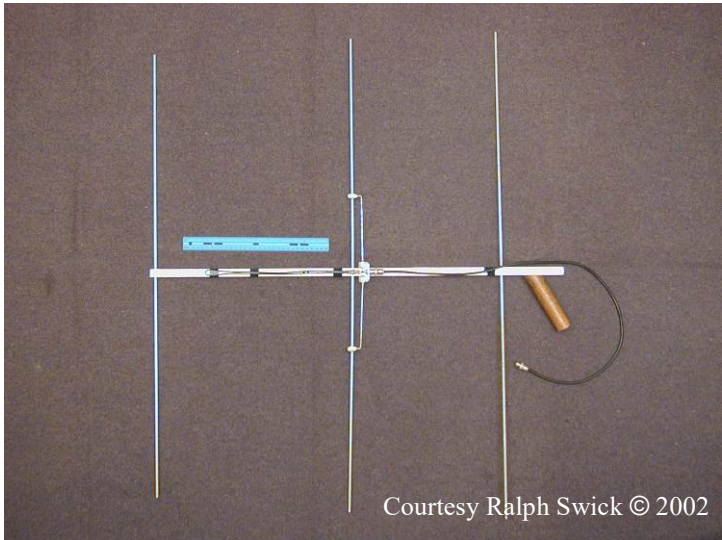
Having the pleasure of meeting at the Pepperell Community Center for seven years in 2000 we donated money for ten new chairs to the Pepperell Parks and Recreation Commission. These replaced the old and cold steel folding chairs with more comfortable padded stacking chairs.

In 1999 members started the FoxFinder project as an aid to finding those pesky hidden fox boxes and, by selling kits, a fundraiser for the club. The project

evolved from a bag-o-parts kit to a full kit with detailed instructions. This eventually resulted in a cover article in April 2001 QST written by Bob W1XP, Ralph KD1SM, and Stan KD1LE. As an



accessory for use with the FoxFinder Bob W1XP designed a lightweight and durable antenna. The FoxFinder article used it for the QST cover picture. This was subsequently written up as a construction article and has been accepted for a future issue of QST.



In 1999 the Groton American Legion contacted Earl WR1Y about providing public address equipment for the Groton Memorial Day Parade. Earl set up a large PA system at the Groton Cemetery for the ceremony there. In 2001 they asked for the additional support of a mobile PA unit to address the spectators at three additional locations where there were parade activities. Stan KD1LE assembled and operated the mobile unit. Additional members help during set up and take down at the cemetery. We continue to support this event.

In 2000 the club started a program to encourage members to give presentations to NVARC and other area clubs and to wave the NVARC flag. In fact several members were already listed on the East Mass Speakers List. A standard NVARC slide template

was created and presenters were offered reimbursement for presentation materials and travel. Presenters were also offered help editing and organizing their presentations.

As early as 1991 members helped presort cards at the home of Don Haney now W9WW, the then W1QSL Bureau Manager. Stan KD1LE offered to help Don with a card sort at one of our regular monthly meetings and for several years Don brought boxes of cards to one meeting a year to help him presort after which he sent the cards on to the Letter Sorters. In 2000, having scheduled this event yearly for several years, we decided to incorporate it as a regular October program in our meeting schedule and committed to the W1QSL bureau that we would do one sort a year for them. So members have a hand in all the "1" calls receiving their QSL cards.

In 2000 we were asked to find volunteer radio operators for the Lowell Marathon. Stan KD1LE coordinated this event. Hams from NVARC, Police Amateur Radio Team (PART) of Westford, and Billerica Amateur Radio Society (BARS) supported the event. We continue to support this annual event.

In the Spring of 2001 Stan KD1LE started a club Yearbook so that members would have access to things like the Constitution, members list, and club history.

In the Fall of 2001 Den KD2S proposed the club have a patch made for members to use on hats, clothing,

and bags. Den coordinated the vendor selection and in November 2001 the patches were received and made available to members.

In 2001 after several members attended Eastern Mass ARES and RACES meetings there were discussions on how the club could best influence and improve emergency communications preparedness for our area. The group discussed options and decided that we could make the most progress by improving the local situation and lead by example. Three actions came out of these discussions. First it was decided to take advantage of the ARRL Emergency Communications Courses. A core group studied and received certification through Level 3, the highest level, in order to be able to teach the courses and administer the certification exams. A “study group” was organized to answer questions and provide exercises to help more hams, who wished to study independently, prepare for the exams. Two additional open exam sessions were held; these were the first CE sessions in Massachusetts or New Hampshire. The second action was to provide better identification for those who certify at any level. We take digital photographs and laminate the ARRL Emergency Communications ID cards upon the successful completion of a certification exam. The third activity was to promote a standardized power connector for all radios and equipment. This is to eliminate the problem of mismatched power connectors when equipment randomly comes together in an emergency or events like Field Day. The club purchased quantities of connectors and sold them at reduced

prices to members. By the middle of 2002 over 400 connectors had been distributed.



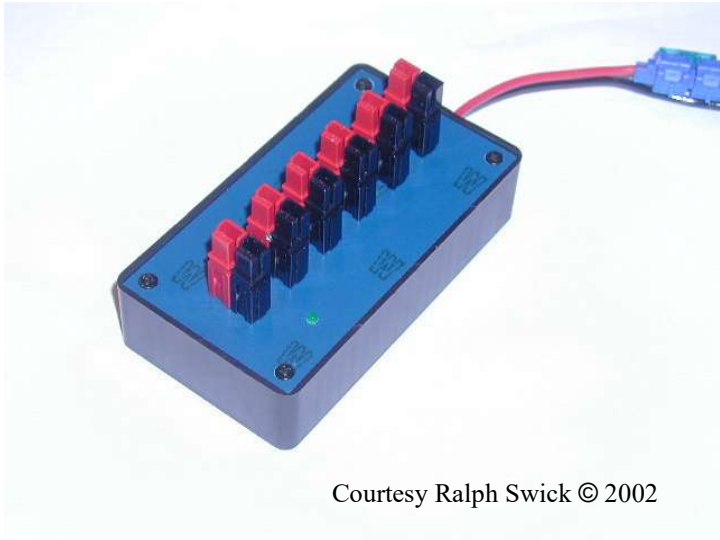
Courtesy Ralph Swick © 2002

There are more than 20 power distribution panels in the club, some of the commercial type and many custom made to fit power supply lugs ( above) and to mount on deep cycle battery cases (below).



Courtesy Ralph Swick © 2002

Some members converted only a few items and others converted every piece of equipment including radios, weather stations, TNCs, etc. The benefit of this program became obvious at Field Day 2002 when all the equipment wiring went together smoothly regardless of its source.



Courtesy Ralph Swick © 2002

Based on the simple design by Bob W1XP (above) a kit was produced in September 2002 with the purpose of introducing the standard connector at a very low price.

In the continuing education category it was found there was interest in understanding antenna measurements and what they mean. In January of 2002 Bob W1XP ran a multi-session class on Antenna Measurements.

In 2002 we were asked to provide communications support for the Groton-Pepperell Rotary Club first annual Charity Walk which was held on the Nashua River Rail Trail between Pepperell and Groton.

During the year 2003 we continued our public service providing communications for the Groton Road Race, Parker Classic Road Race, Pepperell Fourth of July Parade, Pepperell Fall Classic Soccer Tournament, and the Groton-Pepperell Rotary Rail Trail Charity Walk. In addition we added the Townsend Rotary Canoe Race to the list of supported events.



Our 2003 Field Day was a 2A effort led by Les N1SV with help from Bruce K1BG. We operated from the Heald Street site for the third year. Field Day included a GOTA (Get On The Air) station run by John KB1HDO and a UHF/VHF station provided by

Dave N1MNX. Bob W1XP provided the satellite station. Using ladder clamps we built and a telescoping mast trailer we put up a yagi and dipoles for each of the HF stations. The GOTA station ran on dipoles and the club R7 vertical. We ranked 84 overall in the 2A class, 9<sup>th</sup> in New England and 3rd in eastern Massachusetts.

Continuing our efforts to improve emergency preparedness we continued Powerpole program and passed the mark of 800 Powerpole connectors distributed during the year.

Our summer cookout tradition continued in August hosted by KD2S and in true innovative fashion we watched the impending thunderstorms approach on wide screen live from the NWS Doppler radar.



Courtesy KD1LE 2003

During 2003 we made field trips to the wind power site of Green Mountain Power Corp in Searsburg VT that was arranged by Ralph KD1SM and guided by Walt W1ZPB. We also toured the Marconi Museum in Bedford New Hampshire guided by the museum curator Ray Minichiello. This trip was arranged by Dave N1MNX

In 2003 we decided it would be nice to offer to have a club mug for members and to award visiting speakers. Den KD2S did supplier research and we decided on a logo design. Den then ordered a supply of mugs.



In 2003 several members acquired a 100 foot tower trailer. During the Fall and Spring of 2003-2004 a deck and storage cabinets were installed on the trailer. Field Day 2004 the trailer made it's debut.



The tower was quickly put to use for the Groton Fire Department and Emergency Management Director. The town Zoning Committee wanted to know what a tower would look like that was contemplated for a newly completed fire station which was also to be an EOC. The tower was set up and extended to the expected height. Pictures were taken and given to Planning Committee for their presentation.

With the new tower we needed something to hang on it besides antennas. Jeanine N1QIT who had created the club banner volunteered to make a club flag. The flag was unveiled at Field Day.



Courtesy KD1LE

Bob W1XP started his Ham Radio 101 series for the Signal.

In 2005 Bob W1XP's construction article detailing the FoxFinder Antenna was published in November issue of QST (page 66). The antenna was previously shown in the original QST article on the FoxFinder.

Our Field Day in 2007 was the largest ever. Not in number of stations or contacts but in participation. We had twenty-nine participants.

Continuing our public service activities NVARC took the lead role in many events including Townsend Lions Club Canoe Race, Groton Road Race, Groton Memorial Day Parade, Pepperell Fourth of July Parade, Townsend 275<sup>th</sup> Anniversary Parade.

2008



In 2008 we continued with all our public service activities as in 2007 above. We signed on with addition we were asked to support the Alzheimer's Association Memory Ride. This bicycle ride with courses of 25, 62, and 100 miles raises money for

Alzheimer disease research. The event had been using sites around the state but was looking for a more permanent location because of the work involved in laying our riding courses each year. This allows everyone to understand the routes and to develop appropriate signage that can be reused. The event starts and finishes at the Devens Museum field. After the event a discussion about how things went and what could be improved followed. Larry KB1ESR opened by saying “If we did this next year...” One of the organizers response was “If is not an acceptable answer.” After the event NVARC received a nice framed certificate for our support.



We continued our meeting program schedule with December being Homebrew Night and January being Members Short Subjects. This has allowed us to

schedule speakers from outside the club to make the trip to our meetings in the better weather.

In February North Middlesex Emergency Planning Committee (NMAEPC) purchased two FT-8900 radios for us to use supporting local events and as backup for the six FT-8900's that we built our current repeaters around. Since there were so many FT-8900 radios in the club a standard frequency matrix was started with all the frequencies we used for local as well as regional events to program all the radios in the same way.

The club net continued on Monday nights with Stan KD1LE as NCS.

Meeting programs for the year continued with a wide range of subjects such as; Hospital use of Wireless and RFID, Winlink 2000, Alternative Energy.



We completed three additional sorting boxes for a total of six. We have been sorting QSL Cards for the W1 QSL Bureau for many years. Since we completed the first five QSL Sorting Boxes we have been trying to encourage another club or group to do an annual sort. This would reduce the work for the W1 QSL Bureau staff. We offered to help by providing the boxes for a scheduled sort. This year the Montachusett Amateur Radio Association (MARA) decided to do a sort which they did in May. NVARC provided the sorting boxes, miscellaneous items and a number of members to help by sorting and answering questions.

The PSList continues to be a place area hams can go to find events that use ham radio and need additional operators.

In 2008 we also had the Great December Ice Storm on December 11. About 1.25 million customers lost power. For NVARC members the problems started Thursday night as freezing rain started accumulating on trees and power lines. By early Friday morning the trees started coming down and the power, cable and telephone service started failing. For some it would be more than a week before they were restored. The unusual thing was by Friday most activities were returning to normal if they didn't require power. Saturday's breakfast at Tiny's seemed normal enough though the discussions quickly revealed that many were still without power and the other services carried on wires above ground. It was concluded at breakfast that this was not going to be a quick recovery and a number of tasks were organized.

A top priority was to keep the repeaters running. They had already been on emergency/battery power for over 30 hours. To keep them up we would need to get to the repeater site with a generator and chargers. On Friday morning there had still been trees down or in precarious positions on the street to the site. But by Friday night the road was clear. The problem now is the repeater site was still inaccessible because of downed trees. Because of the storm, shelters had been opened in Pepperell and Groton and we were using the repeaters to keep track of what was happening or needed. So several groups headed out from Tiny's with different tasks. Stan KD1LE was heading home to get a generator to charge the repeater batteries. Larry KB1ESR was heading to Bob W1XP's with a generator to get the heat turned on. Others were going to help get trees and branches cleared at various members' locations. When Stan got home to pick up the generator he found he couldn't start it. So he contacted Jim N8VIM who said he could look at it. Stan delivered the generator to Jim and went to the repeater site to clear trees. At the repeater site Stan cut up trees and branches and Joseph N1QDZ helped by moving them out of the way. Once access was opened Stan and Joseph cleared branches from the tower guys. Once Stan retrieved the generator it was set up powering two chargers to charge both battery banks simultaneously at several times the rate the normal charger could do. Les N1SV brought up a lock and chain to lock the generator. The batteries were then able to support the repeaters through Tuesday night when power was restored. The repeaters were used to communicate to the shelters and in Groton Larry and Bob AB1CV used the link to notify people staying at the shelter when the

power was on in their area.

At the December Board Meeting the storm was discussed. An emergency procedure for members was discussed and published in the February Signal. In order to be flexible it is not specific except to the points that members should be prepared, have radios and handhelds programmed for the local repeaters, batteries charged and should listen on the repeaters especially in times of emergency. If the repeaters are on battery power conversations should be limited to conserve power.

2009

As a result of the December ice storm a suggested emergency procedure was written so everyone would know where to go for information especially when the emergency involved loss of communications. The procedure was published in the January Signal.

Den passed out a Self Assessment Survey on emergency preparedness at the February meeting.

In 2009 we had great meeting programs such as VHF Antenna modeling, The Past, Present and Future of Amateur Radio, ARES and RACES, Programming of FT-8900 and VX7R radios, Battery Backup for PC's, ARRL Section Manager, The Red Cross Emergency Communications Response Vehicle, QSL Card Sort, a presentation on CW.

Since the group programming of the FT-8900's was a

success some additional frequencies were added and a memory location was specified in order to identify the date of the frequency matrix that had been applied to a radio.

In May of 2009 the Board Meetings were moved to the first Thursday of the month. This was to give the officers more time to address issues discovered at the Board meeting before the regular meeting and to allow more time to print the newsletter with the Board Meeting notes.

We supported the now regular list of events including the Townsend Canoe Race, Groton Road Race, Parker Classic Road Race, and Longsjo Classic. For the second year we supported the Alzheimer's Memory Ride which was run out of Devens.

The Lantern Battery Challenge was proposed by Bob W1XP and the first would start in October.

We participated in Field Day in the 2F EOC category and operated from the Groton Lost Lake Fire Station.

The annual NVARC Cookout was hosted by Skip K1NKR and Joyce's QTH.

The NVARC Slow Speed CW net resumed operation.

The October meeting has become our annual QSL Card sort for the W1QSL Bureau. We sort about 20,000 cards at this meeting each year and with the eight sorting boxes we now have the task has become much easier.

2010

The Board decides to continue participating in the MassHighways Adopt-A-Highway program. Although not a radio related activity it is a public service and has provided good public relations with the signs provided by MassHighways and residents just noticing and commenting. Trying to get more people involved in running and supporting the activity.

During the spring of 2010 Bruce K1BG suggested that we activate a lighthouse for the International Lightship and Light House Weekend that happens each year. The Board agreed that this would be an appropriate activity and asked Bruce to find out if there was one that would be receptive to the event. Since Bruce would do his research during the summer this would be for the following year. Most lighthouses are now privately owned by individuals or run as museums so permission may be an issue.

The first NVARC Lantern Battery Challenge was completed and logs submitted. An award ceremony was held at the May meeting with certificates for the winners of each category and a prize awarded to one participant by drawing. A celebration cake and refreshments were enjoyed during a meeting break. This activity was a great success thanks to Bob W1XP who created and managed it.

As in previous years we supported the Townsend Lions

Canoe and Kayak Race, the Groton Road Race, the Groton Memorial Day Parade, the Pepperell 4th of July Parade, Longsjo Bike Race, The Alzheimer's Memory Ride (third year) and the Parker Classic Road Race on Devens.

Roland NR1G again volunteered to be Field Day Chairman. We participate in Field Day as a 3A returning to the Heald St Orchard Conservation Land. Some new or different things were tried to reduce the work of Field Day. With the band pass filter project complete we had five sets of filter to help reduce station to station interference. The next thing was to try to reduce the number of antennas and structures needed by the two primary stations (SSB and CW). Tests were conducted and with the compromise of availability it was decided to run with one set of antennas (dipoles for 40M and 80M, 20M Yagi, and Tri-bander) on the tower trailer. This worked well and reduced the set up and takedown effort.

The annual cookout was held at Karen KA1JVU and Bob W1XP QTH.

NVARC asked by ARRL Boxboro Convention organizers to provide a fox box to be hunted by convention attendees on Saturday and Sunday of the convention. Ralph and Stan set up the fox. It was found by several hunters including the ham from Australia who had presented at an NVARC meeting on the International ARDF competition.

With the success of the first Lantern Battery Challenge

(LBC) was organized and commence with distribution of the batteries at the October Meeting.

In October NVARC members made a field trip to the New England Steam and Wireless Museum in Rhode Island. This was one of the two "steam up" dates they hold each year where they run numerous engines large and small. Several hundred engines were running at the event. Many small scale models were running on outside tables as were some tens of large engines that are housed there in several buildings. The large engines had flywheels up to ten feet in diameter. Some of the full size steam engines powered things such a saw mill, a shingle mill, and antique generators. The wireless buildings had displays of equipment of the past including an operating spark gap transmitter and an display of what the wireless room on the Titanic would have looked like.

Meeting programs include Home Brew, Members Short Subjects, International Radio Directions Finding by a Ham from Australia, Skimmers, Software Defined Radio's, Skimmers, Annual QSL Card Sort, the Pepperell Repeater Systems.

2011

We supported the Groton Road Race, Townsend Lions Canoe and Kayak Race, Groton Road Race, Longsjo Classic Bide Race, Memory Ride for Alzheimer's Research, Pepperell 4<sup>th</sup> of July Parade.

The 10 Meter Slow Speed CW net continued.

The Lantern Battery had been a success so it was continued for another year.

For the third year the NVARC QSL Sorting Boxes trekked to Lunenburg for the MARA QSL Sort.

After reporting to the Board that the Highland Lighthouse had been receptive to the idea of a ham station for the weekend Bruce organized the event. Participants were Bruce K1BG, Skip K1NKR and XYL Joyce, Roland NR1G, and Jim K1PTF. Joyce painted a watercolor of the lighthouse which became the background for the QSL card that was subsequently designed by Roland for the event. Bruce had promised 100% QSLing and the Board had approved an expenditure to have the QSL cards produced.

Field Day 2010 had been wet and the signs that John KK1X had made and which had been used for several years were severely damaged. Roland had suggested production of new signage to direct the way to our Field Day or other events that might apply in the interest of more visitors. The Board approved funds to pay for the signs. If the visitor list at Field Day were any indication the new signs have worked well.

Field Day 2011 was very successful by all measures thanks to Roland NR1G our Field Day Coordinator. We operated from the Heald St Orchard. We had a record 57 participants and visitors. We operated 3A with SSB,

CW, VHF/UHF/Satellite and Digital stations. It was also an experiment in reducing the work by sharing antennas on the tower for the SSB and CW stations. As an improvement/experiment we eliminated the 20 meter 4 element beam at the top of the tower. This is a large antenna and only supports one band. The tri-bander was moved to the top of the tower and a triplexor built by Bob W1XP was used to allow the antenna to be shared by the two stations while on different bands. With the triplexor/tri-bander and dipoles hung from halyards at the top of the tower only one set of antennas was needed to support the two stations. Bruce K1BG built a 2 X 6 remote antenna switch so that the two stations could select any available antenna for use from a control box at each operating position.

In addition Doug K1DG visited our site. Doug is heading the very large effort of bringing the World Radio Team Championship (WRTC) to New England in 2014. He was looking for support and sites for the event. Locations for 65 identical radio stations on as few sites as possible was one of his tasks. Because of our regular use of the Heald St Orchard and known good relations with the Town and Conservation Commission he chose to try to get access to this site for the event as his first case. Subsequently, with Bruce's guidance he approached the Pepperell Conservation Commission who approved the use of the orchard. If all goes well a station will be set up on the site in 2012 and 2013 for testing to compare sites, monitor for noise such as from power lines, and any other issue that would keep it from being a good and fair site for the competition. Doug made a club presentation to explain the event and to find

volunteers to support the event and the work that needs to be done in the several years leading up to it.

The annual NVARC cookout was hosted by Cindy and Larry KB1ESR.

Meeting programs included RF Exposure, Digital TV, Linux, Automobile Data Systems or Interfacing to CANbus, SO2R Multiple Rig to Multiple Antenna Switching, Triplexors, the Hex-Beam Antenna, World Radiosport Team .Championship, ARRL Official Observer Program.

In October Les N1SV operated from VP9 in the CQWW Contest. He challenged NVARC to see who could work him the most times and awarded an ARRL gift certificate to the winner Rod WA1TAC.

The last road cleanup was held November 2011. Participants were Stan KD1LE, Roland NR1G, Bob W1XP, Ralph KD1SM and Rod WA1TAC. Due to diminishing support and the lack of someone to coordinate the effort the Board had voted not to sign up for the program in 2012.

## Club Activities

Many members gather at Tinys Restaurant in Ayer for breakfast on Saturday mornings at 8:00 AM.

The club runs several scheduled activities annually and those, like QSL sorting below, are listed here. Other activities and meeting programs vary from year to year.



Courtesy Ralph Swick © 2000

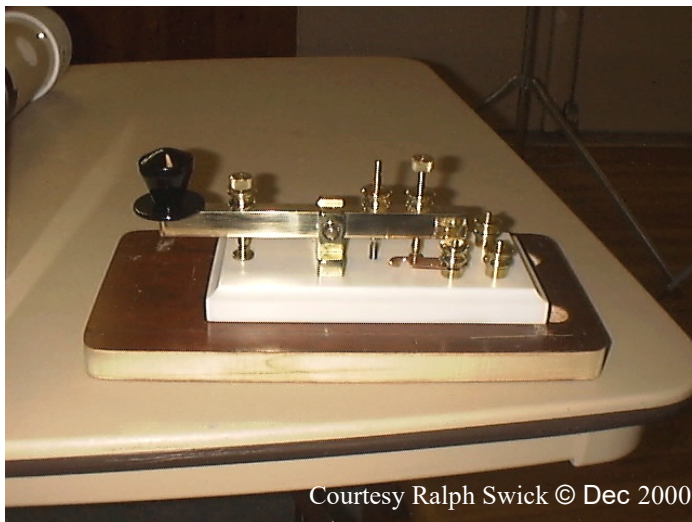


The December meeting features Home Brew Night where members show off their creativity. Above is a 3-way antenna switch by W1XP. Below a 4-way remote antenna switch by KD1LE feeding RF from the home brewed 80 meter transmitter by W1XP.



But the home brew work continues year round and members are encouraged to bring in their creations to any meeting for a quick Show and Tell.

Below are pictures from Home Brew Night and regular meetings.



Above is a homebrew key machined by Earl WR1Y. Below is an antenna and tuning components also by Earl.



In April we organize communications for the Groton Road Race. Here we sport the club banner on the Net Control Vehicle. From here we run nets on three frequencies to support set up activities, parking and hams on the course. We also pass out tee shirts and vests. One thing we never do from here is get to see any of the races.



Courtesy Karen Reif © Apr 1996

In May we organize communications for the Parker Classic Road Race in Devens. In June we participate in Field Day



Courtesy Karen Reif © Jun 1996

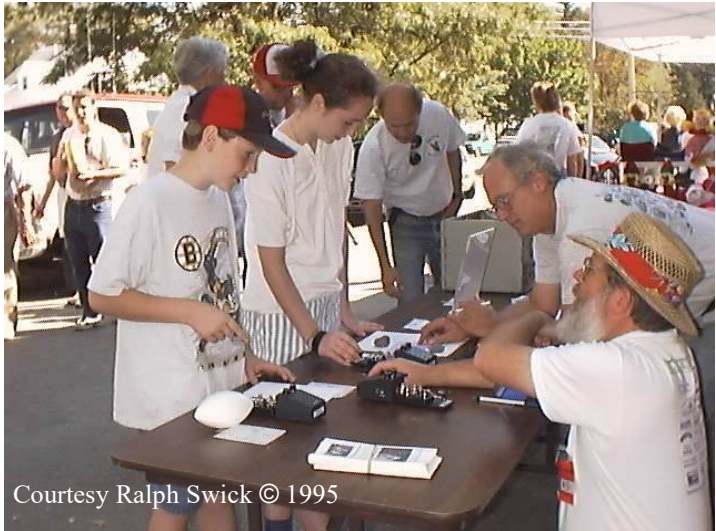
Above Craig N1ABY at the 6 meter station in 1996.  
Below is the complete Field Day operation.



Above is another view of the 1996 Field Day operation with some of the antennas visible.

The club does not meet formally in July or August but we usually plan a cookout for one of those months.

In September we try to put up a display at the Groton Septemberfest to recruit candidates for a ham class and to show off ham radio. In the first of the pictures below Bob W1XP in the lower right corner and Stan KD1LE middle right show the visitors how to send their name in Morse Code. This is always a popular attraction.



Courtesy Ralph Swick © 1995

In October we provide communications for the three day Pepperell Fall Classic Soccer Tournament.



Above is Ian NZ1B who has organized the NVARC operation at the soccer tournament for many years and who is here manning net control at the 2000 tournament.

Members participate regularly in other Public Service events such as the Boston Marathon, Longsjo Classic Bike Race (Fitchburg), the Lowell Marathon, Mt.

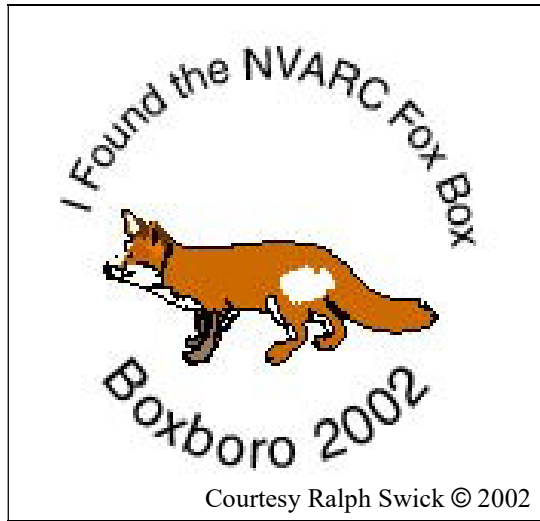
Washington Climb to the Clouds, Walk for Hunger. Members are also involved in RACES providing radio operators in Groton, Pepperell, and Lunenburg.

Once the snow clears members field an automated foxbox transmitter to enable members to practice their radio direction finding skills. The fox transmits a voice ID, then in CW the number of transmissions, temperature, and battery voltage on a frequency of 145.63 MHz every 3-5 minutes from 8 AM to 9 PM. When you are close transmitting a DTMF \* within five seconds of the end of its transmission will cause the fox to transmit more frequently for a short time.



Courtesy Ralph Swick © 2002

There is a bag with a sign in log and NVARC FoxBox stickers you may take to prove your successful hunt tucked in near the fox.



We also participate in the Minute Man Repeater Association foxhunts and foxbox hunts.



There are three repeaters in Pepperell owned by N1MNX. They are maintained by a dedicated crew of club members. Here several members are attending to the equipment and the grounds.

The particulars on the three repeaters are;

53.890 MHz	-1 MHz	100 Hz tone
223.960 MHz	-600 KHz	100 Hz tone
442.900 MHz	+5 MHz	100 Hz tone
145.09 MHz	packet	



Here is Bob W1XP at the 440 repeater in 1999.

With the addition of machines to the original 440 repeater the equipment had to be reorganized. The shack looked like this in September 2002.



Courtesy Ralph Swick © Sep 2002

An antenna patch panel was installed as a logical place to terminate the hardline cables from the

antennas and to make trouble shooting easier. The 440 repeater is located just below the antenna patch panel. Then comes the two-meter repeater, the 222 repeater and amplifier, the packet TNC and transceiver, and the 222 duplexer. On the wall next to the 440 repeater is the twelve volt distribution panel and below the counter is the battery bank and the twelve volt bus bars.



The man in the hard hat is Stan KD1LE maintaining the repeater grounds. It isn't all fun or high tech.

The FoxFinder article and project were great for the club in several ways. It put us on the map as a club that advances the art. With FoxFinders delivered to 41 states and three foreign countries we know we

have had an impact. It was also of great financial benefit to the club. Many members helped kit the parts so it was a team effort. We also learned a lot about writing articles, instructions and the problems of kitting a product and making sure all of the parts are in every kit.



Courtesy Ralph Swick © Mar 2001

Above the labor puts together kits. Below in the plush offices management doing what management does.



Ralph KD1SM, Bob W1XP and Stan KD1LE pushing paper.



Courtesy Ralph Swick © Mar 2001

Above Wolf KA1VOU is filling IC tubes with the IC set required for each kit.

In the Spring of 2003 we supported, for the first time, the Townsend Lions Canoe Race.



In 2003 members put the 147.345 two meter repeater on the air and Dave N1MNX had it coordinated.

In the area of sharing our ideas Earl WR1Y had an article "A CD Vernier Dial Drive" published in the December 2003 issue of Electric Radio and Stan KD1LE had an article "Radio Direction Finding as a Scout Activity" published on the ARRL web site. See <http://www.arrl.org/FandES/ead/JOTA-Articles/edf/index.html>

By 2004 NVARC had participated in the MassHighways Adopt-A-Road program for 8 years. The Groton Selectmen presented NVARC a certificate of Appreciation for our road cleanups and recognized our value in emergency communications.

We put our equipment to use setting up the tower at the new Groton Fire Department Lost Lake Station for pictures so the Planning Board could see what a 70 foot tower might look like there.



We also provided communications for a mass casualty exercise in Groton supporting the Fire Chief helping him monitor the progress of the exercise.



Above the DECON station set up by the Groton Fire Dept in front of Deaconess-Beth Israel Hospital.  
Below the NVARC crew that supported the exercise.



L-R Ken K1KEY, John KB1HDO, Larry KB1ESR,  
Karen KA1JVU, BTC Ralph KD1SM

We participated in ARRL 2004 Field Day in the 2A class using the Heald St apple orchard for the fourth time. We scored 7458 points ranking 31<sup>st</sup> nationally in the category, 5<sup>th</sup> in New England and 2<sup>nd</sup> in Eastern Mass.

In February 2000 the club got its first Web presence. The Website was minimal and hosted by Ralph on a server at MIT. By October 2002 NVARC had the NINC.org domain and Les N1SV and Stan KD1LE were working on a proposal for content. Les N1SV took over Website management and the site really started to develop. Les decided to post all past club newsletters and other information on the site. It took some time just to determine what newsletters we could find since there had been several editors and no central repository. Unfortunately some early issues were not found in any form. The rest did not exist in one format. In the end all the available issues were converted to PDF and posted on the Website. In December Les announced the draft version of the Website was up for people to review. In March 2003 Les unveiled the Website to the membership. Eventually the club moved the Website to a commercial hosting site. In 2006 Ralph KD1SM took over maintenance of the Website.

In 2005 Les N1SV designed a sound card interface based on features members desired. Les laid out PC boards and had them etched. Then he purchased parts to kit the interface for members to build.

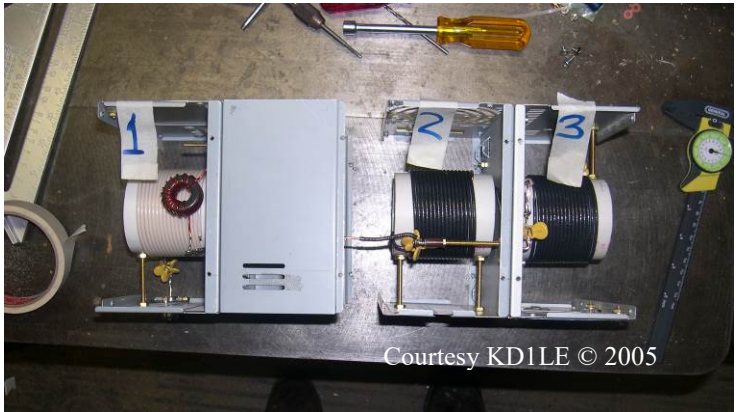
Over the winter of 2004-2005 Bob W1XP and Stan KD1LE were thinking about station to station interference we had experienced at past Field Days. Several people had expressed an interest in adding a Digital Station to the Field Day mix. This would be four HF stations (SSB, CW, Digital., and GOTA). This interference could be worse with the additional station. So they designed and kitted a series of band pass filters for the HF bands.

The filters are built of easily obtainable materials like PC power supply cases, PVC pipe and #14 solid copper house wire. Besides being made from easy to obtain materials they were designed and built in reclaimed PC power supply boxes. When calculating the cost for the project we decided that buying boxes for six full sets of filters at \$10 a box would put the project in jeopardy. Filters for 160, 80, 40, 20, 15, and 10 meters were produced. Four complete sets were built and two sets for 80 through 15 meters.



Courtesy KD1LE © 2005

Above is a typical band pass filter.



Courtesy KD1LE © 2005

Due to the size of the coils the 160 meter filter is quite large, as seen above. It takes three power supply boxes to build.

After Field Day 2005 Stan received permission to trim trees and brush in the west end of the orchard where we set up for Field Day. This has become necessary as the orchard is no longer used commercially and the area was becoming overrun with thorns and poison ivy. Work over the past two years has restored most of that area to its previous state.

November 29<sup>th</sup> 2005 NVARC provided communications for students from the Hawthorne Brook Middle School in Townsend to talk to Bill McArthur the US astronaut aboard the International Space Station. The event was the culmination of two months work for several NVARC members organized by Stan KD1LE and Bob W1XP.



Teacher Marilyn Richardson was the school organizer for this event. She called NA1SS from this position

as the ISS came over the horizon to initiate the contact. Then she turned the microphone over to the students with their questions. This event was three and one half years in the making.



Above: K1MBR, W1XP, K1YTS, N1SV, KD1LE

The following NVARC members supported the event; Larry KB1ESR, Dick KB1MBR, Gary K1YTS, Les N1SV, Bob W1XP, Stan KD1LE and Joel W1JMM.

A detailed report was placed on the Club Website describing the preparations required and the event.

In 2006 NVARC had another successful Field Day in the orchard.



Dale AB1GA running the GOTA station on his first Field Day.



NVARC posted good results for 2006 Field Day.

In the 2A class overall we placed 74<sup>th</sup> of 455 entries. In the 2A class in New England we placed 7<sup>th</sup> of 26 entries. In the 2A class in Eastern Mass we placed 3<sup>rd</sup> of 7 entries.

In 2006 we donated \$200 to the Pepperell Conservation Trust Fund for their use in acquiring and maintaining conservation land. This was in consideration of the many years we have used conservation land for Field Day and other activities.

NVARC has been sorting QSL cards for the W1QSL Bureau for ten years. We sort approximately one months worth (18,000) incoming cards each year at our October meeting. We had been sorting using the traditional way using letters arranged on a series of tables to get the A-Z distribution necessary for the sort

as shown below. This is not a bad arrangement and makes for a very social activity which also requires a lot of walking around.



To improve our capability and allow for less walking Stan KD1LE produced a test sorting box based on what might be used by the Post Office for sorting mail. We tried this box at the October 2006 meeting and it was very popular as seen below.



Above: KA1VOU, N1ZRG, K1LGQ, K1BG

One or two people can sort from each side of the box so the social interaction between members was not eliminated or reduced.

Since it was so popular Stan solicited lumber contributions from members with the goal of producing three more boxes. With a total of four boxes it was felt twelve people could sort using this method and others who wanted to use the traditional methods could set up tables or sort into card files.

When all the lumber was collected it was cut up and prepared for assembly. After breakfast one Saturday morning members got together for a “glue and assemble” party.



Courtesy KD1SM © 2006

Above: W1XP

Below: KD1LE, N1ZRG, KB1ESR



Courtesy KD1SM © 2006

The end result was five additional boxes for a total of six. The boxes were subsequently painted and the pigeon holes lettered for sorting.

These boxes will allow us to sort more efficiently which leaves more time at the end of this meeting for pizza and socializing.

With prior arrangement these boxes are available for free to other clubs who sort cards for the incoming QSL Bureau.

The bandpass filters built for Field Day in 2005 were very successful and considerable documentation was developed as each set was built by a different person. In the spring of 2007 Bob W1XP, Stan KD1LE, Ralph KD1SM and Les N1SV took the document set and began turning it into specific instructions and drawings that could be used by others. The filter instructions were completed one band at a time and were placed on the Website for anyone else to use. By the end of 2007 the designs for 10, 15, 20, 40 and 80 meters were on the Website. Several people contacted us and told us they were very happy with the filters and they compared favorably to commercial units.

The 2007 QSL card sort for the W1 QSL Bureau was the first using all six sorting boxes we built. The sort went very quickly. We sorted 18,000 QSL cards in 1-1/2 hours. We offered the sorting boxes to any club willing to sort for the QSL Bureau and have one club take us up on the offer.



Courtesy KD1SM

In 2006 we started contingency planning for repeater failures in an emergency. A list of scenarios were identified such as loss of power, loss of antennas, loss of repeater equipment. This resulted plans to recover from each of the situations. The worst case would be total lost of the site. This resulted in a proposal to the North Middlesex Emergency Planning Committee (NMAEPC) for equipment to replace the repeaters in an area emergency. We also had the tower trailer to use in such a situation. After careful consideration we decided this was too expensive for a backup plan. A first objective was to increase the repeater availability in a power failure. NMAEPC subsequently provided funds to purchase three deep cycle batteries to double the uptime. Club members built a second buss system and separated the six meter and 440 repeaters on their own batteries. This results in a three to four day

uptime without power. A second plan for backup repeaters was developed. The plan devised and tested the use two quad band radios in a split site cross band arrangement. This system can be put in place using two vehicles so equipped or separate radios and antennas. NMAEPC again provided funds and two FT8900 radios, antennas, and accessories were purchased to provide this function. These radios were programmed and packaged in laptop bags as seen below.



Courtesy KD1SM

This temporary repeater system was used at the 2008 Groton Road Race to improve course coverage by placing the receiver on a hill at the far end of the course using a vehicle with an external antenna. The transmitter portion of the repeater was in the center of town and used an antenna on the tower trailer at the net control location.

The Spring of 2008 NVARC helped MARA run a QSL card sort for the W1 QSL Bureau. We provided the sorting boxes (now six) and with six additional NVARC members to help sort and answer questions thing went smoothly. MARA provided pizza and drinks after the sort.

Since the sorting boxes have worked so well and we just never seem to have quite enough for all the sorters materials were collected to build two additional boxes. These were built the summer of 2008 and give us a total of eight. This will provide sorting positions for 24 people with two people on each side of each box. With the eight sorting boxes now used for each sort NVARC sorts about 20,000 cards in a two hour we run each year for our October meeting program.

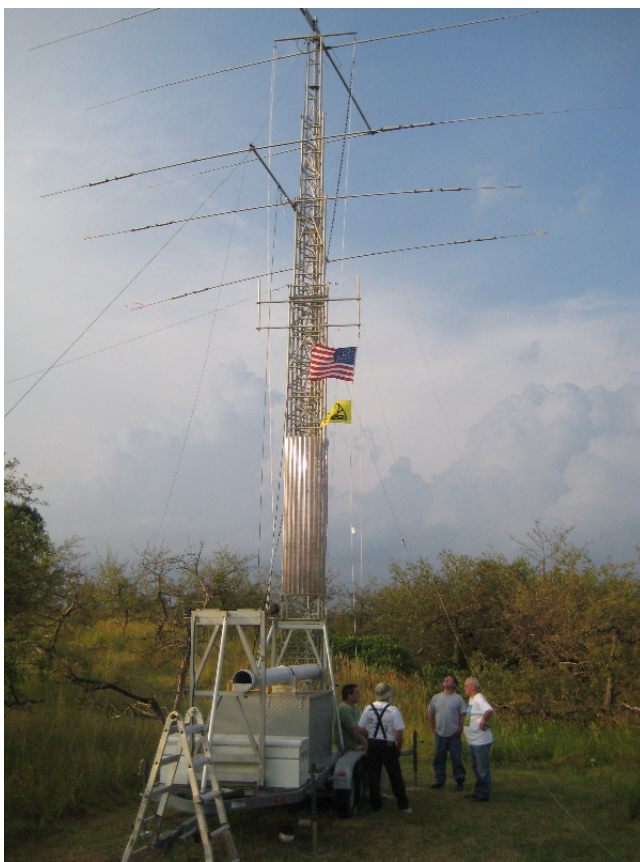
During the year we found that over a dozen members had purchased Yaesu FT-8900 radios. Additionally we had the same model used by both Groton and Pepperell EMA. Stan KD1LE had developed a memory plan and adding frequencies used by the various groups at public service events. After a discussion with a few members a “standard” memory

plan was adopted covering two meters, six meters and 70 cm. After several club meetings a programming session was held to program member's radios.



At Field Day 2008 Jim N8VIM provided power with his diesel generator that he had trailer mounted. This and our developing power distribution system kept things powered up.

The Field Day tower set up now included the four element twenty meter Yagi, a tri-bander for 10-15-20 meters as well as supporting wire antennas for 80 and 40 meters.



Friday afternoon before Field Day the antennas were assembled on the site and mounted on the tower which was then tilted vertical. The next morning the tower was raised and the dipoles pulled up on halyards that were previously installed. This spread the work over two days.



A system of heavy power cables with twist lock connectors and weather resistant accessories replaced standard extension cords that were often undersized and ended up tripping breakers and GFI's because of moisture.

Below Den Connors KD2S and Larry Swezey KB1ESR put up a demonstration station at Field Day showing email via HF using Winlink2000.





Leo K1LK with assistance from Bruce K1BG and Darryl WA1GON prepare to launch antenna support ropes with his potato cannon.

In 2008 we also had the Great December Ice Storm on December 11. About 1.25 million customers lost power. For NVARC members the problems started Thursday night as freezing rain started accumulating on trees and power lines. By early Friday morning the trees started coming down and the power, cable and telephone service started failing. For some it would be more than a week before they were restored. The unusual thing was by Friday most activities were returning to normal if they didn't require power. Saturday's breakfast at Tiny's seemed normal enough though the discussions quickly revealed that many were still without power and

the other services carried on above ground wire. It was concluded at breakfast that this was not going to be a quick recovery and a number of tasks were organized. A top priority was to keep the repeaters running. They had already been on emergency/battery power for over 30 hours. To keep them up we would need to get to the repeater site with a generator and chargers. On Friday morning there had still been trees down or in precarious positions on the street to the site. But by Friday night the road was clear. The problem now is the repeater site was still inaccessible because of downed trees. Because of the storm shelters had been opened in Pepperell and Groton and we were using the repeaters to keep track of what was happening or needed. So several groups headed out from Tiny's with different tasks. Stan KD1LE was heading home to get a generator to charge the repeater batteries. Larry KB1ESR was heading to Bob W1XP's with a generator to get the heat turned on. Others we going to help get trees and branches cleared at various members locations. When Stan got home to pick up the generator he found he couldn't start it. So he contacted Jim N8VIM who said he could look at it. Stan delivered the generator to Jim and went to the repeater site to clear trees. At the repeater site Stan cut up trees and branches and Joseph helped by moving them out of the way. Once access was opened Stan and Joseph cleared branches from the tower guys. The generator was set up powering two chargers to charge both battery banks simultaneously at several times the rate the normal charger was could do. Les N1SV brought up a lock and chain to lock the generator. The batteries were then able to support the repeaters through Tuesday night when power was restored. The repeaters were used to

communicate to the shelters and in Groton Larry and Bob AB1CV used the link to notify people staying at the shelter when the power was on in their area.

2009

The annual NVARC Cookout was hosted by Skip K1NKR and Joyce's QTH.



The first NVARC Lantern.Battery Challenge was organized by Bob W1XP. Bob created the operating event and guided it through the planning and rules making. Batteries were passed out at the October meeting with the contest to end at the March 1, 2010.

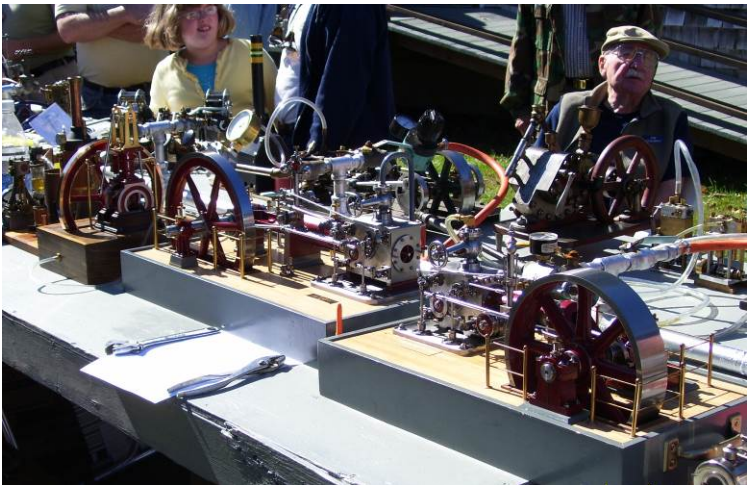


At the May meeting Stan programmed FT-8900's for members wanting the standard matrix of frequencies.

In October NVARC members made a field trip to the New England Steam and Wireless Museum in Rhode Island. This was one of the two "steam up" dates they hold each year where they run numerous engines large and small. Several hundred engines were running at the event. Many small scale models were running on outside tables as were some tens of large engines that are housed there in several buildings. The large engines had flywheels up to ten feet in diameter. Some of the full size steam engines powered things such a saw mill, a shingle mill, and antique generators. The wireless buildings had displays of equipment of the past including an operating spark gap transmitter and a display of what the wireless room on the Titanic would have looked like.



Bob W1XP looking over a steam turbine and generator.



Hundreds of engines big and small were on display.

During the spring Bruce K1BG suggested that we activate a lighthouse for the International Lightship and Light House Weekend that happens each year. The Board agreed that this would be an appropriate activity and asked Bruce to find out if there was one that would be receptive to the event. Since Bruce would do his research during the summer this would be for the following year. Most lighthouses are now privately owned by individuals or run as museums so permission may be an issue.

After reporting to the Board that the Highland Lighthouse had been receptive to the idea of a ham station for the weekend Bruce organized the event. Participants were Bruce K1BG, Skip K1NKR and XYL Joyce, Roland NR1G, and Jim K1PTF. Joyce painted a watercolor of the lighthouse which became the background for the QSL card that was subsequently designed by Roland for the event. Bruce had promised 100% QSLing and the Board had approved an expenditure to have the QSL cards produced.

#### PICTURES OF PARTICIPANTS AND QSL CARD

May 14th annual Parker Classic road race supported by NVARC. Members and others who helped out Gary K1YTS, Nancy KB1KEF, Ray KB1LRL, Barry W1HFN, Stan KD1LE, Larry KB1ESR, John KK1X, Ralph KD1SM.

Members supported Groton's Memorial Day Parade Bob AB1CV, Ralph KD1SM, Stan KD1LE, Earl WR1Y.

In June we participated in Field Day. Our traditional

site at the orchard was undergoing violent change. The Conservation Commission had been trying to decide how to best utilize the orchard as it had been unmanaged as an apple orchard for many years and the trees were in poor condition and poison ivy was covering many of them. They decided to convert a large portion to be suitable for ground nesting birds. This was in conjunction entities managing properties extending from southern New Hampshire to north central Mass. So heavy logging equipment was resident in the orchard for a good part of the year. For this reason and since some desired a change Roland chose to enter in the "F" category and we operated in class 2F from the Groton Lost Lake Fire Station. NVARC finished first of the "F" entrants in 2F-5F in both East Mass and West Mass.



Ralph organized Longsjo for another year. Fourteen  
hams for the mountain race and 6 for the Criterium in  
downtown Fitchburg. Below the crew at the Wachusett  
Ski Lodge prior to the Mountain part of the race.



Above the riders assemble for the start of one of the races in the downtown portion of Longsjo called the Criterium.

Member Dennis K1LGQ operated from Quebec during Field Day and gave a club presentation on his operating there.

Again this year NVARC members Jim N8VIM, Lynda N1PBL, and Joel W1JMM provide communications to organize the Pepperell 4th of July Parade. They helped stage the parade participants and control the bussing of marchers from the finish to the start of the parade prior to the parade.

Skip and Joyce again host the club cookout.



October the annual QSL Card sort for the W1 QSL Bureau. Again we sort 20 K cards and have a pizza and refreshments by 9:00 PM. Lynda N1PBL and Stan KD1LE do a final review of all the cards before packaging and sending them back to the Bureau.

#### December Homebrew

Bob W1XP shows off his homebrew 600 class E power amplifier and band pass filter built in a PC case.

Rod WA1TAC showed off a LED bar light he was going to use for his shack.

K1BG built a QRP dummy load in the style of the old time antenna.

#### 2010

In February members carpoled to the Algonquin ARC Flea market in Marlboro. Partly to buy things, partly to visit with friends and acquaintances from the area, and partly as a relief from cabin fever.

In response to members requests, the NVARC Slow Speed CW net resumes. Bruce K1BG and Stan KD1LE act as Net Control Stations. Many members who wanted to improve their CW participated as did members who just wanted to support the activity. Participants included Jim N8VIM, Bob W1XP, Peter N1ZRG, Roland NR1G, Skip K1NKR, Stan KD1LE, Peter KB1LZH and Bruce K1BG. The net slowly introduced participants not only to CW, but net prowords and abbreviations. At the completion of each net the group shifted to ten meter SSB to answer

questions and take comments.

The LBC which ends on March 1 was completed and logs submitted. An award ceremony was held at the May meeting with certificates for the winners of each category and a prize awarded to one participant by drawing. A celebration cake and refreshments were enjoyed during a meeting break.

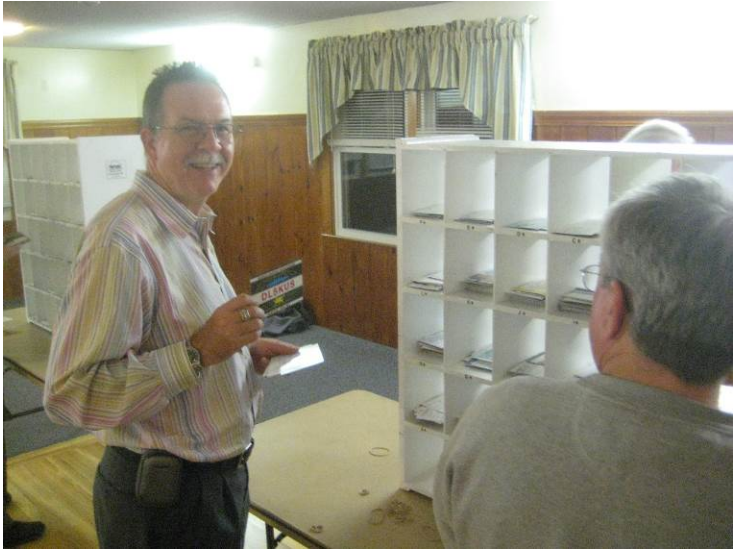


Also related to Field Day members worked on sharing antennas to reduce the number of antennas and structures that needed to be set up. The goal was to have the SSB and CW station share one set of antennas to cover all the bands. A single set of bandpass filters already designed and constructed would be mounted in the “black box”. A panel was produced that had ports for each antenna/filter selection and mounted in the box. The basic complement of antennas was set up prior to

Field Day and tested for cross band interference using several transceivers. Although we had done antenna modeling and arranging to minimize interference it was still found to be significantly different depending on the quality of the transceiver used. This information was passed to the station captains.

After having done such a good job as Field Day Coordinator Roland steps up and volunteers to give it another go. This year we move back to the orchard. The tower trailer supported the CW and SSB station antennas, the digital station used an R7 vertical and the UHF/VHF station had its own set of antennas. Field Day results NVARC 4th of 18 in 3A class in New England. In East Mass 1st of 6. Saturday lunch was prepared by Lynda N1PBL, Saturday dinner was prepared by Karen KA1JVU and Peggy (KK1X XYL), Sunday breakfast was prepared by Larry KB1ESR and Cindy.

October QSL Card Sort. Phil Temples K9HI the East Mass Section Manager comes to the sort to help out. At the meeting the batteries were handed out for the 2nd annual LBC for those who signed up. This year there were eleven participants up from seven the previous year. Also this year members of MARA and PART were invited to participate.



Over the course of the year we continue to have interesting meeting programs organized by Skip K1NKR and Bruce K1BG. Topics such as Skimmers, Amateur Radio Direction Finding by an Australian Ham, Software Defined Radios were subject of meeting programs.

Over the course of the year we NVARC supported the Parker Classic Road Race, the Groton Road Race, the Townsend Lions Canoe and Kayak Race, The Fitchburg Longsjo Classic Bike Race, and the Alzheimer's Memory Ride.

2011

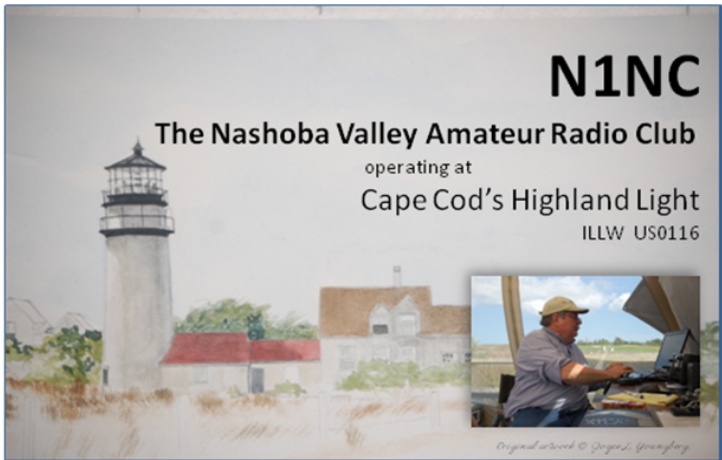
Area hams were ready to support the Longsjo Classic Bike Race this year. But a fire in a large downtown Fitchburg building several weeks before the race created a safety issue for participants and spectators. The outcome being the entire race program was canceled for the year.

Prior to Field Day several new things were in the works to improve Field Day operations. Bruce K1BG was building a 2 X 6 remote antenna switch. This would connect to the manual patch panel in the black box. It would allow an operator at either the CW or SSB station to manually choose an antenna or the N1MM software/radio frequency selection would choose the appropriate antenna. It would only allow this if the antenna was not in use. Bruce made a meeting presentation on the project. Another objective was the sharing of the tri-bander on the tower. A QST article had stimulated interest. Bob W1XP built/configured a triplexor using bandpass filters built in the "Ugly Filter Project". This would allow the CW and SSB stations to share the antenna on different bands at the same time. Bob also showed this project at a club meeting. Jim N8VIM made improvements to the power systems. He built a sound enclosure for the generator trailer which reduced its sound considerably. He also provided a power distribution box to separate out the various loads on individual breakers/GFCI's. This was to reduce the interruption should a fault develop somewhere which in the past would take the entire system down. Though the system worked as designed an intermittent leakage

problem in one of the computer power supplies dogged us for the weekend. After Field Day this computer problem was found.

In August the crew headed for Highland Lighthouse to put it on the air for International Lighthouse and Lightship Weekend. With the exception of forgetting their antenna the weekend went smoothly. The staff running the lighthouse were helpful and interested. Those participating were Bruce K1BG, Roland NR1G, Skip K1NKR and Jim K1PTF. Joyce, Skips XYL also participated by painting a watercolor of the lighthouse which became the background for the QSL card that was eventually designed by Roland. The Board authorized funds for the printed of the cards which was managed by Skip. They also authorized a donation to the lighthouse fund that maintains the lighthouse. QSL cards were sent to all hams contacting the station.





Tornado's hit Sturbridge area. Area hams help out at shelters. Ralph KD1SM and Jeanine N1QIT do shelter and resource management duty.

In October Les N1SV operated from Bermuda as VP9! In the CQ World Wide Phone Contest. Les had challenged NVQRC members to contact him during the contest. The member who contacted him the most times would receive a prize. Conditions were not the best but Rod WA1TAC, John KK1X, Jim N8VIM and Stan KD1LE all made a single contact each. Since no one had multiple contacts Rod by virtue of making the first contact was declared the winner and received a \$50 ARRL gift certificate.

In October the freak snow storm caused power outages for over one million people in New England. In Pepperell many lost power for six days or more. In Lunenburg power was off for some for twelve days. In Connecticut the problem existed for some for more than

two weeks.



Our October meeting program was our fifteenth year of sorting QSL Cards for the W1QSL Bureau. Stan KD1LE arranged the sort with the bureau picked up the approximately 20,000 cards for the sort. As usual we set up the eight sorting boxes and other necessary tables for the final collection of cards. In only one and one half hours the cards were sorted. Then they were combined to a central set of tables by letter. By 8:30 we were having pizza and refreshments. The cards were then repacked in boxes. Stan KD1LE and Lynda N1PBL rescanned the cards and bundled them by size to be packed in boxes for shipment back to the bureau.



In November we carried out the last Adopt A Highway road clean up after fourteen years of participation. Stan had run the activity for the past 13 years and requested to step down. No one volunteered to take over. There has also been diminished member support. With that

situation the Board decided to end our participation as of the last clean up in November. The following members participated in the last cleanup; Ralph KD1SM, Bob W1XP, Roland NR1G, Rod WA1TAC, and Stan KD1LE.

# Notes

# Nashoba Valley Amateur Radio Club Constitution and Bylaws

Revised 21 June 2001

## Preamble

Wishing to secure for ourselves the pleasures and benefits of the association of persons commonly interested in Amateur Radio, we do hereby constitute ourselves The Nashoba Valley Amateur Radio Club (**NVARC**) and do enact this Constitution as our governing law. It shall be our purpose to facilitate the exchange of information and general cooperation and conduct club programs and activities as to advance the interest and welfare of Amateur Radio in the general community. **NVARC** welcomes all persons interested in Amateur Radio and no provision of the Constitution or By-Laws or language thereof shall be construed as discriminating against or making unwelcome any such person by sex, race, creed, nationality, nation of origin, physical ability, age or any other characteristic secondary to an interested in Amateur Radio.

## Article I -- Membership

### *Definitions*

**Full Member.** A *Full Member* is a person who has filled out a membership application, is up-to-date in payment of dues and mandatory assessments and who holds a valid amateur radio license. *Full Members* have the right to vote. The number of *Full Members* on the club roll determines the number of persons needed to meet quorum or meet minimum voting requirements as set forth in the Constitution and By-Laws.

**Associate Member.** An *Associate Member* is a person who has filled out a membership application, is up-to-date in payment of dues and mandatory assessments. *Associate Members* do not vote and are not counted for purposes of meeting quorum or minimum voting requirements.

**Honorary Member.** An *Honorary Member* is a person who has been elected to membership by the NVARC Board of Directors. Honorary Members do not pay dues or assessments. *Honorary Members* do not vote and are not counted for the purposes of meeting quorum or minimum voting requirements.

**Section 1 - Eligibility.** All persons interested in Amateur Radio shall be eligible for membership. Membership shall be granted by application, upon payment of dues and under such terms as provided in the By-Laws unless the applicant is still under sanction following a removal. Members holding a valid Amateur Radio license are granted Full Membership and have the right to vote on matters of club business. All others shall be granted Associate (non-voting) Membership.

**Section 2 - Waiving Voting Privileges.** Members otherwise eligible to vote, may choose to be Associate members if they do not wish to be involved in the decision-making process of the club. Such members may regain Full Membership by declaring their desire to do so to the club Secretary at any time. The intent of this section is to aid the club by allowing people who do not intend to vote or attend meetings on a regular basis to remove themselves from the number of people required to make a quorum.

**Section 3 - Honorary Members.** At its discretion, the Board of Directors may vote to extend Honorary Membership to selected groups or individuals. Honorary Membership has a term of one year. Honorary Members are excused from dues and assessment obligations. Honorary Membership conveys no voting rights.

**Section 4 - Removal.** At a Special Meeting called for that purpose, members may be removed from the club roster by a vote of two-thirds of the Full Members listed on the roll at the time of the Special Meeting. The Motion to Remove shall specify a period of sanction during which the removed member may not reapply for membership.

## **Article II -- Officers**

**Section 1.** The officers of this club shall be: a President, a Vice-President, a Secretary, a Treasurer and three Directors. These officers shall constitute the NVARC Board of Directors ("The Board.")

**Section 2. Election of Officers.** Each officer of this club shall be elected for the term specified in Article III. Election shall be by ballot of the members present at Special Meeting conducted within the general meeting in April, or by special election, as provided by Section 3 below. If, for any reason, the election cannot be held at the April meeting, it will be held at the first possible meeting following.

**Section 3. Vacancies.** Vacancies occurring between regular elections must be filled by special election at the first general meeting following the meeting at which the vacancy is announced. The

person elected will fill the unexpired term of the vacated office.

**Section 4. Removal.** Officers may be removed from office at a Special Meeting called for that purpose by a vote of two-thirds of the Full Members listed on the roll at the time of the Special Meeting. An officer is automatically removed from office for failure to attend three consecutive general meetings or three consecutive Board meetings unless their absence has been satisfactorily explained to the Board of Directors.

## **Article III - Duties of Officers**

**Section 1 - The President** shall be elected for a term of one year. He shall preside at all meetings of the club and conduct them according to the rules adopted. He shall enforce observance of this Constitution and the By-Laws, decide all questions of order, sign all official documents that are adopted by the club and none other, and perform all customary duties pertaining to the Office of President. He shall, at the expiration of his term, turn over everything pertaining to the commission of his office to his successor.

**Section 2 - The Vice-President** shall be elected for a term of one year. He shall assume all duties of the President in the absence of the latter. The Vice-President or his appointee shall act in the capacity of Activities Manager. He shall maintain close liaison with the ARRL Emergency Coordinator or SEC to promote the fullest possible club participation in the Amateur Radio Emergency Service. He shall, at the expiration of his term, turn over everything pertaining to the commission of his office to his successor.

**Section 3 - The Secretary** shall be elected for a term of one year. He shall keep a record of the proceedings of all meetings and publish minutes of each in a timely fashion. He shall carry on all correspondence, read communications at meetings as directed by the Board. He shall mail written notices to each member as required in the By-Laws. He shall keep informed by questionnaires or other means of the capabilities and type of operation of such members as possess station equipment to facilitate emergency organization and to help in planning general interest activities. It shall be the duty of the Secretary to keep the Constitution and By-Laws of the Nashoba Valley Amateur Radio Club and have them with him at every general and special meeting. The Secretary shall cause all amendments, changes and additions to be noted thereon and shall permit them to be consulted by members upon request. He shall, at the expiration of his term, turn over everything pertaining to the commission of his office to his successor.

**Section 4 - The Treasurer** shall be elected for a term of one year. He shall receive and receipt (as required) for all moneys paid to the club. He shall keep an accurate account of all moneys received and expended. He shall make disbursements as directed by the club or its officers. He shall publish regular summaries of club accounts for the general membership. At the end of each quarter he shall submit an itemized statement of disbursements and receipts to the club directors. He shall receive applications for membership and keep the official roll of current NVARC members. He shall have such roll with him at each general and special meeting. He shall, at the expiration of his term, turn over everything pertaining to the commission of his office to his successor.

**Section 5 - The Directors** will be elected for a term of three years. They are charged with the responsibility of guiding the club in all its endeavors. They shall interpret the wishes of the general membership and guide the officers in that direction. They shall decide questions of interpretation of the NVARC constitution when required. They may elect Honorary members. They shall audit the financial accounts of the club. They shall review and approve agreements prior to submittal to the general membership for approval. They shall monitor agreements accepted by the club for compliance.

**Section 6 - The Order of Succession** in the absence of the president shall be:

1. Vice-President
2. Secretary
3. Treasurer
4. The Director present who has served the longest period of his current term

## **Article IV -- Meetings**

### **Definitions**

**General Meeting** - The regularly scheduled membership meeting as provided for in the By-Laws. At a general meeting, a quorum for the conduct of business is **15%** of the Full Members. A motion will be passed if a **majority** (51%) of the votes cast are in favor.

**Special Meeting** - A meeting called by the president for a specific purpose and requiring Notification as defined in this article. Special meetings

may be convened within a general meeting and to the extent it is practical, should be so convened. Notice of special meeting may be included in the club newsletter, and to the extent it is practical, should be so sent. At a special meeting, a quorum for the conduct of business is **20%** of the Full Members either present or represented by absentee ballot. A motion will be passed if two-thirds (**2/3**) of the members present or represented by absentee ballot vote in favor.

**Extraordinary Meeting** - A meeting called by petition to the president of **20%** or more of the Full Members. Extraordinary Meetings require Notification as defined in this Article. To the extent possible, Extraordinary Meetings should be scheduled during a general meeting and notice should be made via the club newsletter. At an Extraordinary Meeting, the subject matter of the meeting shall determine the quorum and voting requirements in accordance with the definitions of General Meeting or Special Meeting. Any reasonable, documented costs resulting solely from calling the meeting shall be borne by those members petitioning for the meeting unless these costs be waived by vote of the membership.

**Business Meeting** - A meeting held by the Board of Directors for the purpose of general administration of the club or to discuss topics deemed uninteresting to the general membership. Within the discretion granted by the membership, the Board may expend up to \$200 in any calendar month for the benefit of the club.

**Section 1 - General and Special Meetings.** The By-Laws shall provide for general and special meetings.

A special meeting must be called to act on any motion to:

- (1) Amend the NVARC Constitution,
- (2) Change the NVARC By-Laws,
- (3) Remove members from the roll,
- (4) Remove officers from office, except such removal be automatic as defined in Article II.
- (5) Expend money in an amount greater than \$200 in a calendar month when the Board determines that the membership should be polled in matter of the expenditure,
- (6) Levy a special Assessment upon the membership.

Special meetings may also be required for reasons specified in the By-Laws.

**Section 2 - Business Meetings.** The Board of Directors shall conduct business meetings when necessary to insure proper operation of the club, thereby leaving the general meetings for more pleasurable things. Business meeting may be conducted at the place and time agreeable to the Board of Directors but must be open to any member of the club.

**Section 3 - Notification.** Certain meetings require that Notification of all members must be made. The notice must specify the business to be transacted and no other business may be discussed at that meeting. The notice must contain the motion to be voted upon and any special information required with that motion. Additional requirements may be specified in the By-Laws. Notices must include an absentee ballot by which a member may give unambiguous voting

instructions to the club secretary. Notices must be mailed such that with normal delivery they will be received by members residing in Massachusetts at least 48 hours before the special meeting. Notification is deemed made when sent to the member's mailing address as listed on the roll.

**Section 4 - Absentee Ballots.** Absentee ballots shall be provided for all meetings requiring Notification and in such other circumstances as the constitution or By-Laws may specify. These Ballots must give unambiguous voting instructions to the NVARC secretary. The ballot must be registered with the secretary in advance of the vote and shall constitute the member's presence and vote for the purposes of determining quorum and outcome of the election. The absentee ballot given to the secretary must have written in ink the member's signature and the date the ballot was signed. Any cost associated with registering the absentee ballot with the secretary (e.g., postage) shall be borne by the member.

## **Article V -- Dues and Assessments**

**Section 1 - Dues.** The Nashoba Valley Amateur Radio Club, shall provide a schedule of dues in the By-Laws. All membership categories specifying payment of dues shall grant membership contingent upon payment.

**Section 2 - Assessments.** From time to time NVARC may require special assessments for the business of the club within its object as set forth in the preamble of this Constitution. Assessments must be authorized at special meeting. The Motion for

Assessment must state if non-payment of such assessments shall be cause for loss of membership.

## **Article VI - Amendments**

**Section 1 - The Constitution.** This Constitution may only be amended by Special Meeting. The Motion for Amendment must specify the exact text of the amendment. The President shall schedule the Special Meeting in a timely fashion within the guidelines for Special Meetings. Any change to the text of the amendment, except for corrections of grammar or spelling, will require Notification, as provided for in Article IV, to be made again and the Special Meeting be continued with the vote deferred.

**Section 2 - The By-Laws.** The By-Laws may only be changed at a Special Meeting. The Motion to Change the By-Laws shall specify the substance of the change. The President shall schedule the Special meeting in a timely fashion within the guidelines for Special Meetings. The exact text of the change shall be worked out by debate at the Special Meeting and when consensus is reached, the outcome decided by vote.

## **Article VII - Meeting Rules**

Robert's Rules of Order shall govern proceedings when not superseded by our custom or By-Laws.

## **Article VIII - Dissolution**

The Nashoba Valley Amateur Radio Club will be dissolved if any of the following conditions exist:

- a. The membership is unable or unwilling to fill the positions of President and Vice President for a period of sixty days after both offices become vacant.
- b. NVARC does not hold a regular monthly meeting for more than four consecutive normal meeting months as defined in Section 2 of the Bylaws.
- c. The membership votes to dissolve the club with a majority vote at a special meeting conducted in accordance with Article IV.

Upon a determination of dissolution, as defined above, by the remaining elected Officers the Treasurer or acting Treasurer is instructed to settle all unpaid debts and then transfer all remaining assets to the ARRL Foundation or its successor.

# By-Laws of the Nashoba Valley Amateur Radio Club (NVARC)

Revised 21 June 2001

**Section 1 - NVARC Dues Schedule.** Membership dues are paid in advance. All memberships are for a term of one year.

Full Member	\$15
Full Member under 16 years of age	\$7.50
Associate Membership	\$15
Associate Membership under 16 years of age	\$7.50
Family Membership	\$20.00
Honorary Membership	No Dues

## **Section 2 - General and Special Meetings.**

General Meetings shall be held monthly except July and August at such place and time as the President shall order. Special Meetings shall be called by the President as required.

**Section 3 - Committees.** Committees shall be appointed by the President including, but not limited to:

**Nomination Committee** - appointed in January to develop a proposed slate of officers for the April Election

**Field Day Committee** - appointed no later than April to plan and coordinate Field Day activities for that year.

**Newsletter Committee** - a standing committee with appointments as required to provide the club a newsletter.

**Local Interference Committee** - a standing committee coordinated with the Section Manager and Official Observer Coordinator to investigate interference complaints in accordance with the ARRL/FCC agreement on Local Interference Committees. (The chair of this committee must be a member of the Amateur Auxiliary of the FCC's Field Operations Bureau.)

**RFI/TVI Committee** - a standing committee to attempt to resolve disputes between the public and amateur radio operators.

**Education Committee** - a standing committee to administer amateur radio classes, coordinate volunteer examiner sessions and promote educational programs of interest to the general community as well as the amateur community.

# **Appointed Positions**

## **Property Master**

The President shall appoint a Property Master from the full Membership. This appointment becomes effective immediately upon ratification by the Board of Directors.

The duties of the Property Master are:

1. Create and maintain an up-to-date inventory ("Property Inventory") of all Club property (chattel). This inventory shall include the location of all property, including the name of the individual who has custody of each item with the callsign (if any), and shall be in two parts:

(1) All property available for signout. Signout property is RF equipment such as test equipment, radios, microphones, keyers, antennas, power supplies, TNCs, and cabling that is intended for circulation within the Membership (or, with Board approval, outside the Membership); and

(2) All permanently assigned Club chattel such as Adopt-A-Highway equipment, tables, coffee pot, badge punch, excluding Library materials.

2. Provide periodic articles no less often than quarterly to the Signal editor regarding the signout property.

3. File an annual report at the April Board meeting with the Board of Directors containing the Property Inventory and the number of times each item of signout property has been in circulation.

4. Assure that Club signout property is available for circulation to Members with reasonable advance notice. Typically this will require the Property Master or his/her representative to be a regular attendee at the monthly meetings so that Members may request in advance that specific items be brought to the Meeting.

5. Signout property may be held by a Member until the next regularly scheduled Monthly Meeting. Members holding signout

property must present it to the Property Master or his/her representative at the Monthly Meeting. Signout property is made available to Members on a first-come, first-served basis. A Club activity requesting the signout property will always have priority. If the Member who currently holds a piece of signout property wishes to sign out the same piece of property again, that Member's name is placed last on the request list at the next Monthly Meeting. With the exception of a Club activity, the Member requesting signout property must be present at the Monthly Meeting to claim the property. The request list shall carry over month to month. If the member(s) whose name(s) are first on the list when an item becomes available are not present at the meeting, their names are removed from the list.

6. The Board of Directors retains responsibility for making all acquisitions or accepting donations of property.

### **Librarian**

The President may appoint a Librarian from the full Membership. This appointment becomes effective immediately upon ratification by the Board of Directors.

The duties of the Librarian are:

1. Create an inventory of all Club-owned lending materials ("Library"). Lending materials are materials such as books, videotapes, and other training materials that are intended for circulation within the Membership.
2. Maintain an up-to-date account of the location of all Club-owned lending materials, providing periodic articles to the Signal editor about the Library, and file an annual report with the Board of Directors of the inventory and the number of times each item in the Library has been in circulation.
3. Assure that Club-owned lending materials are available for circulation to Members with reasonable advance notice. Typically this will require the Librarian or his/her representative to be a

regular attendee at the monthly meetings so that Members may request in advance that specific items be brought to the Meeting.

4. Propose new Library acquisitions to the Board of Directors. The Board retains responsibility for making all acquisitions of Library materials and for accepting any donations to the Library.

### **Emergency Coordinator**

The President may appoint an Emergency Coordinator from the full Membership. This appointment becomes effective immediately upon ratification by the Board of Directors.

The duties of the Emergency Coordinator (EC) are:

1. Work with or in support of the Vice President on matters of Emergency Communication.
2. Communicate with local ARES and RACES organizations to keep the Officers and members of NVARC up to date.
- 3. Promote ARES/RACES participation for NVARC members.
4. Promote emergency preparedness within NVARC.
5. Organize and chair an NVARC Emergency Communications Team (ECT).

## Current Membership Directory

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Field Day, packet, rptr's, DX

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radio

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## All Time Members List

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Akins, Keith	KF4QXO
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Aliskevicz, Jason	
Atkins, Kenneth	K1JKR
Bailey Jr, Kenneth	KB1UVP
Barbella, Peter	KB1LZH
Basch, Elizabeth	N1WWK
Basch, Martin	N1WWL
Bielefeld, John	K1JEB
Bisbo, Jeremy	KB1AWE
Bisbo, Linda	N1UPR
Bisbo, Roger	N1OJW
Blain, Bruce	K1BG
Bonfiglio, Joseph	WA1VMG
Boaen, Verell	N1OJP
Bramer, Nelson	N1LZ
Bustler, Gary	K1YTS
Camerer, Jean	K1AVM
Campbell, Alma	
Campbell, Don	N1NWE
Capes, Ray	K1JKN
Carney, William	W1BXM
Carrington, Walter	K1CMF
Caruso, Larry	K1LGC
Chang, Paul	
Chikutov, Sergei	UA3AGS
Charnley, Edwin	N1OTR
Clemmer, John	W4LVG
Connors, Den	KD2S
Cornell, Callie	K1ZAK
Creamer, Jesse	W1DEA
Crews, Robert	K1VA
Daigneault, Dan	N1LLG

Daigneault-Terrell, Rayna	N1NXQ
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Davenport, Erica	KA1LDP
Davis, William	K1WD
Davy, Lee	KB1ELE
DiCenzo, Tony	KX1G
Dundas, John	WA1DKH
Farley, Stephen	KB1MGG
Farnsworth, Tom	K1NNJ
Fitch, Dwight	AA1MT
Ford, James	KD1PI (N1KSI)
French, David	KB1BGN
Frame, Richard (Deke)	AA6DF
Francis, Chris	WY2L
Gallant, Don	N1HVA
Girard, Donald	W1FDW
Gogas Jr, George	KA1TUA
Grady, John	
Greenburg, Art	K1GBX
Grennell, Jason	KB1KEG
Griswold, John	KK1X
Guilmet, Roland	NR1G
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Hald, Mark	AB1X
Hanson, James	W1TRC
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Heller, Robert	KB1AXP
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Hersh, Rod	WA1TAC
Hill, Peter	KB1KHM
Hopkins, Phil	KB1JKL
Hunter, Leo	K1LK
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Jack, Bob	N1OFX
Jackson, Stu	K1YET
Johns Jr, James	KA0IQT

Johnson, Robert	AB1CV
Kalley, Craig	N1ABY
Kavanagh, George	KB1HFT
Keezer, Paul	NX1P
Kelly, Arnold	N1VQI
Kelley, Christopher	KB1KUZ
Kinney, Jonathan	N1JGA
Klippin, Dale	N1KTY
Kudarauskas, Peter	KB1WZO
Kwiatkowski, Robert	KA1ZAQ
Lane, Hank	KB1JLA
Lillis, Daniel	KB1YGB
Long, Duane	KD1JY (KB1GUO)
Lyons, Richard	W1LTN
Magid, Joel	W1JMM
Maloney, Ed	
Marandos, Dennis	K1LGQ
Marcos, Dias	KB1NYG
Martineau, Maurice	N1UCT
Mauser, Gary	KB1IYX
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McArthur, Robert	K1QT
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Morley, Peter	K1LLB
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Nordberg, Peter	N1ZRG
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Nugent, John	KA1TZU
Oglesby, John	N9RE
Parr, Dick	KB1KLM
Peabody, Dave	N1MNX
Perry, Doug	KB1JCY

Piip, Erik	KA1RV/ES5RV
Pedtke, Dan	KW2T
Peters, Les	N1SV
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Pozerski, Scott	N1OMM
Pozerski, Stanley	KD1LE
Purcell, Donald	AB1DS
Purcell, Robert	N1WEH
Pyles, Scott	WX1J
Quinn, Peter	N1PQ
Rajczyk, Daniel	N1KJN
Randazzo, Paul	NW1U
Raymond, Herman	WW1HR
Reif, Karen	KA1JVU
Reif, Robert	W1XP
Rice, Gregory	N1VAV
Rice, Patrica	N1VAW
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Richardson, Allyn	N1PIP
Ritchie, John	N1WLM
Russell, Earl	WR1Y
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Springer, Kent	KD1TX
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Stromsted, Erik	W1ZBT
Sullivan, Dan	KB1OPC
Sweeney, Robert	KB1IIW

Swezey, Larry	KB1ESR
Swick, Elaine	N1QLV
Swick, Jeanine	N1QIT
Swick, Joseph	N1QDZ
Swick, Ralph	KD1SM
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## Other Phone Numbers

### **American Radio Relay League**

225 Main St

Newington, CT 06111-0200

860-594-0200      <http://www.arrl.org>

### **ARRL Eastern Mass Section Manager**

Phil Temples K9HI

k1gbx@arrl.org      <http://www.ema.arrl.org>

### **ARRL Eastern Mass SEC**

Rob Macedo KD1CY

New Bedford MA

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Ed Parish K1EP

Chelmsford MA 978-244-0417

### **Official Observer WMA**

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Marcia Forde KW1U

### **ARRL Western Mass Section Manager**

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w1kt@msn.com      <http://wma.arrl.org>

### **ARRL Western Mass SEC**

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n2yhk@wpi.edu

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Marcia Forde KW1U

**ARRL New Hampshire Section Manager**  
Sterling Eanes AK1K  
603-472-4934  
ak1k@arrl.org

## **Town Emergency Management Directors**

Dunstable	Sue Psaledakis	978-649-3257
Groton	Bill Shute	978-448-3096
Harvard	Bob Mignard	978-456-8222
Lunenburg	Brian LeBlanc	978-582-6520
Pepperell	George Ux	978-433-6932
Shirley	Dennis Levesque	978-425-4334
Townsend	Shirley Coit	978-597-2348

## **Town Police Direct Emergency Lines**

Ashby	978-386-5652
Ayer	978-772-8200
Dunstable	978-448-3256
Groton	978-448-5555
Harvard	978-456-1212
Lunenburg	978-582-4531
Pepperell	978-433-2424
Shirley	978-425-2642
Townsend	978-597-6214

## **Town Web Sites**

Ashby	<a href="http://www.ci.ashby.ma.us/">http://www.ci.ashby.ma.us/</a>
Ayer	<a href="http://www.ayer.ma.us/">http://www.ayer.ma.us/</a>
Dunstable	<a href="http://www.dunstable-ma.gov/">http://www.dunstable-ma.gov/</a>
Groton	<a href="http://www.townofgroton.org/">http://www.townofgroton.org/</a>
Harvard	<a href="http://harvard.ma.us/">http://harvard.ma.us/</a>
Lunenburg	<a href="http://www.lunenburgonline.com/">http://www.lunenburgonline.com/</a>
Pepperell	<a href="http://www.town.pepperell.ma.us/">http://www.town.pepperell.ma.us/</a>
Shirley	<a href="http://www.shirley-ma.gov/">http://www.shirley-ma.gov/</a>
Townsend	<a href="http://www.townsend.ma.us/">http://www.townsend.ma.us/</a>

## **Ham Radio Related Web Sites**

American Radio Relay League

<http://www.arrl.org>

Boston Amateur Radio Club

<http://www.barcl.org>

East Mass ARES

<http://www.emaares.com>

Joe Moell Radio Direction Finding

<http://www.homingin.com>

Minute Man Repeater Association

<http://www.mmra.org>

Nashoba Valley Amateur Radio Club

<http://www.n1nc.org>

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