NVARC
Nashoba Valley
Amateur Radio Club

SIGNAL

de N1NC

May 2006 Volume 15 Number 5

This Month's Meeting

Note: This month is the annual Pepperell Library Book Sale which is set up at the Community Center. The Club meeting will be held at the Pepperell Library which is just west of the Community Center on Route 113.

This month the meeting program will be a presentation by Den KD2S "An Introductions to NIMS/ICS Training." He will give introductions to ICS-100 and IS-700 courses including what are National Incident Management and Incident Command. How we use these structures at the local level. What is this training? Why FEMA would like all volunteers to have this training and how to obtain materials and certifications.

SKYWARN Training
Concord May 20

Last Month's Meeting

Last month we had club Elections. The following members were willing to serve again and ran unopposed for their positions.

President Stan KD1LE
Vice President Peter N1ZRG
Treasurer Ralph KD1SM
Secretary John KK1X

Joel W1JMM ran for the open Board Member position vacated by the end of term for Dave N1MNX.

The slate of officers was approved by a voice vote.

Thanks to the above members for their work the past year and for continuing. Thanks also to Dave for his participation over the past three years.

Anyone interested in helping to participate in the operation of the club is always welcome at the Board meetings held the 2nd Thursday of the month.

The meeting program was by Bob W1XP. Bob presented on Coax Connector Installations. Bob talked about the characteristics of common RF connectors, preparing cables, and installing the connectors.

Courtesy KD1SM

As a follow up to last months meeting program Bob submitted this additional information.

Connector Class Exam Crib

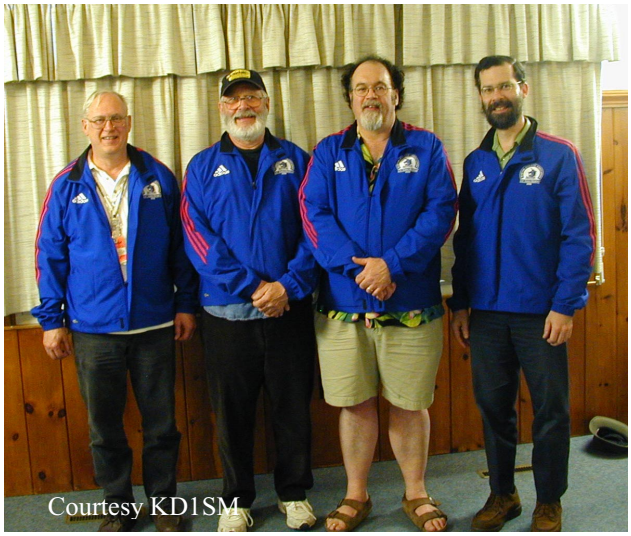
For those that missed the class at last months meeting on Coax and Coax Connectors or possibly anyone that didn't get the answer to the final exam ques-

tion about the impedance of RG 8/U coax here is the answer. The answers listed in the multiple choice question, were; A, “50 ohms”, B, “75 ohms”, C, “300 ohms”, D, “377 ohms”, and E, “None of the above”. Well those that knew the answer, or those that know me chose E. Yes, None of the above. Those that may have missed this probably chose 50 ohms. That was a good choice but not the correct answer. All of the early coax cables like RG 8, RG 9, and RG 58 were not exactly 50 ohms characteristic impedance. For example, RG 8 and 8A are 52 ohms and RG 9 and RG 9A are 51 ohms. Only later RG 9B is 50 ohms. RG 58 and 58B are 53.5 ohm cables. RG 58 A and RG 58C both have a stranded center conductor but 58A has 52 ohm impedance. The later RG 58C has 50 ohms impedance. RG 213 and RG 214 are the modern replacements for RG 8 and RG 9 and are 50 ohm cables. This all from the Times catalog CD. Now you may reply, “Who Cares?” Well for feeding the tri-band beam, or two meter vertical the short answer is nobody. But if you are designing a phased array feed system for example you do. You would probably buy some new cable like RG 213 so it would be all the same. 52 ohms is a 1.04 to 1 SWR in a 50 ohm system and in the noise of most SWR meters. But if you needed a precise phase shift in your cable you would want to consider this mismatch. So it makes a good Antenna trivia question.

On the connector installation issue Gary K1YTS suggested to me after the meeting that the nickel plated connectors could be soldered by removing the nickel around the four small holes in the connector with a drill bit just bigger than the holes. Once the brass of the connector is exposed the connector can be soldered. That is a good tip in a bind, but I still strongly suggest buying the silver plated connectors so you can get a good solder connection.

One thing that has been discussed at the board meeting is a connector work shop. The idea being to provide hands on experience putting on different types of coax connectors. I don’t know how many people would be interested in attending such a class. Up till now a time has not been available. But I thought filling in the July or August meeting dates with this type of activity might be a way to do this. Opinions? Is there interest in this activity?

73 Bob W1XP



Several members showed up at the meeting sporting their Boston Marathon jackets which they earned by helping provide communications for the race. Approximately 250 amateurs provide race support, including (above) KD1LE, KB1ESR, KK1X, and KD1SM.

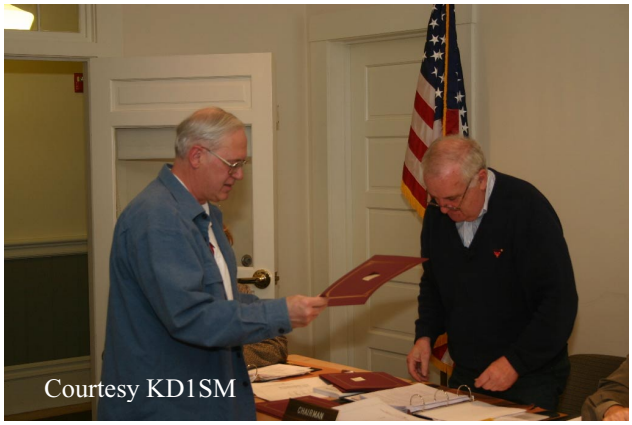
In attendance were the following members and guests. Stan KD1LE, Ralph KD1SM, John KK1X, Peter N1ZRG, Bob W1XP, Joel W1JMM, Phil KB1JKL, Earl WR1Y, Erik W1ZBT, Peter KB1LZH, Jim W1TRC, Les N1SV, Nancy KB1KEF, Gary K1YTS, Dale AB1GA, Bob AB1CV, Skip K1NKR, Pete W1LLB, Leo K1LK, Dave N1MNX, Walter K1CMF, Dennis K1LGQ, and guest Bruce Thaxter.

W1TRC Recognized

Jim W1TRC received the QST Cover Plaque Award for his Ultrasonic Power Line Arc Detector that was published in the May 2006 issue of QST.

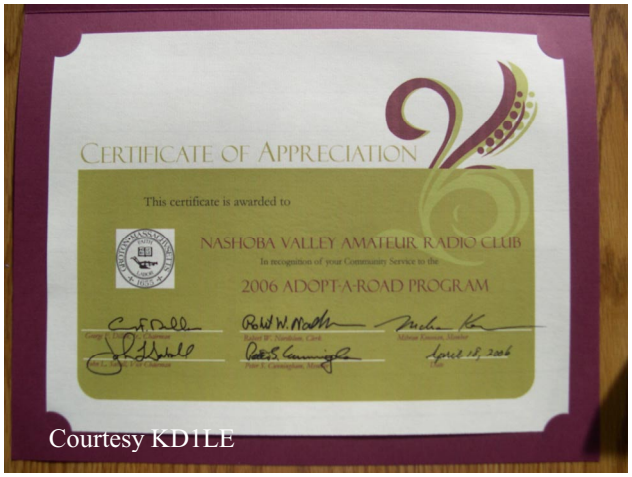
NVARC Recognized

The evening of April 17th several members attended the Groton Selectmen’s meeting to represent NVARC by accepting a Certificate of Appreciation for our road cleanup work.



Stan KD1LE accepts the certificate from the Chairman of the Groton Board of Selectmen.

Attending the meeting were Larry KB1ESR, Stan KD1LE, Joel W1JMM, Bob W1XP, and Ralph KD1SM behind the camera.



Congratulations

Congratulations to Dale who earned his full ticket recently and sports call AB1GA.

Also welcome to new member Pete W1LLB who joined NVARC at the April meeting,

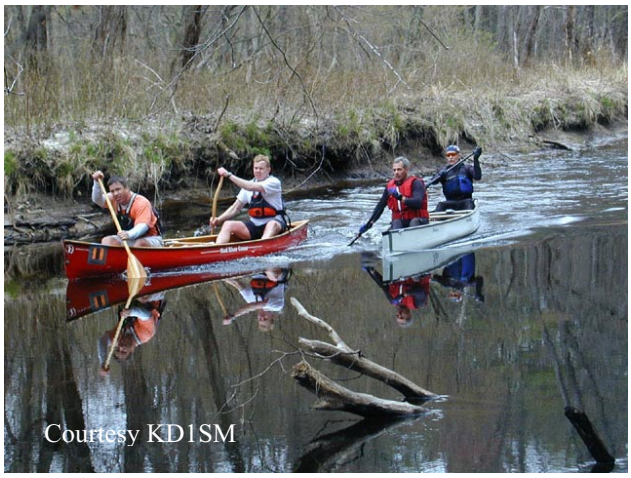
Board Meeting

Due to printing schedules the newsletter was sent to press the day before the Board Meeting so any new information will be passed on at the regular meeting.

Townsend Lions Canoe Race

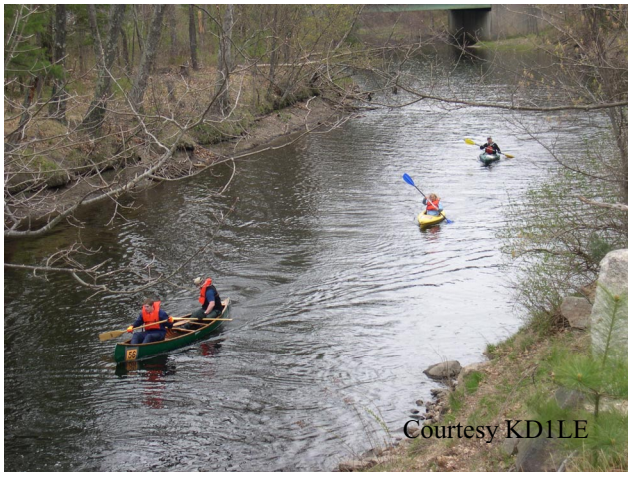
April 22nd members supported the Townsend Lions Canoe Race. We staffed locations along the Squannacook river and maintained logs of canoes so we could provide information on where the first canoe was located, the progress of each canoe so we could isolate the area where a canoe was last seen, and track the last canoe to establish that the course was clear of all participants.

Organizing the radio support for this event was Gary K1YTS. Others participating were Stan KD1LE, Bob AB1CV, John KK1X, Nancy KB1KEF, Tom KB1JSG, Charlie KT1I, Tom K1JHC and Ralph KD1SM.



Above canoe number 4 (white) challenging canoe number 1 (red) for the lead at Old Meetinghouse Rd. Canoes started at one minute increments in number order so canoe 4 started 3 minutes after canoe 1.

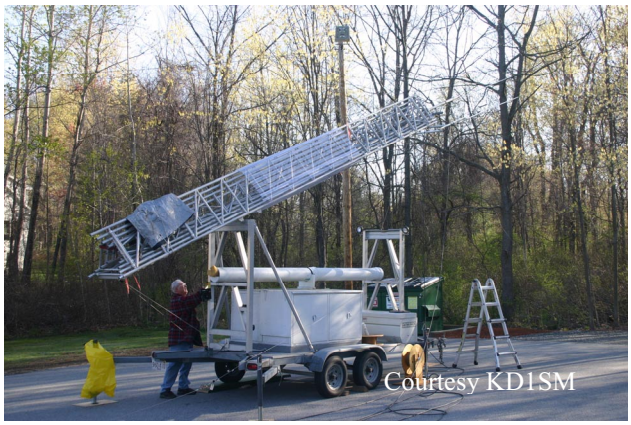
A canoe passes under the trestle just south of the center of Townsend.



The canoes are started at one minute intervals from a location near the Townsend VFW in West Townsend. Since there are several mandatory portages at particularly dangerous locations such as two dams spreading out the starts prevents the participants from piling up at those locations.

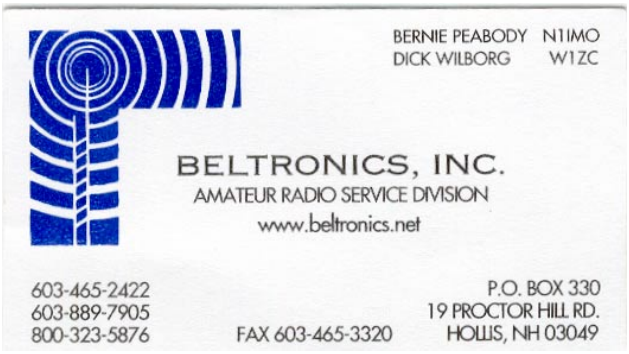
Groton Road Race

Above some of the 800 runners competing in the 5K Groton Road Race on April 30. Approximately 1200 total runners participated in the 5K and 10K events. A crew of 39 Amateur Radio operators provided communications support for the day, all coordinated by NVARC. Next months newsletter will have complete details.



The crew started setting up just after O'dark 30.

Advertisements



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

Treasurers Report

Income for April was $130 in membership dues, $23.11 from bank interest, $2 from ARRL membership renewals, plus a $50 donation. Expenses were $15.60 for newsletter postage leaving a net income of $189.51 for the month.

The $50 donation was a road cleanup find by eagle-eyed Bob W1XP of a very soggy Ulysses S. Grant note! Thanks, Bob.

Current balances:

General fund	$4612.07
Community fund	$2071.83

Welcome to new member Peter Morley W1LLB of Pepperell.

As of 10 May we have 59 members who are current with their dues and 5 renewals outstanding. Many membership anniversaries are 1 April. Please check the member roster that is circulated at the monthly meeting if you do not remember your renewal date. Your membership date also appears on the newsletter mailing label for those who still get hardcopy.

As a Special Service Club, the ARRL expects a minimum percentage of our members to also support the ARRL. If you are not yet an ARRL member, please consider joining. The ARRL creates many programs that are critical to the long-term health of Amateur Radio. And *we* are the ARRL.

Your support of ARRL gives you access to special members-only material on the ARRL Web site and helps ARRL in its efforts to show how Amateur Radio benefits the public.

Ralph KD1SM

PSLIST April 11

Date Location Event Contact Tel/Email

May

13 Westford Apple Blossom Parade Terry KA8SCP 978-692-2069 ka8scp@arrl.net

21 Devens Parker Classic Road Race Stan KD1LE 978-433-5090

21 Wellesley Veterans Parade Tom N1CPE 508-478-4230 http://www.wellesleyparade.com/index.htm n1cpe@amsat.org

Jun

4 Boston MA AIDS Walk Boston Bruce KC1US 781-275-3740 wfh06@amateur-radio.net

Jul

1 Princeton Fitchburg Longsjo Classic Ralph KD1SM 978-582-7351 kd1sm@arrl.net

2 Fitchburg Fitchburg Longsjo Classic Ralph KD1SM 978-582-7351 kd1sm@arrl.net

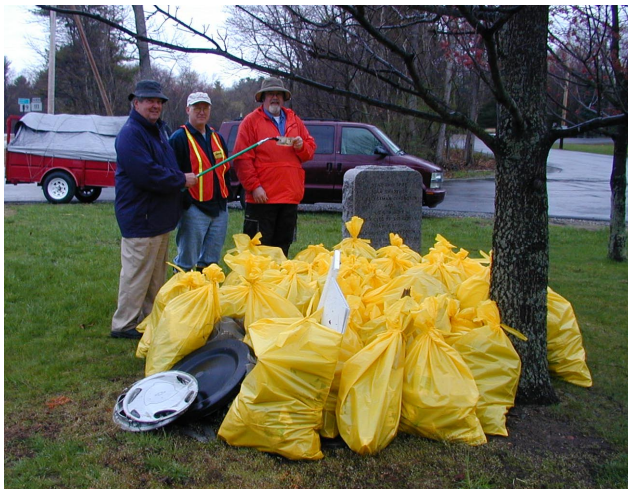
4 Chelmsford MA 4th of July Parade Darrel K1EJ 978-251-4805 k1ej@arrl.net

NVARC Club Net

The club net meets on the 442.900 repeater. Recent participants include Dave N1MNX, Bob W1XP, Bob AB1CV, Joel W1JMM, John KK1X, Larry KB1ESR, Skip K1NKR, Gary K1YTS, Ralph KD1SM, Stan KD1LE, Don AB1DS, Les N1SV, Richard KB1MBR, Ken K1JKR Dan N1LLG and Peter KB1LZH. Recent discussions were on Field Day preparations, repeater work, meeting information, tools needed, possible field trip destination.

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

Adopt-A-Highway



Our first cleanup of 2006 was Sunday April 23rd. This is always our toughest cleanup of the year since we are catching up from the winter layoff. We had a great turn out with 10 participants. We picked up a record 36 bags of trash plus a stack of hubcaps and other metal objects. This was partly due to some advance work and detailed pickup of the canoe launch and boat launch areas on the river. The find of the day was a $50 bill found by Bob W1XP which is being held by Peter and John in the picture. Bob donated the bill to the NVARC Treasury.

The next road cleanup is Saturday May 20th after breakfast.

Thanks to the following members for their participation; Ralph KD1SM, Peter N1ZRG, Stan KD1LE, Earl WR1Y, Jim AA1PO, Leo K1LK, Nancy KB1KEG, Gary K1YTS, Bob W1XP, John KK1X.

We meet at the Nashua River common at 9:00 AM.

ARRL Letter

A FORCE FOR THE FUTURE: EDUCATION AND TECHNOLOGY PROGRAM NEEDS YOUR HELP

To those who wonder--or worry--about what the League is doing to ensure the future of Amateur Radio, ARRL Chief Development Officer Mary Hobart, K1MMH, offers a prompt response: the ARRL Education and Technology Program (ETP). More familiar to many as "The Big Project," the program has provided turnkey Amateur Radio stations and educational materials to more than 170 schools across the US. More important, Hobart says, the ETP each year exposes many youngsters and their teachers to Amateur Radio, wireless technology, electronics and even robotics--something that likely wouldn't happen if the program didn't exist. With the ETP kicking off its 2006 fundraising campaign this month, Hobart emphasizes that the program depends entirely on individual donations.

"The Education and Technology Program is unique among ARRL's programs in that it is totally funded by voluntary member contributions, so the onus to continue to put stations in schools and to grow the program rests on those willing to contribute," she says. "This is an awesome responsibility for the Amateur Radio community."

Campaign revenue not only covers the cost of placing stations in schools, Hobart notes. It also funds a burgeoning schedule of Teachers Institutes each summer as well as ongoing efforts to guide national educational standards in science and mathematics. Hobart called the Teachers Institutes "a powerful tool" to inspire educators and to help them develop confidence in teaching about wireless technology and electronics through Amateur Radio.

Generous gifts helped the ETP to expand to five the number of free Teachers Institutes it's offering in 2006, its third year, and Hobart is optimistic that the program will be able to afford additional sessions in the years ahead. Some, but not all, of those who attend are Amateur Radio licensees, while others become hams as a result of attending the week-long sessions. In any event, Hobart points out that Teachers Institute alumni influence thousands of youngsters each year.

In fact, the "poster boy" for the 2006 campaign is Ronny Risinger, KC5EES, a teacher at LBJ High School in Austin, Texas--an ARRL "Big Project" participant. Risinger attended the first ETP Teachers Institute in 2004 at ARRL Headquarters. His success with the program became the centerpiece of this year's ETP fundraising effort.

"Ronny's story is a powerful one," said Hobart. "He's a teacher and a ham who's taken advantage of all the ETP resources at his disposal. This is why we tell his story."

Risinger credits the ETP and the Teachers Institute with his success in inspiring and teaching his students. He says the League program gave him a strong sense of confidence that allows him to be a better teacher, presenting his classroom material in unique and engaging ways—and especially hands-on projects that captivate his students.

Hobart says Risinger is just one example of how ETP participation and attendance at a Teachers Institute can inspire educators and help their students to embrace both wireless technology and Amateur Radio.

"Supporting the ARRL Education and Technology Program is an opportunity to do something about the future of Amateur Radio and attracting the younger generation," Hobart says. "Outside of the League's ongoing and essential effort to defend our spectrum, I can think of no other initiative that prepares ham radio for its future."

Contribute to the ARRL Education and Technology Program by July 31 via the secure donation Web site <https://www.arrl.org/forms/development/donations/education/education.html>. Contributions are tax deductible to the extent allowed by law.

JROTC CADETS AT ALABAMA SCHOOL QUERY ISS ASTRONAUT

US Air Force Junior Reserve Officers' Training Corps (JROTC) cadets at Bob Jones High School in Madison, Alabama, got the first shot at speaking with new ISS crew member Jeff Williams, KD5TVQ. The Amateur Radio on the International Space Station (ARISS) program arranged the May 1 contact with NA1SS, which marked the inaugural school QSO of Williams' duty tour as part of Expedition 13. Posing the first question was Williams' nephew, Adam Williams, who wanted to know if his uncle found it difficult to adapt to living in space.

"It takes a little bit of adaptation to get used to living in space, no matter times you've been here, but after you've been here the first time, you know what to expect, so it's a lot easier to adapt," Williams told his nephew. "It still takes a little bit of time to adapt to the weightless environment and to know your way around--in this case, in a new spacecraft, the space station."

Williams flew aboard the shuttle Atlantis in May 2000 on a 10-day space station assembly mission. During that flight, he performed a spacewalk lasting almost seven hours. He told the Bob Jones students that he's already looking forward to his next spacewalk, set for later in his mission. As opposed to the initial jolt of a shuttle launch, Williams told the cadets, the Russian Soyuz rocket launch is easier the first couple of minutes but gets rougher as it continues its flight into space.

Williams also described the science experiments he and Expedition 13 Commander Pavel Vinogradov, RV3BS, have under way. "We do a variety of experiments," he explained, adding that some projects deal with fluid dynamics, to help understand how fluids behave in a weightless environment. In addition, the crew is growing crystals to study materials science, "because crystals will grow more uniformly and precisely in a weightless environment without the force of gravity."

Other research is investigating the effects of weightlessness on the body "so that we understand how to counter the impact on the body for future, long-duration missions--especially to places like Mars or living on the moon for a long period of time," Williams said.

Replying to a later question, Williams said he expects astronauts to again land on the moon, but he added that he doesn't expect that to happen before 2010. "Nothing goes as quick as we want it to, but we will go back to the moon--I'm confident of that."

The school's senior aerospace science instructor, Lt Col Randy Herd (Ret) served as the master of ceremonies for the event as students and other faculty members looked on. Tony Hutchison, VK5ZAI, served as the Earth station for the event. Verizon Conferencing donated a teleconference link to provide two-way audio between the school and Hutchison's QTH in Kingston, Australia. The contact Dieter Schliemann, KX4Y, served as the ARISS mentor for the Bob Jones High School contact, which was the 238th school QSO since the first crew arrived aboard the ISS in 2000.

ARISS <http://www.rac.ca/ariss> is an educational outreach of a nine-nation consortium, with US participation by ARRL, AMSAT and NASA.

HIGH SCHOOL TO OFFER "RADIO AMATEURS AND DISASTER OPERATIONS" CLASS

A California high school that's participating in the ARRL Education and Technology Program (ETP--also known as "The Big Project") will offer a year-long elective course, "Radio Amateurs and Disaster Operations" (RADIO), starting this fall. Moorpark High School math and meteorology teacher Tom Baker, NC6B, says the course is the first of its kind anywhere in the US. The class curriculum was created in conjunction with the ARRL, the American Red Cross and various Ventura County agencies. ARRL ETP Coordinator Mark Spencer, WA8SME, gives the new course high marks and says it has a great chance to succeed.

"This program has in place all three components that will be necessary for success: a motivated teacher,

supportive school administration and strong support and involvement by the local ham community," Spencer said. He attended an April 4 meeting at the school to discuss its "Learn and Serve Program," and he believes the support shown at that session will greatly boost the RADIO initiative.

"The meeting was well attended, and the attendees included representatives of all the emergency management participants in the program, the mayor's office, the school and district office, school support staff and the ARRL Division and Section," Spencer said. Among those on hand were ARRL Southwestern Division Director Dick Norton, N6AA, and Santa Barbara Section Emergency Coordinator Jennifer Roe, AA6MX.

The elective RADIO course is open to students in grades 9 through 12, and it will feature instruction from certified experts in their respective fields. After studying, testing and meeting any practical skills requirements, all RADIO students will come away with an Amateur Radio license (at least Technician class), American Red Cross First Aid Training Certification, American Red Cross CPR Training Certification and American Red Cross AED Training (Automated External Defibrillator) Certification.

Students will learn about and how to seamlessly interface with the National Incident Management System (NIMS), Incident Command System (ICS) and local government infrastructure. They'll also learn search-and-rescue techniques among other disaster and emergency preparedness skills. RADIO participants will even learn peer mediation skills.

The RADIO course not only will provide service-learning opportunities for students but will make them prime candidates as volunteers for service organizations and, later, as potential service professionals.

Moorpark High School, which has an enrollment of approximately 2700, established its Amateur Radio club, W6MHS, last August, and it became an ARRL-affiliated club in October. In December, W6MHS won an ARRL ETP grant and received station equipment through the program (some 170 schools now participate in the "Big Project"). This August, Moorpark High School will host one of the ARRL ETP Teachers Institutes.

"We are very excited about this program," said Baker of the RADIO course. He has offered to help other schools in the US to establish RADIO curricula. "This will be quite a challenging and enjoyable class. It will give students skills to become positively and directly involved with their community, and it gives this high school a pool of talented, trained individuals who can assist with many on-campus situations."

Contact Baker (805-378-6305) for more information or visit the RADIO page on the school's Department of Meteorology Web site <http://www.mhsweather.org/pages/10/index.htm>.

ARRL STAFFER DEMOS "MAGIC TRICK" FOR SCIENCE TEACHERS

ARRL Education and Technology Program ("The Big Project") <http://www.arrl.org/FandES/tbp/> Coordinator Mark Spencer, WA8SME (left), shone the spotlight on Amateur Radio and the ARRL during the National Science Teachers Association (NSTA) 54th national conference April 6-8 in Anaheim, California. Spencer reports some 15,000 teachers stopped by the ARRL booth, and most picked up a brochure.

"I talked with probably 300 educators specifically about ARRL-related programs such as the Teachers Institutes, 'The Big Project' and Amateur Radio on the International Space Station (ARISS)," he said.

After he'd demonstrated what happens when you drop a magnet through a length of non-ferrous metal pipe, one teacher returned the next day with his wife "so I could show her the 'magic trick,'" said Spencer.

The magic trick demonstrates two fundamentals Spencer uses when teaching electronics and electricity: (1) Moving magnetic fields cause electrons to move, and (2) Moving electrons create magnetic fields. "When the magnet falls through a non-ferrous metal pipe, the moving magnetic field causes the electrons in the conductor to move," Spencer explains. "Those moving electrons in turn create an opposing magnetic field that prevents the magnet from falling right through, giving it a 'slow motion' effect."

Spencer says the magnet moves more slowly in a copper pipe than in an aluminum pipe because copper is a better conductor. It falls straight through a PVC pipe because PVC is an insulator. "All of electronics and radio boils down to how we manipulate these two fundamental principles," he concluded.

Flea Markets

May
21 MIT
27 Hartford Hamfest, Vernon CT

June
2 Feeding Hills MA
3 Hermon ME
11 Newington ARL, Newington CT
18 MIT

July
MIT

Contest Calendar and DXpeditions

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

May

6-7 New England QSO Party
13-14 Volta RTTY Contest
CQ WW WPX CW

DXpeditions

Call	Location	Until
9V1CW	Singapore	2008
T68G	Afghanistan	March 2007

Special Event Station
Titanic Special Event Station W1MGY April 9-15

NVARC

Nashoba Valley
Amateur Radio Club

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http://www.n1nc.org/

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

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