



# SIGNAL



de N1NC

April 2001 Volume 10 Number 4

## This Month's Meeting

This month we have elections. All officer positions and one board member position are up for election. It's not too late to throw your hat in the ring so to speak. In particular we need to fill the Vice President spot which has been open for some time and the one board position which becomes open each year. If you're interested in doing something else there are appointed positions like Public Information Officer, Newsletter Committee, etc.

For the most part the same people have been carrying the load for the past eight years. To ensure continuity we need to fill some empty spots and replace a few of them so they can go on to other things. We should at least give them that opportunity. It is much more orderly to have a few officers or board members replaced periodically than to wait until they are all burned out and resign en masse. Most of the positions don't require significant work and you get to add your own influence to the directions the club takes. [-ed]

Our regular meeting program was not confirmed as of printing time.

We have produced a Club Yearbook that we will hand out at the meeting. We have developed it to the point that we believe we need input from the members to go into a next edition. Information particularly in the section on club history would be appreciated. We look forward to your comments and hopefully your additions.

Bring your short Shows-and-Tell to the meetings. They are always welcome. It's always interesting to see the variety of things people are working on.

We are always looking for ideas for the meeting program. Don't be afraid to suggest something that seems interesting to you.

We gather at Tiny's for breakfast Saturday mornings at 8:00 AM. We sit in the back dining area.

## Club Activities

Erik is still looking for a few more hams to cover the Groton Road Race on April 29th.

We are also in need of volunteers for our first road cleanup of 2001 on April 22nd. Also for the Parker Classic Road Race in May. Contact Stan KD1LE if you can help on either of these activities.

## Last Month's Meeting

Last month's program was Amateur TV (ATV) by Jim Evans N1HTS. Jim discussed the equipment used for ham fast scan TV in the context of public service events. He had pictures of the set up used on the Mt. Washington to take and relay the video from the hill climb to the race officials. He also showed the equipment he uses to put an ATV station on the air. He had video from the Mt Washington Auto Race which Erik and some local hams support. They provide both audio and video coverage of the event for driver safety. The video showed some exciting happenings including a dramatic excursion of one vehicle some 350 feet off the road.

There are many websites that can provide the beginner with more information, including: [www.hampubs.com](http://www.hampubs.com), [www.hamtv.com](http://www.hamtv.com), plus several Notes reflectors with relevant information.

Other Notes

-The article on the Fox-Finder is in the April QST and is expected to generate considerable business for the club produced kit.

-RACES in Pepperell is looking for local hams to volunteer. All that is necessary is that Pepperell Hams be sworn in prior to attending emergencies. To get more information please contact Dave Peabody N1MNX.

-Stan KD1LE raised the issue of a bylaw change in order to cover the split up of club funds in the event of the clubs future dissolution. The rules require that this information be given to members a month prior to any proposed bylaw change. Discussion ranged over how the bylaws were documented and whether members had copies of the bylaws. This topic will be continued at the Board meeting and communicated to the next Club meeting.

-Members were advised of the upcoming elections (April 2001)

-Russ WR1Y advised members of an information paper he has produced explaining and clarifying the previous meetings discussions on Directivity and Gain. Copies of the paper were made available to members for reference.

-Les Peters N1SV suggested a topic for a future meeting be a discussion/presentation of Logging Software (which he would be prepared to present)

-The Meeting Raffle was held and the winner was ticket #616915 (Les Peters)  
Guest Speaker:

### Board of Directors Meeting

The Board of Director meeting was held April 12th, 2001 at Eriks. A Members Handbook was proposed and a sample text was presented. Some missing details were added through the discussion. The Board voted to approve money to produce the handbook and it will be handed out at the April meeting. The Board accepted the Treasurer April report and the fiscal year report. Both are printed elsewhere in this newsletter.

### Local Amateurs Published in QST

The April 2001 issue of QST contained two separate articles by area hams.

Ralph KD1SM together with Stan KD1LE and Bob W1XP had a construction article on their FoxFinder radio transmitter locator design published. Their article appears on page 35.

The FoxFinder is also shown in the cover photograph with a homebrew antenna designed by Bob W1XP. (That antenna may be the subject of a future construction article.)

Bill NZ1D (Townsend) contributed an article describing the formula for computing the proper length for pulley drive belts as used on Heath and other equipment. Bill's article appears in the Technical Correspondence section on page 83.

### FoxFinder Industries

Since the publication of the FoxFinder article in the April issue of QST members have been busy. There has been a lot of email to answer with interesting questions about alternative uses for the FoxFinder. There have been a number of requests for an antenna design for fox hunting. There have also been the normal questions about where to find parts and such.

One question you might ask is "Where have all the FoxFinders gone?" On the next page is a map of all the states where we have shipped a FoxFinder kit or FoxFinder PCB. In addition to the U.S. we have shipped to Canada and to Great Britain.

FoxFinder Migration



The following pictures show some of the activities related to the FoxFinder project.

Below Wolf kits sets of ICs to be ready so that final kits can be assembled quickly. Note in the background behind Wolf is the FoxFinder Industries athletic club. The next picture is one of our happy employees

though he looks like FoxFinder Industries budget for heat needs to be increased. Hang on Bob Summer is coming.



Once we have all the small parts prepared the final kits can be quickly assembled on this hi tech assembly line.



In the main offices the management staff takes care of all the accounting on the left and the administrative staff does the menial stuff like collating instruction sets. In the lower left corner are packaged FoxFinders ready to head for the Post Office.

We could use a few more people on Saturday mornings to help catch up on some of the work. With the weather getting better we would like to get out and do some other activities like fox hunting. So if you come to breakfast at Tiny's we go to work from there. Or you can arrange to meet us at the factory a little later should you want to sleep in.



Here at FoxFinder Industries we take care of our employees. This dish was piled high with fresh baked cookies when we started thanks to Lynda N1PBL.

**Public Service Jan 2001**

Listing public events at which Amateur Radio communications is providing a public service and for which additional volunteers from the Amateur Community are needed and welcome. Please contact the person listed to identify how you may serve and what equipment you may need to bring.

Every event listed is looking for volunteers  
 Date Location Event Contact Tel/Email

Apr 29 Groton MA Groton Road Race Erik KA1RV  
 978-448-5536 erik@eggo.org

Apr 29 Boston MA March of Dimes WalkAmerica  
 Bruce KC1US 781-275-3740 kc1us@cyberzone.net

May 6 Boston MA Walk for Hunger Bob K1IW 413-  
 647-3060 wfh@demattia.net

May 13 Devens MA Parker Classic Road Race Stan  
 KD1LE 978-433-5090 kd1le@amsat.org

Jun 10 Gloucester MA ADA Tour de Cure, Bike Tour  
Keith N1HLK 781-631-2262 N1HLK@nsradio.org

The most recent copy of this list is maintained as  
<http://purl.org/hamradio/publicservice/nediv>.

## From The ARRL Letter

### HOLLINGSWORTH HEAPS PRAISE ON OFFICIAL OBSERVERS

FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth this week offered high praise for the work of the volunteer ARRL Amateur Auxiliary's corps of Official Observers. Long a strong supporter of the OOs, Hollingsworth's most recent burst of appreciation was inspired by investigative footwork done by an OO team that's assisting the FCC in an enforcement inquiry.

"It makes me realize that if it weren't for the OOs over the past 10 years, Amateur Radio would probably have imploded long ago and disintegrated from its own chaos," Hollingsworth said. "We really thank them very much for their work here."

The Amateur Auxiliary is composed of approximately 700 ARRL Official Observer volunteer appointees across the US. The program was developed as a result of a formal agreement between the FCC and the ARRL.

OOs function as helpers and advisors, not enforcers. They monitor the bands and notify amateurs of technical and operating discrepancies as a service.

In cases involving serious rule violations such as malicious interference, however, they are trained and certified to gather and forward evidence that can be used by the FCC in enforcement actions. All OOs must pass a comprehensive examination before they can be certified as members of the Amateur Auxiliary.

In recent months, Hollingsworth's office has been attempting to make greater use of the Amateur Auxiliary in tackling enforcement issues. He says the Official Observer program offers a way for amateurs to solve their own problems internally, without bringing in the FCC, but he notes that OOs often can provide valuable local perspective during enforcement inquiries.

"It's this type of devotion of personal time to Amateur Radio and to helping us that gives me enough adrenaline to last for months," Hollingsworth said.

The bottom line, according to Hollingsworth, is protecting the future of Amateur Radio for those who enjoy it. "Radio spectrum has extremely high visibility, and every time an operator gets on and degrades the bands, that operator is not only making Amateur Radio less enjoyable but endangering it as well."

For more information on the Amateur Auxiliary program, visit the ARRL Web site, [http://www.arrl.org/FandES/field/org/am\\_aux.html](http://www.arrl.org/FandES/field/org/am_aux.html).

### FCC PROPOSES LOWER AMATEUR RADIO VANITY FEE

The FCC is proposing to lower the fee to obtain or renew an Amateur Radio vanity call sign from \$14 to \$12. The new fee, if approved, likely would go into effect sometime in September. The proposed lower fee was contained in an FCC Notice of Proposed Rulemaking for the Assessment and Collection of Regulatory Fees for FY 2001 (MD Docket No. 01-76), released March 29. The FCC said it estimates 8000 applicants will apply for vanity call signs in the current fiscal year.

Applicants for Amateur Radio vanity call signs will continue to pay the \$14 fee for the 10-year license term until the FY 2001 fee schedule becomes effective. The effective date for the new FCC fee schedule will be announced later this year in a Report and Order or by a Public Notice published in the Federal Register.

Comments in the fee proceeding are due by April 27; reply comments must be received by May 7, 2001. Comments filed through the FCC's Electronic Comment Filing System can be sent via the FCC Web site, <http://www.fcc.gov/e-file/ecfs.html>. Generally, only one copy of an electronic submission must be filed.

### HAM RADIO AIDS RESCUE ON THE HIGH SEAS

Amateur Radio operators again have assisted in a high seas rescue operation after pirates attacked a private sailing vessel March 20 off Venezuela. The skipper, identified as Bo Altheden, reportedly was shot, and his female companion, ViVi-Maj Miren, summoned help via the Maritime Mobile Service Net on 20 meters. The victim was reported to be recovering in a Trinidad hospital.

The incident in the Caribbean occurred some 3200 km east-southeast of a similar pirate attack nearly a year ago. In that incident armed marauders shot young Willem van Tuijl from the Netherlands, who was sailing with his parents.

According to Coast Guard Lt Jose Diaz, KP3J, of the Rescue Coordination Center in San Juan, Puerto Rico, the 44-foot ketch Lorna, of Swedish registry, was en route to Trinidad and Tobago when pirates attacked some three nautical miles offshore. Altheden was shot once in the abdomen.

The pirates destroyed the VHF radio, so Miren activated an emergency locator transmitter (ELT). The San Juan Rescue Coordination Center received ELT "hits" from the Lorna and notified Venezuelan authorities.

Word arrived at Miami Coast Guard some 90 minutes later from the Maritime Mobile Service Net's Mike Pilgrim, K5MP, of a distress call from a woman on the Lorna on 14.300 MHz. Miami Coast Guard forwarded the information to the San Juan rescue center. Diaz tuned to 14.300, where Bobby Graves, KB5HAV, Dave Dalziel, N4ICE, and Jim Hirschman, K4TCV—a physician who had assisted in the van Tuijl pirate attack last year—already had activated an emergency net. An amateur in Trinidad, Eric Mackie, 9Z4CP, also assisted in communications.

Among those standing by on frequency were Ed Petzolt, K1LNC, in Florida, and Hector Godoy, HR3HGB, in Honduras, both of whom were instrumental in the van Tuijl rescue operation a year ago. The amateurs on 20 meters were able to calm the woman, and Hirschman provided medical counseling.

Diaz got permission from Venezuela to allow a vessel from Trinidad to assist, and a Venezuelan Navy vessel arrived on scene simultaneously with a Trinidad Coast Guard fast boat, with medical personnel. Trinidad medical personnel and crew took control of the sailboat from the shaken and exhausted Miren.

High seas made it too risky to move the victim. Instead, the Swedish sailboat continued on to Trinidad escorted by the Venezuelan Navy vessel and the Trinidad CG cutter.

Diaz credited amateurs with doing "a tremendous job" in helping to keep Miren calm and to relay information for the US Coast Guard to her and for maintaining order on frequency.

"This is what it is all about," Diaz said. "Stay always ready, that others may live."

Pilgrim called the afternoon rescue "one of the most rewarding experiences I have had during my 45 years on ham radio."

### **AMSAT DETAILS LIKELY AO-40 FAILURE SCENARIO**

AMSAT-NA President Robin Haighton, VE3FRH, has issued a likely explanation of why AO-40 suddenly went silent in mid-December. Haighton's March 16 statement outlines a three-part failure scenario theorizing that AO-40's problems began with a fault in a helium valve.

"Initial thoughts were that the spacecraft was completely dead and that chances of recovery were remote, with the possibility that AO-40 was in multiple pieces," Haighton said. The satellite's 2-meter beacon quit while ground controllers were testing the onboard 400-newton motor system after anomalies with an orbit-shifting burn that lasted several minutes too long.

It was almost two weeks before ground controllers were able to reset the onboard computers and restart a beacon on 2.4 GHz.

Ground controllers have been somewhat successful in regaining control of the next-generation amateur satellite since telemetry transmissions resumed Christmas Day, but Haighton concedes some onboard systems may not be recoverable.

Haighton said that while the Phase 3D team may never know exactly what happened, the likely scenario includes what Haighton told ARRL was "a minor explosion" aboard AO-40, as out-of-place fuel mixed and then ignited as a result of a blocked exhaust port on a helium valve.

"We think it was a human error thing," Haighton conceded in an interview with the ARRL. He did not elaborate.

Ground controllers have used AO-40's magnetorquing system to reduce the satellite's spin rate to around 5 RPM and are optimistic that they'll be able to re-orient the satellite for communication with Earth. The satellite's omnidirectional antennas appear to be lost, but ground controllers hope the high-gain directional antennas still work and that reorienting the spacecraft will bring about a resumption of signals from other transmitters.

AO-40's heat pipe system—which could not work at the higher spin rates—has begun operating again too, considerably reducing internal temperatures. But ground controllers are pessimistic about being able to restore AO-40's 2-meter and 70 cm transmitters.

Yet to be tested is the onboard arc-jet motor, which ground controllers hope to use to reorient the satellite so that the high-gain antennas will face the Earth. "Following the reorientation it will be possible to test the remaining systems on board the spacecraft and to determine which systems and bands will be available for future operations and under what conditions," Haighton said.

### **QST TO GET NEW EDITOR, PUBLISHER**

Steve Ford, WB8IMY, will become the new editor of ARRL's official journal QST effective April 2. Ford, who's now QST managing editor and supervises the magazine's editorial staff, will succeed Mark Wilson, K1RO, as QST editor and Editorial and Production Department manager, ARRL Executive Vice President and CEO David Sumner, K1ZZ, announced today.

Ford said that under his leadership QST will maintain its current editorial direction. "QST has been very successful," he said. "The membership clearly enjoys the magazine, and I don't foresee any changes in the near future."

Wilson, who was designated earlier this year as ARRL's chief operating officer, will become QST publisher, a title Sumner now holds.

Ford, 46, came to ARRL Headquarters in 1991 as an editor on the Book Team, and he is the author of several League publications. He became assistant managing editor of QST in 1993 and managing editor in 1995.

In his new role, Ford will be responsible for the QST and ARRL book editorial teams, as well as production of CD-ROM publications and the graphics and editorial production areas at ARRL Headquarters.

Taking over as QST managing editor and editorial team supervisor will be Book Team Supervisor Joel Kleiman, N1BKE, a 25-year HQ veteran.

"QST is Joel's first love, and we're looking forward to putting his excellent editorial and organizational skills to use there," Sumner said.

"We believe that he and Steve will make a great team."

### **ISS EXPEDITION 2 CREW TRIES OUT HAM GEAR; SCHOOL QSOS SET**

Expedition 2 crew member Susan Helms, KC7NHZ, had barely settled in aboard the International Space Station when she apparently felt the urge to do a little hamming. Helms, who traveled to the ISS last week aboard the shuttle Discovery with crewmates Yury Usachev, UA9AD—the Expedition 2 commander—and fellow US astronaut Jim Voss—worked a couple of US stations March 18 and 19 and was monitored by another in Australia.

The ham who had snagged the first-ever casual ham contact with the ISS—Randy Shriver, KG3N, of Hanover, Pennsylvania—got lucky again with the Expedition 2 crew. Shriver heard Helms calling CQ early on the morning of March 18 and gave her a call. "Using NA1SS she came back to me," he reports.

"I was able to talk to her for 45 seconds." On November 13, Shriver worked Expedition 1 crew commander William Shepherd, KD5GSL. Samuel Danner, N3MPE, of Smithsburg, Maryland, had his police scanner set to a ISS 2meter downlink frequency on the off chance he might hear something—and he did. Danner reports he wasn't prepared for the shock of hearing Helms' voice calling CQ. Danner says he ran out to his car, equipped with a scanner programmed with ISS frequencies, to listen further. "It was 29 degrees in the car; I didn't care," he said, adding that he could even see the space station overhead at the time. "It was fantastic!" Danner also was able to make contact with NA1SS.

Gordon Williams, VK6IU, reports that he heard Helms calling while the ISS was over Western Australia on March 18.

Helms likely will handle on-air duties next week when the first Amateur Radio on the International Space Station school contacts for the Expedition 2 crew are scheduled to occur. Students at the John B. Reible School in Santa Rosa, California, are scheduled to speak with the crew March 26 or 27, while students at Vicksburg High School in Mississippi are scheduled for April 4 or April 6.

The Expedition 1 crew of William Shepherd, KD5GSL, Yuri Gidzenko, and Sergei Krikalev, U5MIR, arrived back on Earth this week aboard the Discovery. Usachev, Helms and Voss were reported to be adapting to

the new quarters they'll call home for the next four months.

For more information on the ARISS program, visit the ARISS Web site, <http://ariss.gsfc.nasa.gov>.

### **AMATEUR RADIO SPECTRUM PROTECTION ACT OF 2001 INTRODUCED IN SENATE**

The Amateur Radio Spectrum Protection Act of 2001, introduced earlier this month in the US House, now is officially a Senate bill, S.549. Republican Sen Michael Crapo of Idaho introduced the bill in the upper chamber March 15.

Democratic Sen Daniel Akaka of Hawaii was a co-sponsor. The bill has been referred to the Senate Commerce, Science, and Transportation Committee. In introducing the Senate measure again this year, Crapo and Akaka referred to the importance of Amateur Radio in providing communication in times of disaster. S.549 is identical in its wording to H.R.817, introduced in the House of Representatives March 1 by Rep Michael Bilirakis of Florida. If approved by both chambers and signed by Pres George W. Bush, the Spectrum Protection Act would require the FCC to provide equivalent replacement spectrum should it ever reallocate primary Amateur Radio spectrum to another service. The same requirement would apply if the FCC acted to diminish any secondary amateur allocations or to make additional allocations in ham bands that diminish their utility.

Bilirakis and Crapo introduced the Spectrum Protection Act in a past session of Congress at the request of the ARRL. The League's Legislative and Public Affairs Manager Steve Mansfield, N1MZA, says he's encouraged by the fact that the Spectrum Protection bill is getting a head start with early introduction in both chambers this time around.

More information on the Spectrum Protection Act, including a copy of the House and Senate versions of the bill, is available on the ARRL Web site, <http://www.arrl.org/govrelations/arspa.html>.

### **"BOING-BOING" INTRUDER MOVES OFF 12 METERS**

Some said it sounded like a squeaky spring; others said it sounded like marching. However one's ears interpreted the recent intruder on the 12 meter amateur band, it was gone by Monday, March 19, thanks to successful direction-finding, identification and diplomatic efforts by the FCC. Acting on numerous amateur

reports—including one from ARRL President Jim Haynie, W5JBP—the FCC agreed to utilize its HF direction-finding facility in Columbia, Maryland, to locate the source of the periodic, broadband transmission. The HFDF facility isolated the transmissions to Honduras. It also promptly identified the transmissions as Coastal Ocean Dynamics Applications Radar (CODAR), an ocean current-mapping technology used in meteorological and commercial applications. A quick phone call and e-mail to the provider of the CODAR equipment at the Honduras site set the wheels in motion to make the signals disappear from 12 meters. "As is often the case in many intrusions, the operator dialed in the wrong frequency," said Brennan Price, N4QX, administrator of the ARRL Monitoring System. "Fortunately, the equipment provider and operator of the CODAR equipment were very cooperative and wanted to do the right thing. We appreciate their efforts."

### **AMSAT-NA 2001 ANNUAL SYMPOSIUM ISSUES CALL FOR PAPERS**

The first call for papers has been issued for the AMSAT-NA 2001 Annual Symposium, set for October 5-6 in Atlanta, Georgia. Papers may be presented by the author during the symposium or simply offered for inclusion in the Symposium Proceedings. Subject matter should be of general interest to Amateur Radio operators involved in satellite communications. Suggested topics include operating techniques, antenna design and construction, spacecraft design and construction, current mission status, proposed satellite missions, telemetry acquisition and relay, satellite microwave projects, etc. An outline abstract of the proposed paper should be submitted as soon as possible. The final date for abstracts is June 30, 2001. Completed papers must be received no later than August 15. Electronic submittal is preferred. The format must be either MS Word-compatible or plain text. For security purposes, Symposium Chairman Steve Diggs, W4EPI, asks authors to send files as email attachments to [w4epi@amsat.org](mailto:w4epi@amsat.org).--AMSAT News Service

### **FCC CHAIRMAN TOUTS "ENFORCEMENT MODEL"**

Speaking at the CTIA 2001 Wireless show in Las Vegas, Nevada, this week, FCC Chairman Michael Powell said the FCC is rethinking its business model. According to an Infoworld.com report (<http://www.infoworld.com/articles/hn/xml/01/03/20/010320hnpowell.xml?0321weam>), Powell told the gathering that the FCC is "reviewing the optimal organization and structure" with an eye toward a more-responsive FCC. "We are putting increasing emphasis on an en-

forcement model as opposed to a regulatory model," he said, in order to speed up the FCC's decision-making process. "When you cheat, we'll get you at the back end." Powell also said there's a delicate balance for agencies such as the FCC between fostering innovation but not imposing it.

Notes: (1) One member paid through FY04, two members paid through FY02; total advance income is 75.00

(2) includes dues paid in advance of \$116.00

## \$April Treasurer Report\$



Income for March was \$21 from the book drawing, \$121 from membership renewal, \$2 from ARRL member renewal rebates and \$2,093.95 net from FoxFinder kit and board sales. Expenses were \$13.20 for newsletter postage leaving a net income of \$2,224.75.

Fund balances as of April 12 are:

General Fund: \$3150.31  
Community Fund: \$1192.55

If your ARRL renewal is coming up soon, I can mail it for you. If you bring it to me at a club meeting you save 34 cents and add a little bit more to the General Fund balance from the ARRL rebate to the Club. If you're not yet an ARRL member and wish to join, the Club can get a larger one-time rebate. Make your check payable to NVARC and I'll do the rest.

73,  
-Ralph KD1SM

### NVARC Community Fund

A question was asked at the March meeting about the origin of the NVARC Community Fund. I looked back through the Treasury records and found that we started this fund in 1994 with a donation of \$100 from Sergey UA3AGS. Sergey was a business associate of Ben KB1FJ and had visited our Club and joined us at breakfast on several occasions. Sergey knew about the licensing classes we were running and wanted to encourage us to do more, so he gave a donation directing that it go into an "education fund". Shortly thereafter we received an additional unsolicited donation to the Club from the Squannacook River Runners, sponsors of the annual Groton Road Race. The Board of Directors decided to add that donation to the education fund.

Since 1994 NVARC has received additional donations from members, from the Squannacook River Runners, and a bequest of equipment in 1999 that was auc-

## NVARC Annual Report

	4/1/00 3/31/01	4/1/99 3/31/00
Starting balance	682.57	
Income		
Dues	701.33 <sup>(2)</sup>	573.00 <sup>(1)</sup>
ARRL memberships	13.00	6.00
Bank interest	50.48	26.62
Donation	10.05	11.03
FoxFinder	1795.94	159.66
Total Income	2570.80	776.31
Expenses		
Insurance	(255.00)	(255.00)
Newsletter printing		(21.28)
Newsletter postage	(173.40)	(139.20)
PO Box	(20.00)	(14.00)
QSL Bureau	(36.29)	(29.60)
Miscellaneous		(26.76)
Badges		(28.47)
Book raffle	(66.00)	
Mileage	(43.40)	
Total Expenses	(594.09)	(514.31)
Net Income	1976.71	262.00
Net inc. less adv. dues	1860.71	187.00
Ending Balance	2659.28	
Community		
Starting balance	1467.55	440.92
Donations received	125.00	1033.51
Paid out	(400.00)	(6.88)
Ending balance	1192.55	1467.55

tioned in cooperation with the Community Church of Pepperell. The Board of Directors has chosen to place all such unsolicited donations into the education fund.

We have used the education fund, subsequently renamed to "Community Fund", to purchase an ARRL book set for the Pepperell town library, instructor's guides for the licensing class, code practice oscillators (used at Septemberfest), and chairs for the Pepperell Community Center.

-Ralph KD1SM NVARC Treasurer

### 2000-2001 Fleamarkets

28 April Nashua NH NE Antique RC @ Res Ctr Church  
Joe 617 923 2665

4,5 May Hopkinton NH HossTraders @FG x7 I89 Joe  
K1RQG 207 469 3492

19 May Forestdale RI RIFMRS @VFW rt146 8A  
flea+auct Rick K1KYI 401 725 7507

20 May Flea at MIT Nick 617 253 3776

26 May Vernon CT NARC@TollandAgC I84x67 Wayne  
860 487 1921

1-3 June Rochester NY Atlantic Conv Harold K2HC  
716 424 7184



## Nashoba Valley Amateur Radio Club

PO Box # 900

Pepperell Mass 01463-0900

mailto:[nvarc\\_n1nc@arrl.net](mailto:nvarc_n1nc@arrl.net)

<http://purl.org/hamradio/club/nvarc/>

Pres.: Erik Piip KA1RV

V Pres.: OPEN

Secretary: Ian Norrish NZ1B

Treasurer: Ralph Swick KD1SM

Editor: Stan Pozerski KD1LE

Photographer Ralph Swick KD1SM

PIO: open

Board Members

Earl Russell 1998

Bob Reif 1999

Den Connors 2000

Meetings are held on the 3rd Thursday of the month -  
7:30 p.m. - Pepperell Community Ctr. Talk-in 146.490  
simplex

442.90 + 100Hz 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. You can send items to

[pozerski@net1plus.com](mailto:pozerski@net1plus.com)

Copyright 2001 NVARC