NVARC
Nashoba Valley
Amateur Radio Club

SIGNAL

SPECIAL SERVICE CLUB

de N1NC

September 2006 Volume 15 Number 9

This Month's Meeting

Next regular meeting September 21st.

At Bob W1XP will be checking to see how many would be interested in the hands on part of the connector course that is a follow up to the presentation he did at the April meeting.

Another question to be asked is whether there is any interest in running a basic electronics course.

Field Day pins will be passed out at the meeting.

The next Road Cleanup is Saturday August 22nd.

The first Worked All Massachusetts Counties was awarded to Egbert Hertsen ON4CAS from Belgium.

Last Month's Meeting

No meeting last month.

Winter Meetings

During the winter months we try to use local content for the meeting programs. That way we don't ask someone to drive a long way in potentially bad weather.

December is Homebrew Night so polish up all those great projects you have been working on during the year to show off.

January is Members Short Subjects night. If you have a short subject presentation of five to fifteen minutes let us know so we can schedule you into the program.

NVARC Cookout


Courtesy KD1SM

We had a good turn out for the NVARC cookout on August 12th. The weather was terrific. The club provided drinks, chips, condiments and a cheese and cracker plate. Members brought their own food and some to share. We had corn on the cob, cake, brownies, sautéed onions, potato salad and deviled eggs to go with whatever you brought.

In attendance were Les N1SV, Ralph KD1SM, Jim N8VIM, Erik W1ZBT, Stan KD1LE, Lynda N1PBL, Bop W1XP, Peter N1ZRG, Gary K1YTS and Larry KB1ESR.

Board Meeting

Board meeting discussions.

Board recommends a $200 Donation to Pepperell Conservation Fund in consideration of our Field Day use. To be brought to the general meeting.

Ralph presented Treasurers report and the annual report. Both of which are included later in the newsletter.

Future meeting program discussions.

Approved $60 for card sort meeting food.

Bob's connector and electronic class proposals.

John checking on Pepperell Soccer Tournament.

Need more support for road cleanups and moving back to Sunday mornings.

In attendance were Stan KD1LE, Ralph KD1SM, John KK1X, Les N1SV, and Bob W1XP.

Breakfast DX Visitor

Recently our honorary member John GM3TCW (second from left) stopped in from Scotland and attended breakfast with us at Tinys. John's daughter and son-in-law lived in Harvard for many years and John has stopped in to visit whenever he could. He even attended several of our Field Days.

Treasurers Report

Income for August was $15 from member dues, $15.11 from bank interest, and $10 from WAMC certificate request. Expenses were $15.60 for newsletter postage, and $30 for cookout expenses, leaving a net expense of $5.49 for the month.

Current balances:

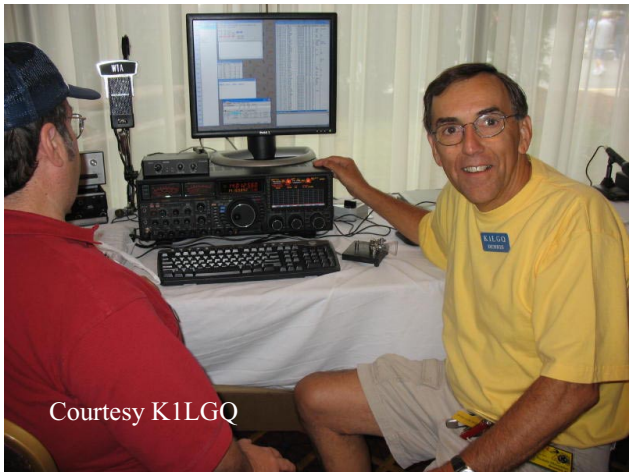
General fund	$4131.56
Community fund	$2071.83

As of 14 September we have 52 members who are current with their dues and 10 renewals outstanding. Please check the member roster that is circulated at the monthly meeting if you do not remember your renewal date. Your membership date also appears on your newsletter mailing label.

If your ARRL membership renewal is coming up, leave your renewal with me at a Club meeting and the Club will pay the postage. As a Special Service Club, the ARRL lets us retain a small portion of the dues that we forward to them.

Ralph KD1SM

Boxborough Convention



Dennis checks out the W1A special event station at the Boxboro Convention

Dennis reported some Very fine gear for sale in the flea market. He also reported the debut of the NE QRP clubs latest project, a SCAF filter, at Boxborough. Dennis emceed the QRP Forum which drew a standing room only crowd.

PSLIST April 11

Date Location Event Contact Tel/Email

Sep 30 Hollis NH Applefest Half Marathon
Fletch N1MEO 603-673-3036 n1meo@arrl.net

Oct 8 Boston MA BAA Half Marathon
Bob WA1IDA 508-650-9440 wa1ida@arrl.net

Oct 8 Westford MA Tour de Westford Bike Ride
Dave WI1R 978-692-7797 wi1r@arrl.net

Oct 8 Monroe MA Monroe Trail Races
Richard KD1XP kd1xp@kd1xp.org

Oct 20 Cambridge MA Head of the Charles Regatta
Jeff K1EMS 978-536-2842 RWJeffA@comcast.net

Oct 21 Cambridge MA Head of the Charles Regatta
Jeff K1EMS 978-536-2842 RWJeffA@comcast.net

Oct 22 Cambridge MA Head of the Charles Regatta
Jeff K1EMS 978-536-2842 RWJeffA@comcast.net

Nov 11 Lowell MA Lowell Youth Soccer Tourn
Ron KB1KRG 781-752-5885 kb1krg@arrl.net

Nov 12 Lowell MA Lowell Youth Soccer Tourn.
Ron KB1KRG 781-752-5885 kb1krg@arrl.net

MURS Radio Service vs

I was asked to propose a solution to a communications problem between the playground and nurses office at a local school. We are all familiar with the Amateur Radio Service but there are many other services each with its own use. I asked Dave N1MNX about some of the options and learned there were more than I was aware of so I asked him if he would write a short article describing some of them. Thanks Dave. His article follows—ed.

By David Peabody N1MNX

MURS stands for **Multi-Use Radio Service**

Non- licensed service MURS is available for business or personal use. The FCC rules governing MURS were changed on November 12, 2002.

MURS Rules, Part 95 of Title 47 of the Code of Federal Regulations, permits the use of a variety of emission modes, but the most common is voice using FM modulation. Data communications are permitted, but no image transmissions. Using narrow bandwidth transmissions, 11.25 KHz channel bandwidth, with +/- 2.5 KHz deviation. The maximum transmitter power output of 2 Watts, and no limit on antenna gain, is one of the benefits.

Antenna height is limited to 20 feet above the structure to which it is attached or 60 feet above ground. Repeaters and store-and-forward packet stations are not permitted.

MURS Channel (MHz)

151.820 MHz
151.880 MHz
151.940 MHz
154.570 MHz
154.600 MHz

MURS is for general two-way voice and data communications. MURS is one of five Citizens Band Radio Services. The others are the (original) Citizens Band Radio Service at 27 MHz former Class D, the Low Power Radio Service (LPRS) at 216-217 MHz, the Medical Implant Communications Service (MICS), the Family Radio Service (FRS) at 460 MHz, and the Wireless Medical Telemetry Service (WMTS). The General Mobile Radio Service (GMRS) at 460 MHz.

GMRS is the former Class A of the Citizens Radio Service. The Personal Radio Services should not be confused with the Personal Communications Services (PCS) in the 900 and 1900 MHz bands.

You may operate your MURS radio anywhere the FCC Rules permit.

You must at all times on MURS channels, give priority to emergency messages.

At the 150 MHz frequencies of MURS, range is dependent on antenna height Range between MURS radios will vary. The advantage of MURS is that an external antenna may be connected to your radio.

Compared with FRS (Family Radio Service)

MURS 150 MHz @ 2 Watts / FRS 460 MHz @ 0.5 watts

At MURS frequencies, signals bend over hills better, but FRS signals are better at bouncing off of surfaces and penetrating. You may connect a MURS radio to an external antenna. FRS radios must employ a non-detachable antenna.

Compared with GMRS (General Mobile Radio Service) at 460 MHz

GMRS handheld radios have typically two to five watts transmitter power. GMRS vehicular units may transmit with up to 50 watts. GMRS handheld radios may transmit with no more the 5 Watts ERP on the seven "interstitial" frequencies (those shared with the FRS).

GMRS operation requires an FCC license.

MURS should provide one-and-a-half to four times the range possible with GMRS handheld radios also connected to roof-mount antennas. GMRS radios can communicate through repeaters for extended range.

Compared with CB (Citizens Band Radio) at 27 MHz

CB radios may transmit with more power than MURS units, but range is highly dependent on channel congestion and atmospheric conditions. CB signals bend over hills and around obstacles much_better than MURS (at 150 MHz) or FRS/GMRS (at 460 MHz) signals.

MURS communications will not suffer from the kind of long-range "skip" or other interference frequently encountered on CB radio at 27 MHz.

FCC MURS site
http://wireless.fcc.gov/services/index.htm?job=service_home&id=multi_use

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, Erik W1ZBT, Dan N1LLG, Bob W9ORW, Den KD2S and Peter KB1LZH.

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

The next road cleanup is Sunday September 20th.

Thanks to the following members for their participation in last months cleanup Ralph KD1SM, Bob W1XP, Stan KD1LE, John KK1X, Les N1SV. We picked up 14 bags of trash.

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

Flea Markets

September

October

6-7 Hoss Traders, Hopkinton NH

Contest, DXpeditions and Special Events

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

Special Event Stations
September

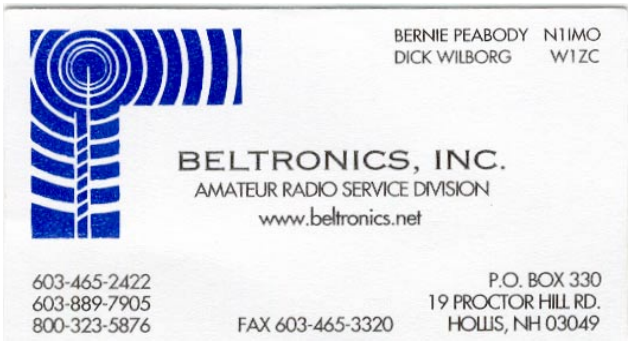
Contests
September
19-20 ARRL 10 GHz and up Contest

DXpeditions

Call	Location	Until
9V1CW	Singapore	2008
T68G	Afghanistan	March 2007

See www.425dxn.org for more listings

Advertisements



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

NVARC Annual Report

	4/1/05 to 3/31/06	4/1/04 to 3/31/05	4/1/03 to 3/31/04	4/1/02 to 3/31/03
Starting balance	4654.23	4804.16	5094.07	4820.36
Income				
Dues	726.00	784.00[1]	845.00[2]	620.00
ARRL memberships	24.00	6.00		
Bank interest	74.13	77.68	92.70[7]	116.97
Donation	5.73	10.01	1.33	.05
FoxFinder				298.63[8]
Book Raffle	53.20	126.00	36.00[3]	63.00[3]
Mugs	8.00	4.00	100.00[3]	
Patches	24.00	24.00	2.00[3]	6.00[3]
PowerPole	58.00	105.00	70.00[3]	305.00[3]
Signal Advertising	24.00	24.00	24.00[4]	
WAMC				
Total Income	973.06	1001.69	1171.03[7]	1409.65[8]
Expenses				
Insurance	(255.00)	(255.00)	(255.00)	(255.00)
Newsletter printing				
Newsletter postage	(180.00)	(177.60)	(185.00)[4]	(133.20)
PO Box	(46.00)	(44.00)	(44.00)	(44.00)
QSL Bureau	(106.44)	(48.61)	(37.45)	(54.18)
E-Comms books				
Miscellaneous				(26.39)[5,6]
Food	(75.48)	(74.37)	(73.61)	(52.25)[5]
Badges				
Book raffle		(200.00)	(200.00)[3]	
Brochures		(10.48)		
Domain Registration				(47.75)[6]
Speaker Mileage			(25.00)	
Field Day	(257.50)	(225.57)	(214.93)	
Yearbook		(107.20)		(38.47)
Mugs			(425.95)[1]	
Patches				
Postage	(7.40)	(8.40)		(7.35)[5]
PowerPole	(182.25)	(159.39)		(477.35)[3]
WAMC	(25.19)			
Total Expenses	(1111.26)	(1141.82)	(1460.94)	(1135.94)
Net Income	(138.20)	(149.93)	(289.91)[7]	273.71[8]
Ending Balance	4516.03	4654.23	4804.16	5094.07
Community				
Starting balance	1907.95	1842.55	1842.55	1717.55
Donations received	420.00	215.00	0.00	125.00
Paid out	258.12	(149.60)	0.00	0.00
Ending balance	2069.83	1907.95	1842.55	1842.55

Notes to 2006 Annual Report

1) Includes a 3-year renewal.

2) Includes a 3-year renewal and a 4-year renewal.

3) Certain line items that generate both expense and income were restated for prior years to separate the income and expense lines. In prior year reports these were consolidated into a single figure and reported under either income or expense. The affected items are Book Raffle, Mugs, and the PowerPole program.

4) FY03 Signal advertising income line item has been separated from the Newsletter postage line item reported in 2004 Annual Report.

5) FY02 Food and Postage line items have been separated from the Miscellaneous line item reported in prior annual reports.

6) N1NC.ORG domain registration fee has been separated from FY02 Miscellaneous line item reported in prior annual reports.

7) Corrected from prior years' reports which had double-counted $13.40 interest income in FY2002 and FY2003

8) Corrected from prior years' reports which had failed to include some transactions and thereby overstated FoxFinder income for FY2002 by $30.42.

ARRL Letter

ARRL RECEIVES PRESTIGIOUS GOLDEN ANTENNA AWARD IN GERMANY

The ARRL is the recipient of the 2006 Golden Antenna Award in recognition of the role the League and its members played in providing and supporting emergency communication during the response to Hurricane Katrina. The city of Bad Bentheim, Germany, sponsors the annual award. ARRL Chief Development Officer Mary Hobart, K1MMH, accepted the honor on behalf of the League on August 25.

"It was a honor to represent ARRL and accept the Golden Antenna Award that recognizes the role that hundreds of ARRL members played in the response to Katrina in 2005," Hobart said. "The speeches were generous in their praise of ARRL, and the cameras flashed as Bad Bentheim Mayor Günter Alsmeier presented the award." The city paid all expenses for Hobart's visit to Germany.

The August 25 presentation took place at formal flag-draped ceremonies in the 12th century Bad Bentheim Castle to kick off the 38th annual Amateur Radio Days. The event is a cooperative venture of the German-Dutch Amateur Radio organization DNAT (Deutsch-Niederländischen Amateurfunker Tage/Duits Nederlands Amateur Treffen) and the Deutscher Amateur Radio Club (DARC).

Hobart said the gracious and generous hospitality of both German and Dutch members of the Amateur Radio fraternity made her visit special. Topping off the weekend was a large flea market that drew hams from both countries and from as far away as Spain.

"Of course bratwurst and beer added flavor to the occasion!" Hobart quipped.

In her remarks during the presentation, Hobart expressed appreciation for the award on behalf of all who helped following Katrina and said she'd find a suitable location to display the award at ARRL Headquarters.

Bad Bentheim has presented The Golden Antenna Award since 1982 to recognize outstanding Amateur Radio public service and humanitarian contributions. A jury of five German and Dutch radio amateurs makes the final selection. The 2005 award went to the Radio Society of Sri Lanka for its performance in the wake of the December 2004 South Asia earthquake and tsunami.

ASTRONAUT, TASMANIAN STUDENTS WORK THROUGH ISS HAM RADIO CONTACT GLITCHES

Although apparent technical problems plagued an August 18 Amateur Radio on the International Amateur Station (ARISS) contact between NA1SS and students in Tasmania, US astronaut Jeff Williams, KD5TVQ, was able to hear and respond to a few questions. Then, after repeatedly experiencing difficulty copying questions posed by students gathered at Reece High School, in Devonport, Williams opened the NA1SS microphone and ad-libbed for a few minutes, running down what amounted to a short list of frequently asked questions he's heard during past ARISS school QSOs.

"Sometimes we're asked about exercise in space and the adaptation of our bodies," Williams told the students, who represented both Reece and Devonport high schools. "In weightlessness, our muscles and bones will atrophy, so we exercise every day by running on a treadmill, and we also have a weight-lifting machine -- we get into a harness to do those exercises. And we also have a bicycle ergometer."

Williams went on to say that food aboard the ISS is "very good, overall" and similar to what the crew might eat on Earth -- split evenly between Russian and American cuisine. Some meal items come in cans or need hydration, while others are packaged for easy reheating in the ISS galley's oven.

"It's just a little bit more difficult to manage the food, of course, because it will float off if you let go of it," he pointed out. To avoid that problem with beverages, the crew consumes liquids via a straw from closed containers, he said.

At times during the approximately nine-minute contact, Williams was able to understand and respond to some students' questions, and when he couldn't, W6SRJ Earth station control op Tim Bosma, W6ISS, attempted to relay the questions. Replying to one, Williams told the students that ISS crew members don't usually feel claustrophobic during their duty tours. "I think they screen us out before they ever select us to do this, to make sure we don't get claustrophobic," he said.

Verizon Conferencing donated a teleconferencing link to provide two-way audio between Australia and W6SRJ in Santa Rosa, California. Will Marchant, KC6ROL, moderated the contact for those listening via the teleconference. ARISS volunteers were unable to immediately determine why Williams had trouble copying W6SRJ at NA1SS.

After the ISS had gone over the horizon, ARISS Mentor Tony Hutchison, VK5ZAI, volunteered to field any additional student questions. One student wanted to know about the ARISS school contact schedule. ARISS Volunteer School Coordinator John Nickel, WD5EEV, responded.

"We try to do at least one school a week, and we try to do it all over the world," he explained. "It's an international operation, so we try to cover all the continents at least for those schools that do apply." Nickel added that there's about a three-week transition period during ISS crew changeovers when no ARISS school contacts are scheduled.

The technical glitches did cause a few long faces at the school, said Tony Bedelph VK7AX, of the NorthWest Tasmania Amateur Radio Interest Group, which helped set up for the contact in the Reece auditorium. Despite the difficulties, Bedelph called the QSO "a great experience for us all." Approximately 100 people were on hand for the event, he noted, and the contact attracted the attention of local news media.

ARISS <http://www.rac.ca/ariss> is an international educational outreach, with US participation by ARRL, AMSAT and NASA.

MARS TO SUPPORT US TRANSPORTATION SECURITY ADMINISTRATION IN EMERGENCIES

Amateur Radio operators who are members of the Military Affiliate Radio System (MARS) will provide back-up communication for the US Transportation Security Administration (TSA) under a formal agreement announced in July by Army MARS Chief Kathy Harrison, AAA9A. Protecting airports during the hurricane season will be the immediate focus, she said, adding that the new MARS-TSA collaboration "is likely to expand to other Department of Homeland Security (DHS) areas" in the future.

"This is an extensive area and will require member support across the continental United States," Harrison said in a broadcast announcement to Army MARS participants. "We will need many volunteers to man teams assigned to specific geographical areas, starting with airports throughout the hurricane corridor." She called for "physically capable" Amateur Radio operators to volunteer for the assignment.

The first airport emergency support teams will be located at four airports in the Florida hurricane belt: Miami, Ft Myers, Jacksonville and Pensacola, Harrison said. She added that recruiting will immediately follow for nine additional potential hurricane targets from Washington, DC to Houston. In a later phase - but as soon as possible - additional teams will be recruited for other hurricane locations including Puerto Rico and the Virgin Islands, and after that, the remainder of the continental US.

The emergency support teams - each consisting of four members of MARS – are being assembled under joint sponsorship of MARS and the TSA, with deployment assignments determined by the TSA when and if the government's communication systems fail. "Volunteers should be within a reasonable traveling distance to the airport. It will be their responsibility to get to the site when activated," said Harrison.

The Memorandum of Understanding, which is already in place, calls for using MARS networks, personnel and equipment to maintain communication during the first 72 hours of incidents involving aircraft, mass transit and pipelines. Seventy-two hours is considered the maximum time needed for federal response organizations to deploy internal emergency communication systems.

The MOU spells out the most extensive MARS support mission since the development of the Essential Elements of Information (EEI), which date to the 1994 Northridge earthquake that devastated parts of California's San Fernando Valley. EEIs are alerts to the Pentagon of a natural disaster or other incident that might require a federal response.

In a memo to MARS personnel, Harrison included the following points:

. The Navy-Marine Corps and Air Force MARS organizations are included in the call for volunteers, via their separate chains of command.

. Army MARS state directors will be responsible for formation of the joint teams.

. All deployments will be by team, each with a combination of equipment and operator capabilities and members ready to work 12-hour shifts. Some locations may ultimately require more than one team.

. Required equipment for each team will include HF and VHF radios with voice and digital capability, Pactor/Airmail digital messaging, phone patching and emergency power.

. Some locations may have TSA radio gear and emergency power supply to augment the hams' personal equipment.

A particular MARS responsibility will be to provide communication interoperability with local, state and national networks, such as the Radio Amateur Civil Emergency Service (RACES) and Shared Resources (SHARES). A separate web of national and regional HF radio networks, SHARES links federal agencies under the DHS's National Communications System (NCS), of which MARS already is a primary participant.

The pact calls for a reliable back-up solution "to ensure the continuity of TSA's command and control function during the first 72 hours following any incident interfering with normal communications channels and to provide local, regional and nationwide TSA communications during that time." The existing Army MARS emergency communication network offers such a solution immediately and at no additional cost to the TSA, the MOU points out.

Under the MOU, the TSA agrees to provide MARS volunteers with access to its facilities and space for radio equipment. It further agrees to integrate MARS capabilities into its emergency planning and exercises. The Army's commitment includes providing "volunteer MARS radio operators, equipment, and use of the MARS radio networks" and developing "alert procedures and a communications support plan" that "will identify specific frequencies, call signs, and radio operator level duties." Harrison stressed that the decision to volunteer rests with the individual. "The Army has no liability over a member who reports to a disaster site; members will be responsible to TSA personnel."

Harrison told the Army MARS membership that she's "very excited" about the new agreement. "This will be a fast-moving recruitment/development action, and I request your support in filling these teams."

The chiefs of Air Force and Navy-Marine Corps MARS also are onboard with the new agreement and have messaged their respective memberships to signify their participation and cooperation with Army MARS. Air Force MARS Chief Don Poquette, AGA3C/KE9XB, has pledged his members' support. "AF MARS will assist to accomplish this mission," he said, pending working out logistical details.

Harrison says she and her headquarters staff met recently with TSA and DHS representatives to formalize the details of the cooperative arrangement. She said MARS area coordinators will provide specific requirements to state MARS directors to recruit members and equipment capabilities to support TSA.

Signing the MOU on behalf of the Army was Col Mary Beth Shively, chief of staff, Network Enterprise Technology Command/Ninth Army Signal Command. James Schear, General Manager, Operational Plans and Programs, endorsed it for the TSA. Headquartered at Ft Huachuca, Arizona, the Ninth

Army Signal Command oversees the Army MARS mission. -- Bill Sexton, N1IN

NVARC

Nashoba Valley
Amateur Radio Club

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http://www.n1nc.org/

President: Stan Pozerski KD1LE
Vice President: Peter Nordberg N1ZRG
Secretary: John Griswold KK1X
Treasurer: Ralph Swick KD1SM
Board Members:
Bob Reif: W1XP 2004-2007
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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Nashoba Valley Amateur Radio Club

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