



# SIGNAL



de NINC

April 2005 Volume 14 Number 4

## This Month's Meeting

This month we have elections. It is necessary for the proper operation of the club to have a full staff of officers and board members. If you are interested in serving the club in any capacity let us know.

The meeting program will be on filters by Bob W1XP. Bob will talk about How filters work and what they can do for a Ham.

## Welcome to New Member

Welcome to new member Richard Lyons KB1MBR of Littleton. Richard joined at the last meeting.

## Last Month's Meeting

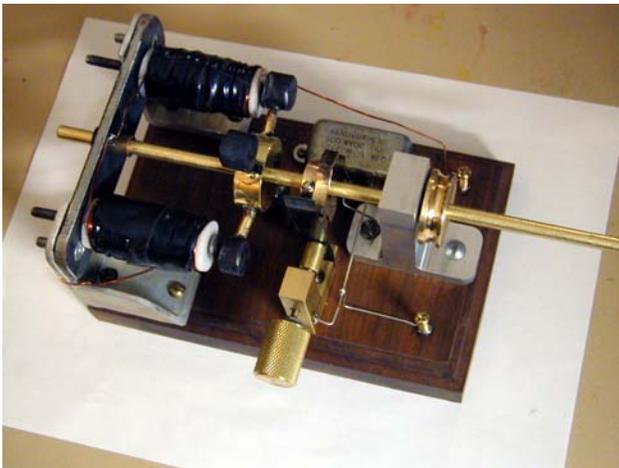
Last month's meeting was a presentation by Ken Williams AB1BE on Bletchley Park. This is the facility in England where much of the Allied code breaking was done during World War II and is probably best known for the work relating to the German cryptographic machine called Enigma. Ken described the facilities and though most was destroyed after the war there has recently be some historical restoration. He showed a number of books that describe the work that went on there. He mentioned that a local radio club has a station there.

You can find more information on the history and important function of Bletchley Park at; [www.bletchleypark.org](http://www.bletchleypark.org), [www.codesandciphers.org](http://www.codesandciphers.org), and [www.gchq.gov.uk/about/bletchley.html](http://www.gchq.gov.uk/about/bletchley.html).

There are also several books on the subject such as; Codebreakers, Britain's Best Kept Secret, Station X, The Secret War of Hut 3, The Legacy of Bletchley Park.



Show and Tell from Earls machine shop above and below a right angle drive called a "Hookes right angle coupler" used to drive a tuned circuit using a basket weave coil.



Above an electric motor Earl designed that uses electro magnets pulling iron pieces connected to the shaft. The commutator is a brass strip rubbing on four protrusions on the armature.

In attendance were Karen KA1JVU, Bob W1XP, Dwight AA1MT, Ralph KD1SM, Peter N1ZRG, John KB1HDO, Ben KB1FJ, Wolfgang KA1VOU, Larry KB1ESR, Chris KB1KUZ, Skip K1NKR, Dick KB1MBR, Den KD2S, Hank KB1JLA, Russ WR1Y, Dennis K1LGQ, Jan N1LBA, Bruce K1BG, Bob N1DVC, Les N1SV, Dave N1MNX, Jim N8VIM, Joel W1JMM, Ken AB1BE, Gary K1YTS, Nancy KB1KEF, Ginny N1THO, Rod WA1TAC, Stan KD1LE

### From the President

It has been a busy spring with many projects underway or completed. To highlight some of what we have accomplished Les' soundcard interface kit is being distributed to those who signed up. The band-

pass filter project is past the half way point with four bands designed and at least three copies of 15, 20, 40 meters and two copies of 80 meters built. The goal was six sets of 15 through 80 for Field Day.

At the last meeting we asked the membership if NVARC should sponsor the Worked All Massachusetts Counties Award (WAMC). With a strong positive response members started to develop the necessary items to make it a reality. With a flurry of email over the course of two weeks they thrashed out the many details. The Worked All Massachusetts Counties award certificate was designed, rules established, and submitted to several Web sites and organizations for publicity. Materials were collected to minimize the start up costs until the program becomes self sufficient. By April 14<sup>th</sup> we were listed on the County Hunters Web page and the New England QSO Party Web page as the club sponsoring the WAMC Award. The award will be mentioned in a future edition of CQ magazine.

For those interested in Field Day it seems like we just cleaned up from the last one. Some of us have been working on various items to be used this year for what seems like a long time. Some said it was too early to start those projects. Well Field Day 2005 is less than 90 days away. If you'd like to help on some aspect talk to Bruce K1BG or Jim N8VIM.

NVARC members generate many great ideas. With the lively exchange of ideas and suggestions at the various meetings and via the reflectors those ideas get refined quickly. Then with help from the general membership in the actual work it takes to complete the projects we accomplish a lot in a short time. The Massachusetts Worked all Counties Award in 30 days from suggestion to completion is a perfect example.  
Stan KD1LE

### Adopt A Highway

Our first cleanup of 2005 was April 10th. Helping out were John KB1HDO, Peter N1ZRG, Linda N1UPR, Larry KB1ESR, Jim AA1PO, Earl WR1Y, Ralph KD1SM, Stan KD1LE, Gary K1YTS, Nancy KB1KEF, Peter N1ZRG, and John KB1HDO. Great turnout and we picked up 21 bags of trash. The first cleanup is always the worst with 10 or 12 bags being more typical.

We are "signed up" with both MassHighways and Groton for road cleanups. The next cleanup will be May 22<sup>nd</sup>.

We meet at the traffic island on the east side of the Nashua River at 9:00 AM. The normal clean up day is the Sunday after the club meeting.

### Bandpass Filter Project

As of the Filterfest the participants had filters for 20 and 40 meters. Two weeks later the second 15 meter filter was tested and accepted. This allowed the release of the rest of the 15 meter kits which were distributed starting March 26<sup>th</sup>.



80 meter filter in a dual case.

This freed up the model shop to work on the 80 meter filter shown above. It is a two box design that takes advantage of the two boxes to accommodate the five coils and provide isolation. The 80 meter filters have been kitted and are being distributed.

The Filterfest kicked things off with instruction books, parts kits, and a quick demo on winding coils.



Everyone had a different approach to winding the coils which was acceptable as long as the final product met Bob's approval.



Winding coils above are (l-r) Peter N1ZRG, Les N1SV, Bob W1XP, Larry KB1ESR, Stan KD1LE. Off to the left John KB1HDO and behind the camera Ralph KD1SM.

Most wrapped the wire around the core by just holding it, but John KBHDO wanted his to have the tightest windings (below).



As of April 14<sup>th</sup> three of the 40, 20, and 15 meter filters and two of the 80 meter filters have been completed. Six kits for each band were produced.

### N1MNX Repeaters

Dave N1MNX would like to thank all who have donated to the N1MNX Repeater. Your contributions and help are greatly appreciated.  
Thanks from Dave N1MNX

### Sound Card Interface Project

I recently completed assembly and testing of my Sound Card Interface. The circuit is constructed on a commercially fabricated printed circuit board that I laid out. All components are housed in this 6"x 4"x

2" box which fits neatly in my shack. The rear panel contains all the necessary connectors for interfacing the unit between my transceiver and computer.



Sound card interfaces are handy devices that properly route audio, data and control signals between your transceiver and your computer. With the right software program you can use them to expand the capability of your transceiver. You can use them to communicate using some of the digital modes like RTTY, PSK31 and WSJT. Or if you are CW challenged like myself you can use them to help decode CW or generate CW using your keyboard. In the past I found sound card interfaces valuable during a contest for playing prerecorded audio files helping to conserve my voice.

For those who expressed an interest in this project, kits will be available at the meeting and contains all needed parts and a full color documentation package. The cost for the kits will be \$38.

Les N1SV

## Groton Road Race April

Groton Road Race - April 24

The Groton Road Race is a nice country foot race attracting about 2,000 runners to the town of Groton on a Sunday in April. Since its first running in 1992, the Groton Road Race has relied heavily on Amateur Radio operators to provide communications essential to managing the race.

This event truly highlights Amateur Radio at its best. The race is organized by a local running club, the Squannacook River Runners.

The Club has an excellent relationship with the Groton Police Department -- vital to the safety of the event. In turn the small Groton Police force has to call in officers from neighboring towns, and even the Massachusetts Environmental Police, to cover all the road intersections along the course. These several Police Departments of course have no shared radio communications between themselves.



Here is where we Hams prove our worth to the public for the frequencies that the FCC preserves for our use.

In a letter thanking us, race director Sue Podolske wrote "We truly could not even consider allowing a single runner across the starting line if you were not there to insure communications were open to safeguard the participants."

Sue is not understating her need for our services. The only way the Groton Police Officer who is responsible for ordering road closings and approving the starting musket to fire can communicate these orders to the entire course and to the starting line is by instructing his Ham 'shadow' to communicate his instructions. We even station a Ham in the Groton Dispatch center so that out-of-town officers have a direct path to Groton Dispatch.

It takes about 40 Hams to meet the full needs of this event. Please consider spending a few hours on Sunday, April 24 and joining us. It is very rewarding; both the runners and the spectators have approached Hams at various checkpoints and thanked us "just for being there". Volunteers are needed starting at 9am and 11am but the major event is the 10k race at 12:30pm. If you are able to spend 3 hours with us and show how Amateur Radio serves the public, please contact Ralph Swick KD1SM at kd1sm@arrl.net or 978.582.7351 evenings. More information about the race itself may be found at <http://www.grotonroadrace.com/>

## Board Meeting Notes

The NVARC Board met April 14th at the KD1LE QTH. In attendance were Stan KD1LE, Ralph KD1SM, Peter N1ZRG, Les N1SV, John KB1HDO, Dave N1MNX and Larry KB1ESR.

Items discussed

Listed with Handi-Hams for local support.

Road cleanup, Groton Selectman's letter, MassHighways.

Field Day subjects; bandpass filters, soundcard interface, signage, invitations to local officials.

Worked All Counties Award; purchase of certificates, process flow, expected turn around time, printing, lot's of publicity already including New England QSO Party Web site, County Hunters Web site, to be mentioned in CQ Magazine column.

Mention of NVARC FoxBox in April CQ Magazine.

NVARC Web site hosting issues, mail reflector issues.

Ordering more PowerPole connectors. Since the club started promoting standardization with PowerPoles we have purchased over 1100 connectors which were sold to members at reduced cost.

Need coordinators for; cookout, Grotonfest, Fall Classic Soccer Tournament.

### Flea Markets and Such

May 6-7 Hosstraders, Hopkinton NH  
May 9 Franklin County ARC, Whately  
May 15 MIT  
June 11-12 Newington ARL Hamfest, Newington CT  
June 19 MIT

### PSLIST

Date	Location	Event
Contact	Tel/Email	
Apr 24	Groton MA	Groton Road Race
Ralph KD1SM	978-582-7351	
May 1	Walk For Hunger, Boston to Newton	
	See the Crocker Public Service Group Web site.	
May 14	Devens MA	Parker Classic Road Race
Stan KD1LE	978-433-5090	

### Advertisements

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



### \$April Treasurers Report\$

Income for March was \$165 in membership dues, \$0.02 from the road cleanup, \$1.07 in bank interest, and \$20 for PowerPole connectors. Expenses were \$22.20 for newsletter and miscellaneous postage, net \$28.80 for book raffle materials, and \$25.19 for certificate materials leaving a net income of \$105.18 for the month.

We received a \$125 donation from the Squannacook River Runners for helping with the 2004 Groton Road Race. This has been placed in the Community Fund.

Current balances:

General fund	\$4608.43
Community fund	\$1907.95



As of 14 April we have 51 current members and eleven renewals outstanding.

The road cleanup netted \$0.02 for the treasury, thanks to certain members of the crew with good eyes.

Many of the original Club members' membership anniversaries are April 1. Please check the mailing label on your newsletter, the member roster I circulate at the monthly meeting, or ask me if you don't know when your dues are due.

The ARRL rebates a portion of your new or renewal ARRL membership fees to affiliated clubs when I

handle the mailing. When you need to renew your ARRL membership, you can save yourself the cost of a stamp and add to the Club treasury by handing me a check in the amount of your ARRL dues. If you are not yet an ARRL member, please consider joining. Numbers matter when the ARRL talks to legislators about matters that impact us, such as BPL.

### **NVARC Club Net**

The April 4<sup>th</sup> net was run by KD1LE and like our recent weather the theme was rain. Checkins were Bruce K1BG, Dave N1MNX, Bob AB1CV, Ken K1KEY, Ralph KD1SM, Larry KB1ESR and Stan KD1LE NCS

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.

### **ARRL Letter**

#### **AMATEUR RADIO EARNS KUDOS FOR TOPOFF 3 PERFORMANCE**

The role of Amateur Radio Emergency Service (ARES) volunteers in Connecticut in this week's massive TOPOFF 3 exercise has drawn praise from the American Red Cross, for which ARES provided virtually all radio communication. Sponsored by the US Department of Homeland Security and intended as a realistic test of the nation's homeland security system, TOPOFF 3's goal was to push the system of first responders beyond its limits to find the weak spots. American Red Cross emergency services director Mario J. Bruno extolled ARES' performance.

"Operators were there when we needed them, and messages got to where they were needed," he said in a note to ARRL Connecticut Section leadership. "We have learned a lot about what ARES can really do when things get messy, and TOPOFF 3 has been a clear example of how complicated a disaster can get."

Bruno said the Red Cross doesn't have to worry if today's fancy telecommunications devices fail, because ARES will always be there to provide the needed support. "Thank you ARES for helping us respond to the largest disaster exercise in the history of the United States," Bruno concluded. "We will not forget."

Connecticut's phase of TOPOFF 3 began April 4 with a bang--an explosion in New London meant to simulate a terrorist attack. "Loud enough that the organizers passed out earplugs for the media gathered on the bluffs above," recounted ARRL Media and Public Relation for more information on the history and important function of Bletchley Park's Manager Allen Pitts, W1AGP—a former Connecticut Section Emergency Coordinator and current ARES member.

Visual realism was very much a part of the \$16 million exercise, and prospective ARES volunteers were cautioned in advance. "As the mushroom cloud of smoke drifted away," Pitts said, describing the explosion's immediate aftermath, "hundreds of gory victims processed into the site to assume positions of death and agony." Pitts says Amateur Radio's real work only began in earnest after the media also drifted away, once the smoke and simulated blood were gone.

After ARES stood down from the drill late on April 6, ARRL Connecticut Section Manager Betsey Doane, K1EIC, and SEC Chuck Rexroad, AB1CR, said they felt Amateur Radio acquitted itself very well during the drill.

"The energy, enthusiasm and absolute dedication of all the volunteers for this event are a testament to the real dedication and teamwork in the Connecticut Section," Doane said in a statement thanking all who took part.

Rexroad agreed. "It's just been amazing," he said. "People came into this drill prepared and ready to stay. It was a very positive experience."

Under the National Disaster Plan, the Red Cross has primary responsibility for mass care. ARES provided communication among all of the Red Cross emergency response vehicles (ERVs), mobile canteens, kitchen, headquarters and other sites the organization needed stay in touch with.

In all, as many as 40 of the 150 ARES volunteers from Connecticut and other states in the Northeast were deployed to the field at any given time, and everyone got to take part at some point. "Everybody had a job to do," Rexroad said. "Everyone had at least one shift when they were able to get on the radio and provide communications support."

Doane also credited the ARRL Amateur Radio Emergency Communications courses and other training with raising the overall level of operating skill—even among newer operators.

"There were a few new people that were assigned to be observers, and before the end of the drill ended up trained well enough to be an operator on an ERV," she said. "I have to tell you, I was impressed."

TOPOFF 3 required participants to be ready for unexpected events, and the ARES operation was no exception. "The only big curveball we got thrown was when one of the judges decided they were going to take one of our repeaters down," Rexroad explained. Connecticut ARES was able to promptly switch to a backup. Ironically, a genuine repeater breakdown occurred just before the exercise got under way.

Rexroad and Doane agreed that TOPOFF 3 not only was a success but a helpful learning experience for ARES. "We learned a fair number of lessons, and most of them were organizational, not technical, in nature," Rexroad remarked.

Rexroad says Connecticut ARES also prepared to assist the Connecticut Office of Emergency Management and actually activated several of its stations to show the state officials that it had the backup coverage in case they needed it.

A bioterrorism incident was the scenario in New Jersey--the only other TOPOFF 3 site. Emergency officials there not only were key to the exercise, they had real problems owing to flooding in the northern part of the state. ARES teams in New Jersey, New York and Pennsylvania participated in the flood emergency response and relief effort.

Brian Fernandez, K1BRF, a Connecticut Assistant SM and ARES liaison to the Red Cross said Amateur Radio's performance in TOPOFF 3 did not go unnoticed within the Department of Homeland Security. "Amateur Radio made a major contribution to the nation," he said, "and those who contribute to making it safer and stronger and folks in the right places know it."

### **"WIRELESS LITERACY" IS ARRL EDUCATION & TECHNOLOGY PROGRAM GOAL**

With some 130 schools now on board, the ARRL Education & Technology Program (ETP)--also known as "the Big Project"--has set its sights on transforming the teaching of wireless technology in the US. ETP Coordinator Mark Spencer, WA8SME, acknowledges that incorporating what he calls "wireless literacy" into the broader educational landscape is not something that will happen overnight. Even so, he believes the ETP not only can have a role in de-

veloping a favorable climate for wireless literacy and establishing it as an educational mainstay but in ultimately setting academic standards. Spencer says reaching teachers first is key.

"You've got to have a jazzed teacher," Spencer stresses, pointing out that many teachers remain uncomfortable with wireless technology and are unaware of the best ways to teach it. To address this problem, the ETP last summer sponsored its first Teachers Institute on Wireless Technology, an intensive weeklong, hands-on session aimed at getting the nine attendees up to speed on wireless and electronics technology basics and how to teach them.

Expanding on the success of the inaugural institute, the ETP this year will sponsor three sessions--two at ARRL Headquarters and one "on the road" in Ohio in July. The institutes at ARRL Headquarters will immerse two dozen educators from across the US in wireless technology--all expenses paid. Spencer plans to augment the 2005 Teachers Institutes with more radio operating experience, evening sessions and more hands-on and interactive projects.

The ARRL Education & Technology Program recently kicked off its 2005 fund-raising effort, and ARRL Chief Development Officer Mary Hobart, K1MMH, says subsidizing the expansion of the Teachers Institute initiative is one facet of the current drive. She reports the ARRL Teachers Institute has leadership funding for 2005 with gifts from the Brandenburg Life Foundation and from ARRL Vice President Kay Craigie, N3KN, and her husband Carter, N3AO.

"Those contributions will provide about one-half of the total funding needed for the three Teachers Institute programs in 2005," Hobart notes. ARRL corporate partner Parallax will contribute robotics kits for participating teachers to build and program during this year's sessions.

Hobart says the ARRL has dedicated close to \$470,000 in resources and member contributions to make the ETP a success. In addition to subsidizing the Teachers Institutes, the program's major expenses include station equipment--some \$2200 per school--and project and activity boards and kits, which run between \$20 and \$100 apiece.

As of March, 134 schools are part of the Big Project, and the program has provided turnkey Amateur Radio stations to 110 of them--up from 80 schools a year earlier. In many instances teachers working with the ETP have encouraged many of their stu-

dents to become radio amateurs, although that's not a primary program objective.

Beyond local schools and teachers, Spencer looks to Amateur Radio clubs in the community to establish close relationships with participating schools, sharing their expertise and providing assistance. "It really comes down to the local community drives what gets taught in the local schools," he says. "The teachers can be jazzed, but if they don't have any support from the local ham community, they're just going to get themselves burned out." Spencer says he's frequently on the stump asking amateurs to "walk the walk as well as talk the talk."

Overall, Spencer feels the program is moving in the right direction, although he said the progress is not easy to document. "Any real change in the educational community takes at least 12 years to come to fruition," Spencer said. In many cases, he believes, the program plants a seed that might flower down the road when a youngster exposed to wireless technology and electronics via the ETP makes his or her academic plans and career choices.

"We need to be patient," he cautions those who may feel that an enterprise like the Big Project should yield more immediate, obvious results. "Contributions that are given today don't necessarily turn into rubber on the road today."

"We're really talking about changing the culture of the school," Spencer concluded.

The 2005 Teachers Institute sessions at ARRL Headquarters will be June 13-17 and August 1-5. For more information, visit the ARRL Web site <<http://www.arrl.org/FandES/tbp/TI-2005-announce.pdf>> or contact Mark Spencer, WA8SME, [m Spencer@arrl.org](mailto:m Spencer@arrl.org); 860-594-0396. To help support the ARRL Education & Technology Program, visit the secure donation form on the ARRL Web site <<https://www.arrl.org/forms/development/donations/education/education.html>>.

### **VOLUNTEERS NEEDED FOR ENDANGERED BAT RESEARCH**

ARRL Amateur Radio Direction Finding Coordinator Joe Moell, K0OV, is asking radio amateurs in the Northeast to assist in a wildlife radio-tracking project from mid-April to early May. "The New York State Department of Environmental Conservation is placing tiny VHF radio transmitters on Indiana bats--an endangered species--as they leave their winter homes in two caves," Moell says. "The goal is to track them to determine their summer habitat." Ac-

ording to wildlife technician Carl Herzog, AB2SI, 40 bats will be trapped, tagged and released as they emerge from caves in the Watertown and Kingston areas. Possible destinations are in New York, New Jersey, Pennsylvania, Connecticut, Ontario and Quebec. Initial tracking will be by aircraft. When breeding locations are determined, the bats' activity will be monitored from the ground. The tiny transmitters are on six spot frequencies between 150 and 151 MHz. Herzog expects the bats to emerge around April 15, but he notes that the exact date will depend on the weather--and especially the temperature. Moell says a receiver with SSB/CW capability will give optimum range. "Volunteers with high fixed antennas and computer logging equipment in their homes may be able to detect flyover and roosting," he said. Visit Moell's Homing In Web site <<http://www.homingin.com/>> for project updates and additional information on biological radio tags and the best equipment to monitor them.

### **AMATEUR RADIO LINKS EARTHQUAKE-STRICKEN ISLAND WITH OUTSIDE WORLD**

Working under harsh conditions, Indonesian Amateur Radio Emergency Service (ARES) volunteers this week established VHF links between earthquake-stricken Nias Island and northern Sumatra. Nias Island was hit March 28 by nearby magnitude 8.2 and 8.7 underwater earthquakes. More than 1000 people are reported to have died as a result of the earthquakes. The tremors affected some of the same areas still recovering from the December earthquake and tsunami. Although officials and residents remained on alert for tsunamis this week, none occurred. A magnitude 6.3 aftershock occurred in the vicinity March 30.

Organization of Amateur Radio for Indonesia (ORARI) headquarters in Jakarta this week called on its members to be ready to assist. An ORARI team deployed by air to Nias Island March 29 set up "zulu" (emergency) station YB6ZAH in Gunung Sitoli, the island's largest city. YB6ZAH has been in contact with the ORARI District 6 command post in Medan, North Sumatra. The ORARI team already had experience supporting communication following the December 2004 tsunami that claimed an estimated 300,000 lives in South Asia.

In the earthquake's immediate aftermath, ORARI ARES members reportedly were on duty with little or no food to eat, although they did have drinking water. At that point, many victims had not yet been evacuated, and some remained trapped in the debris.

ORARI team members include Zulkarman Syafrin, YC6PLG, Herman Rangkuti, YC6IQ, and Soejat Harto, YB6HB--a medical doctor. Syafrin reports that the earthquake damaged the power, telecommunication and transportation infrastructure or took them out altogether on Nias Island. Buildings in Gunung Sitoli were reportedly flattened and roads severely damaged or impassable.

In the early going, the team was using portable generators and had to restrict operation to every two hours to conserve scarce fuel. TELKOM, the Indonesian Department of Public Telecommunication, has since provided the ORARI ARES team with a bigger generator, and the operation has relocated to the TELKOM building, where fuel is no longer a problem. ORARI District 6 plans to supply more logistical and radio equipment, while Ady Susanto, YB6VK, was preparing a set of solar cells for the ORARI ARES team's use in Gunung Sitoli.

New Mexico radio amateur Earl Campbell, N8TV, now working with the International Red Cross in Banda Aceh on post-tsunami relief, plans to set up an emergency Amateur Radio station on Simeulue Island, which also was affected by the earthquakes. Campbell's IT team reportedly is headed for Nias Island to set up a satellite Internet connection and to support the ARES team in Gunung Sitoli.

Updates on ham radio earthquake relief activity in Indonesia are available on the AB2QV Web site <<http://www.qsl.net/ab2qv/nias.htm>>.--Wyn Purwinto, AB2QV

**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](http://www.425dxn.org).

**Contests April**

- 16 Holyland DX Contest
- 16 TARA Digital Prefix Contest
- 23-24 SP DX RTTY Contest

**Contests May**

**DXpeditions**

Call	Location	Until
9V1CW	Singapore	till 2008
C6AWF	Bahamas	till April 2005
8Q7WP	Maldives	09/05
5H3HK	Tanzania	till March 2006
ZD8I	Ascension Is	till March 2006



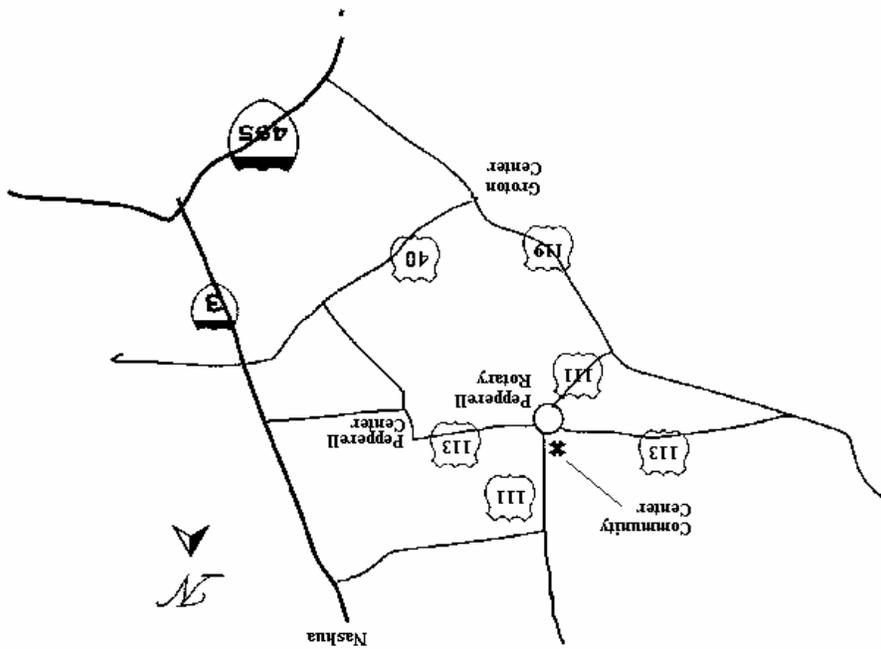
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Meetings are held on the 3rd Thursday of the month  
 - 7:30 p.m. - Pepperell Community Ctr. Talk-in  
 146.490 simplex  
 442.900 + 100Hz Repeater  
 147.345 + 100 Hz Repeater  
 53.890 - 100Hz Repeater

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