



SIGMA



de N1NC

July 2003 Volume 12 Number 7

This Month's Meeting

This month we have no regular meeting. The cookout will be Saturday August 16th at 4:00 PM at the Den Connors KD2S estate.

Den's address is in the yearbook. Anyone needing more exact directions may contact a club officer.

The faire is to bring what you want to cook on the grill. The fire, condiments and drinks will be provided by Den and the club.

NVARC Field Trip

Searsburg Wind Power Project Tour 23 July



NVARC members are planning a weekday field trip to see the Searsburg VT wind farm. The Searsburg Wind Power Project is a 6 megawatt facility commissioned in 1997. Walt Congdon W1ZPB has arranged tours of this wind farm in Searsburg VT on Wednesday, July 23. There are four tour times; 10:00, 11:30, 1:00, and 2:30.

Anyone who would like to go is welcome. Searsburg is a bit west of Brattleboro VT; from Pepperell it is about a 2 hour and 15 minute drive. Walt would appreciate a head count. Ralph is coordinating the entourage from NVARC; please let him know if you would like to go so we can be sure there is enough space in our selected tour time. Ralph expects some number of vehicles to

depart from the Pepperell Community Center at 07:15. Ralph will also help with carpooling arrangements.

Information about the Searsburg wind farm can be found in <http://www.northeastwind.com/searsburg%20project.htm>

-Ralph

Member Short Presentations

The November meeting program is going to be "Member Short Subjects". Our goal is to have four members do a ten or fifteen minute presentation on a topic of interest to them.

These presentations don't have to be radio related. It could be what you do when you're not "playing radio", or some other hobby you have.

We currently have three speakers. If you have a short subject of ten or fifteen minutes that you would like to present contact a Board member. If you need help putting together the slides, need handouts copied, or need equipment we can probably help.

Adopt-A-Highway

We performed our June clean up Sunday July 6th. There was a good turn out for the cleanup. Larry KB1ESR, Jim AA1PO, Earl WR1Y, Stan KD1LE, Ralph KD1SM, Bob W1XP, Pat N1VAW, Greg N1VAV, and Scott WX1J participated. Next cleanups will be July 27th (which is moved back) and August 24th. As always we will meet at the Groton school complex at 9:00 A.M.

Last Month's Meeting

Ralph KD1SM gave the Treasurers report that was in the newsletter. Ralph also made available for the first time the NVARC mugs. Mugs may be purchased from

Ralph for \$4. Ralph also reported the ARRL Library Book Set had arrived and gave Les the books for the Townsend Library. Ron W1PLW spoke briefly about Grotonfest as he is organizing our participation.

Last months program was a series of presentations on Field Day. Stan KD1LE did a presentation on NVARC Field Days over the past ten years. This was followed by Bruce K1BG who did an overall presentation on the origin and purpose of the national Field Day. Bruce finished up with what our Field Day should be---fun. This was followed by a demonstration prepared by Les N1SV of the networked logging computers. He and Bruce showed how computer logging worked and demonstrated the various functions of the program.

Bruce and Les were awarded the first ever speakers gift of an NVARC mug.

Welcome to New Member

Welcome to new member James "Skip" Youngberg K1NKR. Skip is from Tyngsboro.

July Board Meeting

There was no July Board of Directors Meeting and the August meeting (if any issues need to be addressed) will take place at the cookout.

Ralph submitted the monthly Treasurers report and the details are published later in the newsletter.

Some of the Field Day bills were submitted and settled.

NVARC mug bills were settled.

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Note the NVARC cookout will be August 16th at the KD2S QTH.

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From the President

Another year of meetings has come and gone. With no regular meetings during the summer I consider the beginning of summer and Field Day the end of the year. I hope everyone had a good Field Day and as many as possible can make the cookout on August 16 at 4 PM.

The Fall program schedule is shaping up but as always we are open to suggestions on subject matter or specific speakers.

There are many public service events during the summer to keep those of us so inclined out of trouble. See the PSLIST for those opportunities.

We plan to set up a Ham Radio display at the Grotonfest in September. Ron W1PLW has volunteered to coordinate this activity. This one event was the source of most of the students that filled our license classes. Ron will need your help and ideas for the event. We are considering running a license class following Grotonfest and are exploring possible arrangements. One possibility is through Pepperell Parks and Recreation which would provide space and a town wide mailing. If anyone has any other suggestions please let us know.

We have been asked to support the Pepperell Soccer Tournament in the Fall and John KB1HDO has taken on the coordinating task. Help him out by volunteering some time during the three days of Columbus Day weekend.

We don't have a formal request yet, but I expect we will be asked to support the Groton-Pepperell Rotary Rail Trail Charity Walk in the Fall.

On the emergency preparedness side besides practice and participation one of the things that is becoming more common in discussions is the idea of a stay-at-home response to an emergency. Many of the new disaster scenarios envision that people shouldn't move around. That changes the preparation requirements to be around home preparedness and home station preparedness. More like being ready for a hurricane or winter storm plus the ham radio aspect.

Stan KD1LE

NVARC Loaner Equipment

- Kenwood TS-451 transceiver
- Cushcraft R-7 antenna
- Astron RS-35M power supply
- MFJ557 keyer practice oscillators

Ham Radio History 101

Beginning Amateur (Ham) Radio History
By Bob Reif, W1XP

I have been interested in the history of the early days of radio since I got into this hobby. I realized the other day that the 80th anniversary of the first amateur contact across the Atlantic is coming up this fall. That started me thinking that a series of short articles on how that event and others at the same time so pro-

foundly changed the hobby and radio communications as a whole. I hope you will find this as interesting as I do. So here is the first article.

It Was a Very Good Year.

The twelve month period from November 1923 to November of the following year was a very eventful year in ham radio. On the night of November 27th 1923 the first two way contact was established between 8AB, Leon Deloy (Nice France) and 1MO, F. H. Schnell (West Hartford CT). The "intermediate" or letter in front of an assigned amateur call sign used to identify the country of origin was just beginning to be used. This use of this so called intermediate would not become official till 1929. I'll save that story and the details of this first contact for later. This initial QSO was followed by a second QSO between (F)8AB and (U)1XAM, John Reinhartz (South Manchester, CT.) the same night. (F was the intermediate used for France and U for the United States). Not only had the barrier of the Atlantic been overcome, but an even bigger barrier had been breached. The amateurs had moved off of 200 meters. Since 1912 when the amateurs had been moved down to 200 meters they had not moved much lower. Some even operated above the 200 meter limit. The amateur of the day was convinced that the experts were right and they did little to explore the wavelengths below 200 meters. Even to try the lower limit of the 200 to 150 meter assignment. In the record breaking contact mentioned above, the move off 200 meters had been to get away from the heavy QRM on 200 meters. They had moved all the way down to 100 meters. It wasn't the first work on this wavelength. Several stations had made the move down to about 100 meters but didn't notice anything much different except possible improved antenna efficiency. At least that is what the difference noted on short range work was attributed to. But all the amateur efforts on 200 meters were starting to bear fruit. Efficient tuner (what we would call a receiver) designs had been worked out. By achieving low loss through careful layout, construction, and selection of components the regenerative tuners provided good sensitivity and narrow selectivity. This performance was unthinkable a few years earlier. Stages of RF amplification in front of the regenerative detector were used in some designs, although there is some doubt that it provided much improvement in performance. Most tuners (receivers) used one or more stages of audio amplification. CW, as opposed to spark, was the recognized mode for DX. Power tubes could be obtained for transmitting that could handle high power. Typically these were used in pairs, or multiple pairs, as a single stage oscillator/transmitter. Some were capable of the 1 KW of input power permitted. Usually raw AC was used as the plate supply. So as the amateurs went into the

1923/24 season all expected big things. The main amateur activity of this period tended to be during the winter months in the northern hemisphere due to the lower noise (QRN) levels and longer hours of darkness. Recall 200 meters is below the present 160 meter band. Most of the operating activity took place in the low static winter months. Summer was a time for rebuilding.

The initial contacts on that November night lasted for hours. There was an almost total lack of fading on the signals. The next night the signals were there again. And the next and the next. More stations got on as the news spread and there was a rush to get on the "Short Waves". Other countries got on the air in Europe. (F)8AB was joined by other stations in France, Great Britain, and Holland. Later Italy joined in from Europe, and Canadians from this side of the pond. Stations as far inland as the mid west were working the Europeans, and stations in Washington and Oregon were copying (F)8AB who had the outstanding signal. It didn't take long to realize that they were on to something by going to the shorter wavelength.

But it wasn't all that easy either. In spite of the law of 1912 that moved the amateurs below 200 meters (think wavelength) amateurs were only licensed to operate between 200 meters and 150 meters. Many amateurs of the day couldn't tune below 180 meters, so firm was the thinking that the lower wavelengths were useless. The stations operating on 100 meters were operating with special permission. More and more stations were applying for permission to operate on 100 meters. The Bureau of Navigation, Department of Commerce, who had responsibility for radio matters at the time, began to slow down the granting of permission to applicants. The ARRL got into the debate and as a result of much discussion and pressuring. In July of 1924 the Bureau of Navigation issued a sweeping change to the amateur licensing regulations. Interesting enough the whole regulations took six paragraphs, a total length of less than one page. As a result of this change the amateurs were granted five additional wavelength assignments at shorter wavelengths. They are 80-75 meters, 48 to 40 meters, 22 to 20 meters, and 5 to 4 meters. They retained the 200 to 150 meter assignment. We did not receive the 10 meter band till after the 1927 International Radio Conference in Washington DC, (the first WARC) but that is another story. So we had new bands to explore, but to get on with the other developments of 1924.

The dam broke on distance records. One distance record fell before the ink was dry on the previous record. It was an exciting time. I won't list them all but here are a few of interest. The first west coast to New Zealand contacts took place on September 22nd.

(z)4AA of Waihemo, Palerston, South, New Zealand worked 6BCP and 6CGW at 6900 miles. But on October 13th this record was broken by 1SF of South Beach CT working (Z)2AC of Gisbourne, New Zealand. At 9,000 miles this was a new record, but it didn't last long. On October 19th (Z)4AA again took the DX record with an 11,900 mile QSO with (G)2SZ of London England. This record is very close to the maximum of 12,500 miles for a point exactly opposite on the other side of the earth, the antipodal point. This contact was followed by others between New Zealand and England. In less than 12 calendar months amateur radio had gone from a three thousand mile barrier some thought could not be achieved, to the almost routine contacts across the oceans and contacts to the ends of the world. International DX had arrived to amateur radio and it would have a profound effect on the hobby, as we will see later.

In future articles I hope to explore some of the above things in more detail and some of the other things that have helped to define amateur radio as it is today.

73, Bob W1XP

PSList July 2003

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.

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

Every event listed is looking for communications volunteers

Date	Location	Event	Contact	Tel/Email
Sep 12	Provincetown to Dennis MA	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 13	Dennis to Truro MA	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 14	Dennis to Brewster MA	MS Challenge Walk	John N1PYN	508-588-3250 n1pyn@arrl.net
Sep 21	Madison to Moodus CT	Bike Tour for MS	Scott AA1WM	203-676-1016 aa1wm@arrl.net
Sep 22	Moodus to Madison CT	Bike Tour for MS	Scott AA1WM	203-676-1016 aa1wm@arrl.net
Oct 11-13	Pepperell	Fall Classic Soccer Tournament	John KB1HDO	978-772-5406 kb1hdo@hotmail.com

Oct 17-19 Boston MA Head of the Charles Regatta
 Jeff N1FWV 978-536-2842 rwjeffa@attbi.com

This list is published periodically as demand warrants by Stan KD1LE and Ralph KD1SM. Our usual distribution is via packet to NEBBS, via Internet mail to the arrl-nediv-list and ema-arrl distribution lists, and on the World Wide Web (see URL above). If other mailing list owners wish us to distribute via their lists we will be happy to oblige. Permission is herewith granted to republish this list in its entirety provided credit is given to the authors and the URL below is included. Send comments, corrections, and updates to:

(via packet) KD1SM@K1UGM.#EMA.MA.USA,
 (via Internet) KD1SM@ARRL.NET.

Public Service Activities

Over the Field Day weekend NVARC members supported the Red Cross at the Longsjo Classic bike race. There was Amateur Radio support on Saturday and Sunday.

Saturday Dave's N1MNX portable 440 repeater was put to use from the top of Mt Wachusett to provide repeater coverage over the course. Ralph KD1SM, Greg N1VAV, Pat N1VAW, and Gary K1YTS supported Red Cross communications.



Sunday club members Ralph KD1SM and Stan KD1LE supported the Red Cross for the downtown Fitchburg part of the race.

According to the *Sentinel & Enterprise* 862 riders took part in the event this year and that this is the largest bike race in North America. Riders must participate in every day of the four day event. Races ranged from 15 miles to 50 miles depending on the class of riders.

Field Day 2003 (part 1)

Field Day was June 28th-29th and breaking with tradition it was not the rainy fourth weekend in June. The heat of earlier in the week subsided and we had sunny weather with temperatures in the 80's.

We ran in class 2A at the Heald St conservation land in Pepperell. That is we ran two HF stations on emergency power. We also ran one VHF/UHF station by provided by Dave N1MNX and a GOTA station set up by John KB1HDO.



A view from the VHF/UHF station of the rest of the site. The tent on the left was for HF and was primarily used for CW. The RV on the right was used for HF SSB. The GOTA station was set up beyond the RV. A dipole for 40 and 80 meters was hung from the trees visible in the upper left.



Bruce K1BG assembling a yagi to be put on an extension ladder "tower". The ladder also held dipoles for 40 and 80 meter operation for the CW station.



Bruce's support team Dave N1MNX and Scott KO1A



Above Peter N1ZRG and Les N1SV assembling the yagi that will go on the Beltronics trailer tower.



Above Bob W1XP and John KB1HDO assembling the R7 antenna to be used for the GOTA station.



Larry KB1ESR provided his RV which housed one HF station and provided sanitary facilities.



Above (L-R) Jim N8VIM, Peter N1ZRG, Dave N1MNX, and Larry KB1ESR setting up the HF yagi on a mast tower Dave borrowed from Beltronics in Hollis (our advertiser). This made putting up the antenna much easier though there were some problems taking it down.

Thanks to Les N1SV and Bruce K1BG for coordinating Field Day for NVARC this year. Thanks also to Dave N1MNX who provided the VHF/UHF station and John KB1HDO who ran the GOTA station under his callsign.

The following members participated in Field Day. Dave N1MNX, Larry KB1ESR, Bruce K1BG, Les N1SV, Stan KD1LE, John KB1HDO, Peter N1ZRG, Jim N8VIM (and brother), Bob W1XP, Karen KA1JVU, Erik W1ZBT, Ron W1PLW, and Bob KB1JZU.

We also had some guest visitors who participated. They were Harry WA1VVH, Marc KB1BND, Scott KO1A, Janet KB1IMY, and Len K1NU.

We had visits by Erik KA1RV and Tonis, and Ken Young from Pepperell (studying for license), Scott WX1J, Bernie N1IMO, Steve N1BDA the ARRL DEC for Middlesex County.

Photos by Stan KD1LE

Since this edition is full and I have only used pictures from Saturday there will be a part 2 in the August Signal with more pictures by Scott WX1J and Bob KB1JZU along with preliminary results by Les – ed.

Advertisements

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

From The ARRL Letter and Bulletins

AMATEURS "FIRST OF THE FIRST RESPONDERS," DHS OFFICIAL SAYS

ARRL now is an official affiliate program of Citizen Corps <<http://www.citizen corps.gov>>, an initiative within the Department of Homeland Security <<http://www.dhs.gov/dhspublic/>> to enhance public preparedness and safety. ARRL President Jim Haynie, W5JBP, signed the formal Statement of Affiliation between DHS and ARRL during the ARRL 2003 National Convention June 21. Chief Operating Officer of the Emergency Preparedness and Response Directorate (FEMA) Ron Castleman represented Under Secretary for Emergency Preparedness and Response Michael D. Brown at the signing. Citizen Corps Liaison to the White House Liz DiGregorio called ham radio operators the "first of the first responders."

"You are there. You are part of that very, very first response when it happens locally," especially in the initial stages of an emergency or disaster, DiGregorio told an overflow audience. She urged amateurs to explore ways to expand their role in the community beyond being the last resort when other communication systems fail. "You need to show your community that you're engaged," she said. "They need to know as a community that ARRL is there."

Castleman said his agency really needs Amateur Radio's help. "Hams have a long and distinguished history of assisting and cooperating with FEMA," he said. He said FEMA wants to continue to work with Amateur Radio operators as partners and expand hams' community safety role. "We also want to help prepare every citizen across our country before disaster strikes," Castleman said.

The League joins the National Safety Council, Points of Light Foundation, National Voluntary Organizations Active in Disaster, National Volunteer Fire Council, National Fire Protection Association, Save A Life Foundation and The Jaycees as Citizen Corps affiliate programs.

The SoA calls on DHS and ARRL to raise public awareness of Amateur Radio as a safety resource. "That's what you are all about, and we need a safer America," DiGregorio said.

In addition, DHS and ARRL will cooperate in providing training and accreditation for Amateur Radio emergency communications. They also will work together to promote the formation of local Citizen Corps councils and assist them with education, training and volunteer service opportunities "that support first responders, disaster relief organizations and community safety efforts." As an affiliate, ARRL will be linked from the FEMA and Citizen Corps Web sites.

"We need you, and you need us, and we want to work together with you to make this all happen," DiGregorio concluded, "because we all share the same goal, and that goal is a better, stronger, more secure America."

The ARRL National Convention 2003 was held in conjunction with Ham-Com <<http://www.hamcom.org>> in Arlington, Texas. FEMA announced the SoA signing on its Web site <http://www.fema.gov/nwz03/nwz03_138.shtml>.

AMATEURS RESPOND TO SOUTHWESTERN FIRES

Amateurs in the vicinity of Sandoval County, New Mexico, had just wrapped up an activation to support emergency communication for personnel fighting the Virgin Mesa fire about 50 miles north of Albuquerque when they were notified to stand by for yet another fire right in the city. Meanwhile, hams in Arizona remain ready to aid the fight to douse the huge Aspen Fire north of Tucson. The Arizona fire is considered too dangerous for amateur volunteers, however.

Amateur Radio Emergency Service (ARES) volunteers in New Mexico activated to assist in the Virgin Mesa fire were released at midday June 24 and replaced by a Type 2 Forest Team, said Sandoval County District Emergency Coordinator Mike Scales, K5SCA. Hams could be called back in, however, if the fire blows up again. Fire officials in New Mexico have ruled the Virgin Mesa fire--burning since June 22--to have been human-caused. Some 200 firefighters were working the blaze, and no homes or developments were threatened.

Aided by three members of the Los Alamos ARES team, Sandoval County hams set up at the Incident Command post at the La Cueva Fire Station, said Sandoval County ARES member Jay Miller, WA5WHN. Traffic was coordinated through a 2-meter repeater in Rio Rancho. A number of hams were deployed as fire-spotters and to support operating fire units.

On June 24, a fire that broke out in a wooded area--called the Bosque--in the Albuquerque area caused some 600 residents to be evacuated and left an estimated 16,000 people without power. Some 20 Sandoval County ARES members stood by to assist Bernalillo County ARES if needed, Miller said. The City of Albuquerque was able to handle the blaze, which destroyed an upscale home under construction.

North of Tucson, Arizona, progress was made this week to contain the Aspen Fire, which has destroyed more than 250 homes--and possibly more--since it broke out June 17. At mid-week, fire officials said the blaze was 25 percent contained. More than 1200 firefighters and support personnel are at the scene.

ARRL Arizona Section Manager Cliff Hauser, KD6XH, said that Arizona ARES and RACES teams remain on-call, but that there is currently no organized Amateur Radio effort to support of the firefighters.

"Fire fighting officials indicate that at this point it is still too dangerous in the fire's vicinity for Amateur Radio operators or other untrained volunteers to assist," Hauser explained. Hauser also pointed out that high

winds have been causing the massive fire to spread in sporadic and unpredictable ways.

Chuck Smallhouse, W7CS, reports that he and several other amateurs supported the Type I fire team brought in to contain and control the Aspen Fire. In addition to Smallhouse, the team included Chuck Michels, KB7RFI; Norm Martin, K7OLD; John Henderson, K7FCC; and John Glenn, K7RJR. "These hams took off their Amateur Radio caps at the door and donned fire team ones," Smallhouse said. He said the hams were needed to provide vital communications support to the just-arrived skeleton crew until the professionals showed up.

Lost in the Arizona forest fire was the Cactus Intertie System's repeater equipment. The towers and repeaters were located very close to where the fire got its start atop Mount Lemmon. Also burned was the Zia Connection site, some 150 yards up the ridge from the Cactus site.

PRESIDENT HAYNIE TESTIFIES BEFORE CONGRESSIONAL SUBCOMMITTEE

ARRL President Jim Haynie, W5JBP, testified June 11 on Capitol Hill on behalf of the Spectrum Protection Act of 2003, HR 713. The ARRL initiative would require the FCC to provide "equivalent replacement spectrum" to Amateur Radio if the FCC reallocates primary amateur frequencies, reduces any secondary amateur allocations, or makes additional allocations within such bands that would substantially reduce their utility to amateurs. Haynie was the last of 11 scheduled witnesses to speak during the Subcommittee on Telecommunications and the Internet hearing, "The Spectrum Needs of Our Nation's First Responders."

"We are indeed a first responder," Haynie said on behalf of the nation's some 680,000 Amateur Radio operators. Ham radio is more than "just having fun playing on the radio," he told the panel, a subcommittee of the House Energy and Commerce Committee chaired by Rep Billy Tauzin (R-LA). "It also produces capable, trained volunteer communicators in systems of emergency telecommunications that are impervious to disasters of all sorts," Haynie said. "These volunteers are ready to respond--and do respond immediately--when all other systems of communications fail, including public safety communications when they're overloaded, destroyed or lack interoperability."

Among other examples, Haynie pointed out how Amateur Radio operators answered the call on September 11, 2001, in New York City, at the Pentagon and at the Western Pennsylvania crash site of the fourth hijacked airliner. Hams also assisted federal authorities in the

debris search following the February 1 shuttle Columbia disaster, Haynie pointed out, and aided in the response to tornadoes in the Midwest and South earlier this year.

Haynie told the subcommittee that hams have lost more than 100 MHz of VHF and UHF spectrum over the past 15 years and that another nearly 360 MHz of VHF and UHF spectrum "has been substantially compromised." Haynie said hams have shared spectrum successfully with government users on VHF and UHF and have been able to "make do with less," but "that concept has reached a breaking point with our service," he added. The 2.4 GHz area, once left largely to amateurs, in recent years has become "polluted" with wireless activity, Haynie told the panel.

"Interoperability" was the watchword of the day at the subcommittee hearing, which got under way at 11 AM EDT and continued well into the afternoon. Several witnesses testified that a lack of interoperability among public safety responders at disaster scenes--including the World Trade Center--prevented warning those in danger and resulted in a tragic loss of life.

Haynie was not alone in offering supportive words about Amateur Radio. HR 713 sponsor Michael Bilirakis (R-FL), quoted a paragraph from the submitted testimony of Norman Jacknis of the Westchester County, New York, Department of Information Technology. "In the first hours following the attack of September 11, 2001, the only way we could coordinate the sharing of firefighting, medical examiner, health, and information technology resources with New York City officials was through the highly trained, volunteer Amateur Radio (ham) operators," Jacknis said. "This irreplaceable resource must be protected from incursion by other interests."

One of the two amateur licensees in Congress, Rep Greg Walden, WB7OCE (R-OR)--a subcommittee member called for a halt to the "astonishing" erosion of amateur spectrum. "Time and again, if you find an emergency, you find a ham radio operator," Walden said.

FCC Office of Engineering and Technology Chief Edmond Thomas also cited the contribution of Amateur Radio operators to public safety. "The ham radio community has offered invaluable service to first responders during emergency situations," the OET chief said.

A Senate version of the Amateur Radio Spectrum Protection Act, S 537, was introduced earlier this year by Sen Michael Crapo (R-ID). The Senate bill is being considered by the Commerce, Science and Transportation Committee, but no hearing on the measure has

been set. The text of HR 713 and S 537 is available via the Thomas Web site <<http://thomas.loc.gov/>>.

\$July Treasurers Report\$

Income for June was \$130 in membership renewals and \$60 from coffee mugs. Expenses were \$14.80 for newsletter postage and \$424.95 for the mug order, leaving a net expense of \$250.75 for the month.

Current balances:



General fund	\$4806.34
Community fund	\$1842.55

I will accept Field Day receipts directly or through Les. If you want to submit receipts directly, please be sure to tell Les as well so he can confirm the budgeted amount.

If you are not yet an ARRL Member and are thinking of becoming one, consider letting NVARC handle the paperwork for you. ARRL rebates a portion of new membership dues back to the Club. (There is no longer an ARRL rebate for membership renewals handled through the Club.)

73,
Ralph KD1SM



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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

442.90 + 100Hz Repeater

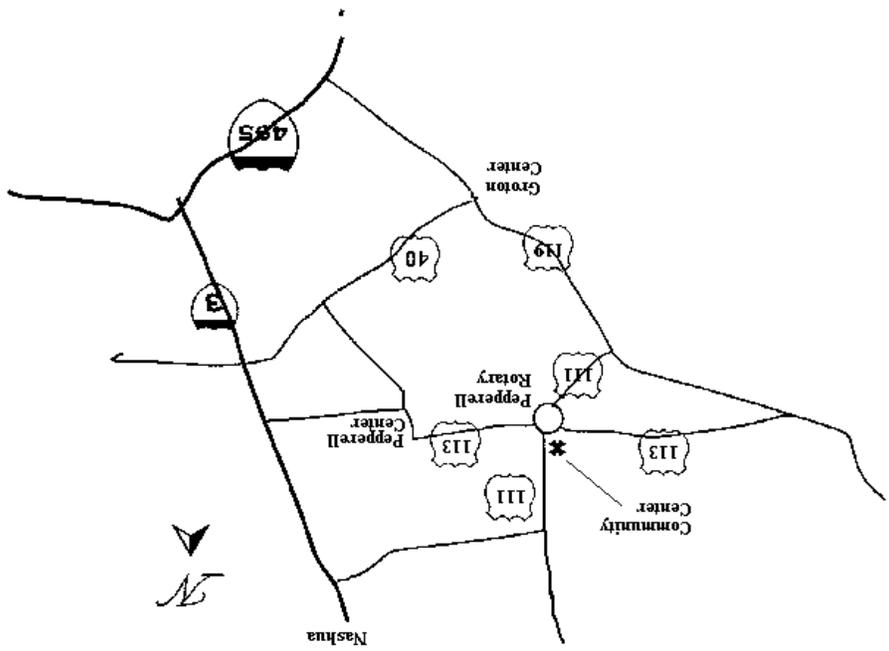
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