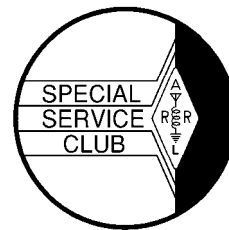




SIGNAL



July 1998 Volume 7 Number 7

No Meeting This Month

This month (and next) we are on our summer break and have no formal meeting. We are having a family cookout at the KD1LE/N1PBL QTH on August 22nd from 2:00 PM to 6:00 PM. Everyone should bring what they want to cook. Drinks and condiments will be provided along with the grill. The pool will be open for those so inclined.

Since there is no meeting and with vacations coming up I have decided to skip the August newsletter. Don't forget the cookout—put it on the calendar now. See you in the September edition and at the meeting.

Last Month's Meeting

At last month's meeting we had a presentation on the CT logging program that we used for logging all those Field Day contacts. We had some of the computers that we used at Field Day. Everyone got a chance to try out the systems and ask questions about the program. We also had copies of the CT Primer that Bruce K1BG wrote.

Field Day

NVARC participated in Field Day the weekend of June 27-28 from the track behind the Middle and Elementary Schools. We had to move from the soccer fields where we had been due to work being done on the fields.



After surmounting the normal problems of set up we got on the air a little after the 2:00 PM start. This year we tried some new antenna ideas. Bob W1XP built a 40 meter ZL Special antenna which seemed to perform well. The generator system performed well again this year and we never ran out of power.

There are many ways to approach improving the Field Day. It can be done by working harder. It can be done by having more participants, which I think is a good idea. But the way I have been trying to approach it is how can it be made better in the long run. One example is that we have 40 and 80 dipoles that are used primarily for Field Day. At least they are only used for temporary things like Field Day. Instead of waiting till Field Day to fix or make adjustments it can be done now so that the next time we need them they will be all set. Another is to get a number of computers set up for networking and with the proper port configurations so that it is not a problem at the last minute. We started that a few weeks before Field Day and never got everything working. We were able to use them to log, but the network didn't work correctly and we seem to have found an incompatibility between the logging program and a new PC. Hopefully those problems will be resolved in the next few months and we can test them somewhere other than at Field Day. If you have any ideas about things to improve or build that would make Field Day better let us know. Now is the time to design and build things, not the last week of June 1999.

The following members participated in the Field Day event. Earl WR1Y, Stan KD1LE, Bob K1VA, Sam KF6KQB, Bob W1XP, Bruce K1BG, KB1FJ Ben, N1ABY Craig, KA1VOU Wolf, N1DVC Bob.
Stan KD1LE

Public Service

NVARC members took place in a number of public service activities in the past month.

The NVARC road crew took to the highways on June 21st for our third cleanup of the 1998 season. Thanks to Herm KE1EC, Linda N1UPR, Jeremy KB1AWE, Justin and Jonathan (Jeremy's brothers), Pat N1VAW, Bob K1QT, Dorothy N1ZKC, Ben KB1FJ, Craig N1ABY, Dan N1LLG, Ian NZ1B, Dave N1MNX, and Stan KD1LE for helping out.

On July 3rd club members supported the Pepperell Fun Run a 4 mile race put on by the Pepperell Fourth of July Committee. The following day several members supported the staging of the 4th of July Parade in

Pepperell. Thanks to the following members for their support. Ben KB1FJ, Stan KD1LE, Scott WX1J, Greg N1VAV, Pat N1VAW, Dave N1MNX, Den KD2S, Lynda N1PBL.

There are many opportunities to do public service communications over the summer months. Some of them are local, but there are many others. If you are interested in trying out some other events there is a Public Service List published on packet and found on many BBS. If you don't have packet and would like a copy of the list contact Stan KD1LE for more information.

One upcoming event that we are supporting is the Harvard Bicycle Race. This is an official race with many classes of cyclists. If you've never seen a "real" bike race you might want to try this one out. On a hilly course that runs out of the center of Harvard they reach speeds approaching 50 MPH. These guys and gals go faster back up the hill than I can go on flat ground. If you are interested in helping out give me a call.

We are planning to do the cleanup the weekend after the club meeting (in the Summer after it would have been) to make it easier. The typical cleanup with eight people takes a little over an hour to complete.
Stan

1998 Hurricanes

It's more fun to watch if you know their names? Here are the names of the storms for the 1998 hurricane season. Alex, Bonnie, Charley, Danielle, Earl, Frances, Georges, Hermine, Ivan, Jeanne, Karl, Lisa, Mitch, Niccole, Otto, Paula, Richard, Shary, Tomas, Virginie, Walter.

NVARC FoxBox

The FoxBox was in the field for the June 13th weekend somewhere in Townsend. The weather was lousy, as it has been right along, but four hunters braved the elements to locate the fox. Congratulations to Bob K1QT, Dorothy N1ZKC, Herm KE1EC, and Charlie N1PQV.

Now that Field Day is over the fox will be going back out for the weekends. We will make it known as much as possible when it goes out and any information that is announced about its possible location.

The FoxBox transmits on a frequency of 145.63 with a PL of 146.2 for thirty five seconds then takes a five minute rest.

We welcome all hunters and only ask that if you find it you sign in on the 'log' and don't tell anyone where it is/was until we bring it in. Since people will be hunting on different schedules we wouldn't want to take away anyone's fun.

Ralph KD1SM/Stan KD1LE

ARRL News and Newsletter

The ARRL Convention in Boxboro is coming up. The dates are August 29, and 30. All the major manufacturers and dealers will be there. There are also many presentations and events. There is even a fox hunt. Bring your handheld if you want to try it out. For those not familiar with the location of the convention there will be talk-in on the MMRA repeaters at 146.61, 146.82, 449.925. For more information see their web page at www.boxboro.org. You can save \$2.00 by getting your tickets by August 1st.

AMATEUR RADIO SPECTRUM PROTECTION BILL HAS 39 COSPONSORS

ARRL Legislative and Public Affairs Manager Steve Mansfield, N1MZA, reports that HR 3572, the Amateur Radio Spectrum Protection Act, now has 39 cosponsors (including the original sponsor) and several more members of Congress have indicated their intention of signing on. "Letters from ARRL members are beginning to take effect," Mansfield says.

The bill, introduced March 27 at the request of the ARRL, would protect existing Amateur Radio spectrum against reallocations to or sharing with other services unless the FCC provides "equivalent replacement spectrum" elsewhere. The bill was introduced by Rep Michael Bilirakis of Florida, a Republican, with the cosponsorship of Rep Ron Klink of Pennsylvania, a Democrat.

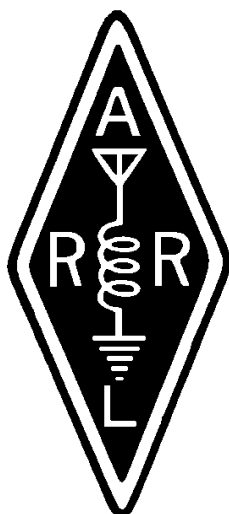
Cosponsors also now include Peter DeFazio and Earl Blumenauer of Oregon; George Nethercutt of Washington; Frank Pallone of New Jersey; Tom Campbell and John Doolittle of California; Patsy Mink of Hawaii; David Hobson, Tony Hall, Steven LaTourette, Michael Oxley, and Dennis Kucinich of Ohio; Bob Clement of Tennessee; Dave Weldon of Florida; David Price of North Carolina;

Robert Wise of West Virginia; Michael Crapo of Idaho; and Jay Dickey of Arkansas.

Others are Representatives Dan Burton of Indiana; Louise Slaughter, Sue Kelly, Michael McNulty and Peter King of New York; Charlie Norwood, Nathan Deal, and John Lewis of Georgia; Bud Cramer of Alabama; Christopher Shays of Connecticut; Collin Peterson of Minnesota; James Talent, Jo Ann Emerson and Ike Skelton of Missouri; Dale Kildee and James Barcia of Michigan; J.C. Watts Jr of Oklahoma; Scott Klug of Wisconsin; and Jon Christensen of Nebraska.

The bill points out Amateur Radio's basic purpose as a "voluntary, noncommercial radio service" that has "consistently and reliably" provided emergency communication during and after disasters. The measure notes that the FCC has "taken actions which have resulted in the loss of at least 107 MHz of spectrum to radio amateurs."

HR 3572 has been referred to the House Commerce Committee. An effort is under way to enlist additional cosponsors for the measure. Amateurs are encouraged to contact their Representatives and urge them to support the bill or to sign on as cosponsors. The full text of the bill is available at <http://thomas.loc.gov/cgi-bin/query/z?c105:H.R.3572>:



Mansfield is continuing to seek additional cosponsors for HR 3572 and urges individual hams and clubs to contact their representatives in Congress and encourage them to sign on.

MORSE TO HAVE CIVIL WAR RE-ENACTMENT ROLE

Morse code will play a role in the 135th recreation of the Battle of Gettysburg over the July 4 weekend. Walter Mathers, a member both of the Morse telegraph club's Washington, DC, chapter and the Signal Corps Association 1860-1865, has been appointed Chief Signal Officer for the event, July 3-5, 1998. The Signal Corps Association has formed a re-enactors' division.

Mather says the wire portion of the communication system will include Morse instruments manned by individuals using both the American and Continental codes. "We expect this event to produce over 100 full scale pieces of field artillery—many horse drawn—plus the largest total number of participants ever, which will include the most telegraphers ever assembled at such an event," he said. Mather said 20,000

participants are expected to turn out for the re-enactment, most in period attire.

Mathers, who is not a ham, said that a Morse Telegraph Club member has developed a hidden earphone and converter box to translate the clack of the Morse sounder or relay into a tone for use by wireless operators. "In fact, we'll have more Continental ops than American ops working the lines," he said.

A picture of Mathers (and others) re-enacting the reception of Samuel F. B. Morse's famous message, "What hath God wrought?" appears on page 12 of the August 1991 issue of QST.

New General exam test pool: A new General class examination question pool becomes effective July 1. The new General exam will include five additional questions on the topic of RF safety. Applicants take note: as of January 1, 1998, only FCC Forms 610 dated September 1997 or later are acceptable to the FCC or to VE teams.—Bart Jahnke, W9JJ, ARRL/VEC

AEA/Tempo not affected by Timewave filing: Mike Lamb, N7ML, of AEA/Tempo says the company is financially sound and has no connection whatsoever to the recent Chapter 11 bankruptcy filing by Timewave. Lamb said some hams have confused AEA/Tempo and Timewave, both of which purchased different portions of the former AEA product line last year.

Ham radio for the birds? On May 3, while taking a break putting up a 60-foot tower for Bob Poirier, K0DJ, in Sinclair, Wyoming, the group of hams and a helper looked up and noticed a small bird on a tower support wire. Upon closer examination, they realized it was a cockatiel—someone's pet.

The helper, Dave Trujillo, climbed back up the tower, and coaxed the bird to come to him. He then carried the bird to safety. On the ground Ken and Mert Fults, KC7RZI and KC7RZJ, caged the bird and returned it to its owner, who had been trying to get the bird back since the previous evening. The bird was one-half of a breeding pair, and owner Mary Eaton was very surprised and pleased to get it back.—thanks to Mike Reed, N7ZEF

Operation Postcard/QSL: Pupils at Philippi (West Virginia) Elementary School seek QSL cards from around the US and the world as part of an ongoing school project. School volunteer Debbie Buffum has invited hams to send QSL cards with a brief printed message in care of the teacher, Kathy Chitester, Philippi Elementary School, Rte 3, Box 38, Philippi, WV 26416. Buffum says the project began with a big map of the US and with a piece of yarn from each card to

its state of origin. "The teacher would like to go international," said Buffum, whose husband and son both are hams (KD6IPY and KD6MMH respectively). Buffum hopes to see the project include a ham radio demonstration. Philippi is located in North-Central West Virginia, not far from Clarksburg, in Barbour County.—thanks to Ray Day, N6HE

Harlans take over OSCAR pub: Harlan Technologies has taken over OSCAR Satellite Report from Bob Myers. Shari Harlan, KB9SH, will serve as editor of OSR, published since 1981 and originally named AMSAT Satellite Report. OSR will be mailed twice monthly (24 issues per year) via first-class mail. "We print a DX Satellite column, written by Craig Mellinger, N2MNA, updates on all the satellites and their activity, biographies on the people that you talk to via satellite, orbital elements, and more," says Associate Editor Gene Harlan, WB9MMM. Subscription rates are \$35 in the US, \$38 in Canada, and \$46 elsewhere. For more information, contact Harlan Technologies, 5931 Alma Dr, Rockford, IL 61108-2409; tel 800-557-9469 (orders); 815-398-2683; fax 815-398-2688; e-mail OSReport@aol.com; <http://www.cris.com/~Gharlan>.

HAMS HELP AS FLORIDA BURNS

As the smoke begins to clear in the wake of the Florida wildfire disaster, details of ham radio activity in the now-blistered and blackened Sunshine State have begun to emerge. Wildfires that began more than a month ago in the drought-stricken areas of Northern Florida raged out of control in late June and early July, burning thousands of acres of property, destroying dozens of homes, and causing upwards of \$300 million in damage. Although recent rain has offered some relief, the fire danger continues. President Clinton visited the fire-stricken region this week.

Volunteer firefighter and ham Jeff Capehart, KE4NIV, was among those in the thick of things. Capehart lives in Alachua County, in the Gainesville area, which did not suffer the brunt of the fires. Even so, he and his colleagues found themselves quite busy during the first week of July—a time when many might normally be taking time off in anticipation of a long Independence Day holiday weekend.

Volusia County on the Atlantic Coast was among the hard-hit regions of Florida, and that's where Capehart and his colleagues went to help. "Two of us volunteer firefighter/hams were down in Volusia County helping out a rural fire department with additional manpower for their trucks," he said. Capehart and Kevin Rulapaugh, KE4NVI (whose name is an anagram of the letters in his call sign), were among those sent June

30 with a strike team from Alachua County Fire Rescue Reserves to Osteen in Volusia County. "We rode on a rescue truck, brush truck, and tanker truck," he said. Five volunteer firefighters were on the team.

The situation had worsened by week's end. On July 2, some areas in the Orange County towns of Bithlo and Christmas got the word to evacuate. Dick Dudley, AC4PF, reports that Orange County ARES members staffed the EOC, the Red Cross and an emergency shelter in East Orlando. On July 3, Flagler County, just north of Volusia, announced a full-scale evacuation—some 40,000 residents. The Red Cross opened a special needs shelter at a high school in Gainesville. Capehart reports that hams were first on the scene to help coordinate the shelter setup at the Red Cross HQ, at the school, and at the county Emergency Operations Center. A complete radio station including portable antennas and a computer with APRS was set up at both the EOC and the shelter.

An informal net was established on a local repeater, and some of the repeater regulars volunteered to help. Hams also helped to load cots and supplies on a trailer to deliver to the shelter. The informal net remained in operation until midday on June 6, running 24 hours a day. More than 30 operators participated. Other nets were established, and ARES operators remained on standby or were active as fire spotters in affected counties.

Northern Florida SEC Nils Millergren, WA4NDA, says the fires were the worst in memory. "I've lived in Florida all my life and never remember anything like this," he said.

One ham was dispatched to the Alachua County Animal Shelter, since evacuees had been told to leave their pets in crates on their doorstep or to drop them off at the Flagler County Fairgrounds. The animals were loaded up and transported to both Jacksonville and Alachua County. Donations and supplies for the displaced pet population also poured in, including many 50-pound bags of dog and cat food. Capehart reports the evacuated pets included animals of all sorts, from birds and rabbits to goats and horses, in addition to the more typical cats and dogs. "The Animal Shelter staff was impressed with the communications capability of having a ham radio operator who could get things done when normal channels were ineffective," Capehart said.

On a day that should have been a holiday—July 4—hams found themselves involved in coordinating firefighter and evacuee relief efforts. Daytona's Pepsi 400 auto race was postponed until October. Parts of Interstate 95 were closed to traffic. In Flagler County,

a collection and drop-off location was set up at the county's central supply warehouse, and hams were again called in to unload and load supplies. "They even went above the call of duty and drove the supplies, an 18-wheeler loaded with over a thousand gallons of water and around 100 gallons of Gatorade and fruit drinks from Gainesville to the Flagler County Fairgrounds in Bunnell, which was the staging area for firefighters," Capehart said. After driving two hours each way plus a couple more unloading, the crew did not get home until the wee hours of July 5.

"With the ban on fireworks in Florida, it was a very unusual Fourth of July to travel and not see fireworks shooting off all over the place and hear the pop-pop-pop of firecrackers," Capehart said. "This will be one Fourth of July for the record books that will not be forgotten."—thanks to Jeff Capehart, KE4NIV, and Nils Millergren, WA4NDA

FIELD DAY BECOMES THE REAL THING

Fresh from participating in a Simulated Emergency Test June 27, hams in West Virginia's Kanawha County were eager to get started with Field Day—ham radio's annual combination of contesting and emergency preparedness. Members of the Kanawha Amateur Radio Club (ARES/RACES) and Kanawha Amateur Radio Emergency Service (KARES) soon were working FD in earnest. Although stiflingly hot, there was no rain in sight. Ops racked up contacts well into the wee hours of Sunday morning, when the rain that had begun caused major flash flooding in parts of Kanawha and in 16 other West Virginia counties.

Hams promptly abandoned their Field Day effort as the county EOC put out the call to activate ARES and RACES. Kanawha County Emergency Coordinator Mac McMillian, W8XF, notified Jim Damron, N8TMW, to start an ARES/RACES net Sunday morning. The city of Clendenin was completely cut off, and hams were routed over mountains and down back roads to work their way into the flood-ravaged town. Hams were thus able to tell emergency services how to reach the town by vehicle. Clendenin resident Dick Wolfe, KB8VDN, was called on to establish communication. Brad Young, N8UEP, Jeff Clark, N8DTN, Tina Clark, N8TSY, and Patrick Clark, KC8BFD arrived to set up communication posts at the local fire department, a command post and a shelter set up in a local church. Other hams were dispatched to a staging area just off Interstate 79. At one point, a Clendenin evacuee needed medication. The report was sent back to EOC via ham radio. At one point, Tina Clark, who was acting as coordinator at the shelter in Clendenin, found herself dealing with a

family that not only had lost its home, but whose father had died of an apparent heart attack as a result of the flooding.

Other hams checked on flooding and road conditions, assisted at shelters, and passed along information on efforts to rescue residents stranded in their homes by high water and helping them reach shelters. West Virginia SM Olie Rinehart, WD8V, and his wife, Ann, KA8ZGY, set up communication at a shelter established in a local school. Others shared shifts at the National Weather Service, relaying vitally-needed weather information. Bill Hunter, K8BS, coordinated state efforts from the State EOC in the Capitol basement in Charleston. Scores of other hams were on standby to assist when necessary.

The emergency net continued throughout the day and into the night, finally securing at 9 PM local time—more than 12 hours later. "Though exhausted, all those participating were happy to be of assistance and thankful for the drills of the past to help prepare them for disasters such as this," said Olie Rinehart. County emergency officials praised the hams' efforts in the flooding. Rinehart said officials were particularly impressed with ham radio's ability to cross-communicate with other services involved.

"All of us enjoy the fun of hamming," Rinehart observed. "But at times like these we really demonstrate our mettle. This is what it's all about."

SAREX WON'T BE FLYING ON JOHN GLENN SHUTTLE FLIGHT

NASA has scuttled plans to include the Space Amateur Radio Experiment (SAREX) payload aboard STS-95 this fall. That's the flight that will carry US Senator and astronaut John Glenn into space. Five schools, four in the US and one in Japan, had been tentatively lined up for Amateur Radio schedules to talk with the shuttle crew during the highly publicized October mission. Glenn, the first astronaut to orbit Earth, will be 77 when he returns to space later this year.

NASA flight managers also removed nine other "secondary" payloads because of time constraints on the already-busy mission. NASA expressed regret at having to drop the educational SAREX payload.

Two hams—US Astronaut Scott Parazynski, KC5RSY, and European Space Agency astronaut Pedro Duque, KC5RGG, of Spain—will be among the international crew aboard STS-95.

"We're really disappointed," said ARRL Educational Activities Department Manager and SAREX Working Group Member Rosalie White, WA1STO. The Glenn

flight had generated a good deal of enthusiasm within the ham radio community. Schools to be included had only recently been notified that they would be on the list. White said the US schools now will be first in line for consideration on future missions, such as STS-93 early next year and the International Space Station.

Future shuttle missions are heavily loaded with activities involving construction of the ISS. Eileen Collins, KD5EDS, the commander of STS-93, is said to be enthusiastic about the possibility of including SAREX on her flight. Amateur Radio also is an official payload aboard the International Space Station.

SOLAR UPDATE

Solar prognosticator Tad Cook, K7VVV Seattle, Washington, reports: Average solar flux was up just slightly last week over the week before, and geomagnetic conditions were fairly unsettled. Solar flux was above the 90-day average of 108 on every day, and the flux peaked at 129.1 on July 4. This was the highest recorded value since two months earlier when the solar flux reached 133.4 on May 5. The earlier peak was not followed by another one four weeks later, which is usually expected because of the 27.5 day rotation of the sun. Sometimes the active region that produced the high flux and improved propagation has faded by the next rotation.

Solar flux over the next few days, July 10 through July 12, is forecast to be 112, 110 and 108, with planetary A indices around 5, 10 and 8.

Based on the previous solar rotation, flux values are expected to slip to 100 early next week, holding steady until July 24 when they are expected to rise again. Solar flux should rise above 120 by July 28, and near 130 at the end of the month.

For these summer months, 20, 17 and 15 meters offer the best propagation during daylight, especially when flux values are higher. From the author's home in the Pacific Northwest, 20 meters is open to the South Pacific late into every evening. On 10 meters, the best hope is north-south propagation when that band opens, with South American signals strong into North America, especially into the southern parts of the continent.

Last week's bulletin reported on the problems with SOHO, the Solar and Heliospheric Observatory. Unfortunately, contact with SOHO has not been established. Even if contact could be restored, the condition of the equipment inside is uncertain. This is because SOHO has a thermal design that allows some equipment to operate in extreme heat while other

gear on the other side of the craft is very cold. Since the craft is now believed to be rotating, the sun is heating the previously cold part of the craft, a condition which scientists refer to as "barbecue mode." Stay up to date on the latest developments and also observe some of the stunning pictures and fascinating observations on the SOHO web site at <http://sohowww.nascom.nasa.gov>.

Sunspot Numbers for June 25 through July 1 were 84, 99, 125, 133, 137, 127 and 126 with a mean of 118.7. 10.7 cm flux was 106.2, 109.2, 115.2, 122, 119.3, 120.9 and 126.8, with a mean of 117.1, and estimated planetary A indices were 10, 48, 5, 5, 4, 5, and 8, with a mean of 12.1.

Sunspot numbers for July 2 through 8 were 109, 123, 129, 137, 110, 92, and 56 with a mean of 108. The 10.7-cm flux was 120.4, 127.6, 129.1, 123.5, 121.1, 114.6, and 112.4, with a mean of 121.2. The estimated planetary A indices were 10, 11, 12, 15, 19, 6, and 5, with a mean of 11.1.

RAC seeks 10 meters for Basic ops: Radio Amateurs of Canada has asked Industry Canada to permit holders of the Basic plus 5 WPM Morse code certificates to operate in the 10-meter band. The license is the approximate equivalent of the US Tech Plus ticket, which already enjoys 10-meter privileges. RAC said the proposal "would be an important step for the growth and stability of the Amateur Radio Service." RAC says it hopes IC—Canada's equivalent of the FCC—will approve the move quickly so that Basic ops can enjoy HF operating during the rise in the current sunspot cycle.

More astro-hams: SAREX Principal Investigator Matt Bordelon, KC5BTL, reports that the number of US astronauts with ham radio tickets has risen to 82. Three members of the STS-93 crew now are licensed, two of them fairly recently. They are Michel Tognini, KD5EJZ, Eileen Collins, KD5EDS, and Catherine Coleman, KC5ZTH.

SkyQuest Balloon launch a success: W1AW served as tracking net control on 75 meters Saturday, May 30, when the SkyQuest expendable balloon package launched from the National Weather Service's Boston Forecast Office Open House. The balloon's signal was heard all across New England, New York, New Jersey, and Pennsylvania for approximately two hours, indicating a healthy peak altitude. The net, with help from HQ staffers Steve Ford, WB8IMY, Joe Carcia, NJ1Q, and Al Alvareztorres, AA1DO, had almost 30 checkins. Hank Riley, N1LTV, of SkyQuest seeks operators who have extended tapes of the balloon telemetry signal that they could loan to Sky-

Quest for analysis. Contact Riley via e-mail at h1riley@umassd.edu if you could share that material. Extended, uninterrupted tapes are required to decode the altimeter data. These don't have to be perfect in quality because exact frequencies are not relevant to altitude measurement.—Hank Riley, N1LTV/SkyQuest

Ham club helps cops with weather system: The University of Arkansas Amateur Radio Club (W5YM) helped the Police Department in the small town of Elkins, Arkansas, to install an early weather warning system at a cost of about \$300. Using a Student Government Association grant, the club already had installed a nonamateur repeater to rebroadcast National Weather Service satellite signals on VHF, where they can be received on simple scanners and decoded on a PC equipped with the proper software. The system permits dispatchers to have ready access to weather warnings.—Northwest Arkansas Times; thanks to Jim Haynes

\$The July Treasurer's Report \$

Income for June was \$15.00 in club dues and \$2.00 from one ARRL renewal. Expenses (anticipated) were \$12.80 for newsletter postage.



Current account balances are:

General fund:	\$678.54
Community fund:	\$440.92

Hope you're enjoying the summer. Great weather for hunting that fox box! See you at the club picnic.

73, -Ralph KD1SM

NVARC QSL BUREAU

The NVARC Bureau has sent out all the cards that have been received as of June 6th.

CW Practice Nets

The NVARC slow speed net meets Tuesday and Thursday at 7:30 p.m. on 28.123 MHz. Except the third Thursday of the month. That being the club meeting night.

Calendar of Events

Saturday Aug 8th Gardner Mohawk ARA Flea
August 28-30 Boxborough ARRL NE Convention



**Nashoba Valley
Amateur Radio Club**

PO Box # 900
Pepperell Mass 01463-0900

Pres.: Erik Piip KA1RV

V Pres.: Den Connors KD2S

Secretary: Bob Crews K1VA

Treasurer: Ralph Swick, KD1SM

Editor: Stan Pozerski KD1LE

PIO: Earl Russell WR1Y

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

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 leave items on PEPMBX or at Packet ad-
dress: KD1LE@N1FT.NH