NVARC
Nashoba Valley
Amateur Radio Club

SIGNAL

SPECIAL SERVICE CLUB
ARRL

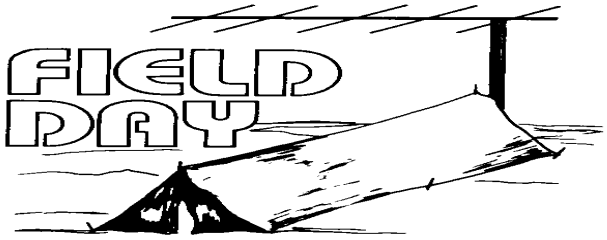
April 1998 Volume 7 Number 5

This Month's Meeting

This month our speaker will be Terry Stader KA8SCP who is Communications/RACES Officer for MEMA Area 1. Terry will talk about emergency communications.

We will have on display, if anyone can find it, the new FoxBox that Ralph, Wolf, and Stan built. It was in the field last weekend and after the meeting will go back out to the same spot for at least Friday to Monday 17th-20th.

Field Day is coming upon us quickly so Craig will be looking for help to make this year another great one for NVARC



Also, we will be looking for volunteers to do a roadside cleanup the Sunday morning after the meeting. That seems to be the time when most people are available. Since we are supposed to give Mass Highways three days notice I need to plan ahead better than I have. If it makes sense, and I am open to options, I am planning to schedule it monthly the weekend after the meeting. If there is a group that wishes can do it on a weekday and would like to schedule that we can make some alternating plans. Comments?

Last Month's Meeting

Craig N1ABY, our one person nominating committee, came up with volunteers to fill the open spots. At the meeting we had "elections" and the full list of officers is listed below.

In addition Bob K1QT asked to be replaced in his third year on the Board because he is unable to attend the meetings. Craig volunteered to take that position for the last year of the term and that offer was accepted.

President	Erik KA1RV
V President	Den KD2S
Secretary	Bob K1VA
Treasurer	Ralph KD1SM
Board of Directors 98	Earl WR1Y
Board of Directors 97	Wolfgang KA1VOU
Board of Directors 96	Craig N1ABY

At the meeting Jim AA1PO was officially approved as the club liaison to Mass Highways with respect to our adopted stretch of Rt. 119. This was to fulfill a Mass Highways requirement that the liaison person be officially assigned by the club.

After the elections and other business Erik had a picture presentation of the original construction of the EGGO observatory. He also had a pictures of the building of the replacement 20 inch telescope it now houses.

Thanks to those members "retiring" from club office in April. It was through the efforts of these people that we maintained our club activities throughout the 1997-1998 club year.

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 April 19th to make our first cleanup of the 1998 April to November season. We cleaned our stretch of Route 119 which runs from the schools in Groton to Shirley St. in Pepperell. This is the two miles we "own The typical cleanup with eight people takes a little over an hour to complete.

Thanks to the following members participated in the event. Karen KA1JVU, Bob W1XP, Craig N1ABY, Ben KB1FJ, Bob K1QT, Herm KE1EC, Pat N1VAW, Stan KD1LE. For this cleanup season Stan KD1LE will be the coordinator. He will be look-

ing for volunteers each month throughout the year. April was the first month of the cleanup season which runs from April 15 to Nov.

On April 19th Jeanine N1QIT and Stan KD1LE worked as volunteers at the Boston Marathon. Jeanine provided communications from a medical bus that transported runners who were unable to finish the race. Stan worked with a medical team monitoring runners for signs of distress as they finished the race. It was a long day which started with meetings at 7:00 AM and finished when the last bus returned to the medical tents around 7:00 PM.

April 26 40+ hams primarily from NVARC and BARS provided communications and ATV for the Groton Road Race. Operating on four frequencies the many race activities were coordinated and safety considerations along the courses taken care of. The event went very smoothly and the net control stations want to thank everyone for their cooperation in maintaining order on the nets.

Thanks to the following hams for their support.
K1LJN, K1WD, K1YET, KA1EEC, KA1JVU, KA1RV, KB1BGL, KB1BNW, KB1COH, KB1FJ, KC1NN, KD1LE, KD1SM, KD1YH, KD2S, KE1EC, N1ABY, N1DDE, N1DVC, N1HTS, N1ICB, N1KGX, N1LDL, N1LLG, N1MOR, N1NXO, N1OTO, N1PBL, N1PIP, N1PUI, N1QDZ, N1QIT, N1RXV, N1ZQY, NZ1B, W1LUS, W1TQ, W1XP, WA1I, WA1TAC, WK1V, WO1N.

From The ARRL Letter

LAND MOBILE SEEKS SHARED ACCESS TO 70 CM BAND

The ARRL is organizing opposition to a new threat to the 70-cm Amateur Radio band. The Land Mobile Communications Council (LMCC) has asked the FCC to immediately reallocate 420 to 430 MHz and 440 to 450 MHz from the federal government to the Private Mobile Radio Service (PMRS) on a primary basis. Amateur Radio now enjoys the use of 420 to 450 MHz on a secondary basis, and the 430 to 440 MHz segment is an international allocation. The 70-cm band is the second most popular of the hobby's VHF/UHF allocations, with substantial FM repeater and other operation in the 440 to 450 MHz segment and a variety of uses in the 420 to 430 MHz segment.

The LMCC request, based on "additional spectrum needs of the PMRS community," acknowledges Amateur Radio's use of 420 to 430 and 440 to 450 MHz, and suggests that ham radio applications can remain secondary to PMRS in those segments, but offers no explanation of how sharing could be accomplished. The LMCC says it believes the 430 to 440 MHz subband "is more important to the amateurs for use in emerging technologies such as links with spacecraft and amateur television applications."

The petition also suggests that equipment availability and technology resulting from an expanded PMRS presence on 70 cm would benefit hams "pursuing such applications as compressed video television in the 430-440 MHz band." The LMCC concedes, however, that its "most urgent need" for PMRS is voice and low-speed data applications, not advanced technologies which might come later on.

The petition also notes that PMRS already uses 420 to 430 MHz in three Canadian border cities (Buffalo, Cleveland and Detroit) and a "reduction in military use of this band is foreseen."

The LMCC also seeks allocations at 1390 to 1400 MHz, 1427-1432 MHz, and 1670 to 1675 MHz as well as 85 MHz at 960 to 1215 MHz by 2010.

Comments are due on the LMCC's Petition for Rulemaking, RM-9267, by June 1. Reply comments are due by June 15. The FCC has not indicated if it will accept electronically filed comments in this proceeding.

SOLAR EVENTS DISRUPT RADIO SPECTRUM

Huge solar flares in late April and early May wreaked havoc on the ham bands and other radio spectrum here on Earth. But the aftereffects of the solar storms on April 30, May 2, and May 6--the first major geomagnetic storm in years—continued for several days to keep HF noise levels higher than normal and to disrupt HF skip propagation. "It has been an amazing week for solar flares and geomagnetic disturbances," said propagation reporter Tad Cook, K7VVV. "Suddenly the earth is getting bombarded by protons, and the immense solar wind just doesn't let up." (see Tad's propagation report below).

Paul Harden, NA5N, of the National Radio Astronomy Observatory in Socorro, New Mexico (pharden@aoc.nrao.edu), says several huge flares—explosions of solar mass on the sun's surface—took place, one on April 30, two on May 2, and three on May 6. As they occur, the flares emit high-energy radiation from X-rays down to HF, producing about 20 minutes of "strong, bursty static" here on Earth. But that's not the end of it.

The explosion throws heavy particles into the sun's atmosphere. Harden explains that many of these par-

ticles get trapped in the sun's magnetic field, spiraling along the flux lines and generating RF energy from about 800 MHz downward to—in this case—about 20 MHz. "This is called a Type III storm," Harden said. "The RF sweeps downward in frequency about 20 MHz per second, so if you were in a QSO, this Type III sweep would sound like a big burst of static at regular intervals, almost like ignition noise." A Type III storm lasts about 10 to 20 minutes following a solar disturbance.

The mass of electrons and protons traveling through the sun's magnetic field produces electrical currents which, in turn, generate RF over a wide band of frequencies simultaneously. "This is called continuum radiation or a Type IV storm," Harden said. This produces the wideband noise on Earth—an elevated noise level over much of the HF spectrum. A Type IV storm persists for about an hour, Harden explained. But our troubles are not over here on Earth.

The "shock wave" of electrons and protons continues into space. "If the trajectory is right, it can smack right into Earth, triggering a geomagnetic storm." Harden says not all flares result in geomagnetic storms, however, and the ones on April 30 and May 2 were not a direct hit. This is how flares continue to make themselves known—and heard—for several days. A couple of days or so after a flare, the shock wave hits Earth's magnetic field "just like a big gust of wind," Harden said. "This causes our magnetic field to wiggle and tremble like it was a sphere of Jello." The resulting electric currents generate gobs of wideband noise. Electrons and protons traveling along the magnetic field fall inwards into the ionosphere at the poles and bunch up on the D layer. This makes it dense and difficult for radio signals to pass through to the E and F layers, shutting down skip propagation.

Harden says D-layer absorption can tend to come and go during a geomagnetic storm. "With a large solar disturbance, these electrons and protons keep getting pumped into the earth at the poles for many hours—sometimes for days—keeping this condition active," he said. While HF signals can't get through the D layer, VHF can, sometimes resulting in unusual propagation feats in that part of the spectrum. Many hams reported auroral conditions on VHF during the recent storms. Harden says that in a geomagnetic storm, the lowest usable frequency or LUF—normally about 2 MHz—can rise to 30 MHz. "That would be a blackout, which many experienced," he said.

Harden compared forecasting such solar events to predicting the stock market. It's not yet known if the shock wave from the May 6 flares will hit Earth, but the forecast was calling for major to severe storming by May 8 or 9 and potential HF blackout conditions. Harden says that with the polar caps already charged up, the May 6 events could trigger some aurora in the middle latitudes. Effects tend to linger a bit in higher latitudes.

Cook suggests the recent events are part of Nature's give and take. "We are seeing a big increase in solar activity, but with the increased sunspots comes a downside, with flares disrupting HF communications, often to the point of total blackout." To check the latest solar forecast, see http://www.sel.noaa-gov/forecast.html.

SOLAR UPDATE

Solar sage Tad Cook, K7VVV, Seattle, Washington, reports: Average sunspot numbers this week were over twice the week before. Solar flux was almost 30% higher, and the average planetary A index was more than double the previous week. The average solar flux for the previous 90 days moved from 104 to 106, and solar flux levels were above this average for six out of seven days this week, indicating an upward trend.

May 2-5 had severe geomagnetic storms, with global A indices of 56, 57, 96 and 36 and K indices as high as 9. The K index, updated every three hours, is an indication of geomagnetic stability. A single unit change in the K index represents a big jump in activity. The A index, updated daily, is based on the K index for the previous 24 hours. A small change in the K index is represented as a big change in the A index.

This past week has had extremely high levels of activity, but actually the worst day (May 4) is not near the top of the historic list of disturbed days. The worst day on record had a planetary A index of 312. That was September 18, 1941. The second worst planetary A index was 293 on November 12, 1960, and the third highest was 285 on March 13, 1989. The last time the planetary A index was 96 was on February 20, 1992, and a few months later on May 10, 1992 the Ap index shot all the way up to 193.

You can see a chart of records of geomagnetic storms since 1932 via ftp from the National Geophysical Data Center on the web at http://www.ngdc.noaa.gov, then select Solar Terrestrial Physics, then Geomagnetic Variations, then Magnetic Data and Indices, then Ap Index, then select FTP, then apstar.lst.

The direct ftp path is ftp://ftp.ngdc.gov/STP/GEOMAGNETIC_DATA/APSTAR/apstar.lst. An interesting chart that plots a correlation between sunspots and magnetic storms is on

the same National Geophysical Data Center site at http://www.ngdc.gov/stp/GEOMAG/image/ap_ssn.gif.

We are seeing a big increase in solar activity, but with the increased sunspots comes a downside, with flares disrupting HF communications, often to the point of total blackout. The absorption of radio waves, rather than the hoped for reflection, has been so extreme that many HF users at first thought their radios were broken. On May 4 conditions were so bad that the author could not hear WWV in the evening on 5 or 10 MHz, only a 1000-mile path.

The predicted solar flux for May 8-10 is 120, 115, and 110, and the planetary A index for these days is forecast at 50, 25 and 15. If there are more solar flares or coronal holes, then the A index will be higher following the activity. Monitor WWV at 18 minutes after the hour, and note the K index, which is updated every three hours.

When the K index is 3 or lower, conditions should have recovered somewhat. The forecast for the next few weeks, which may be in doubt given the sudden appearance of new active regions, shows solar flux declining below 100 by May 15, then rising above 100 about five days later, above 120 by May 25, and above 130 by the end of the month. Predicted disturbed days are May 21-23.

Sunspot numbers for April 30 through May 6 were 74, 89, 110, 123, 117, 105, and 111, with a mean of 104.1. The 10.7-cm flux was 102.5, 113.4, 117, 117.4, 121.1, 133.4, and 130.1, with a mean of 119.3. The estimated planetary A indices were 12, 8, 56, 57, 96, 36, and 8, with a mean of 39.

VK to US 28 MHz "pedestrian mobile": Here's proof that HF propagation is improving in the new sunspot cycle: Contacts between an Amateur Radio pedestrian mobile station in the Australian capital of Canberra and fixed stations in the US took place March 28 on 10 meters. Using a converted CB transceiver and a nearly 6-foot mobile whip, Peter Parker, VK1PK, made two contacts with the US around midday Australian time. Parker's US QSOs followed a successful contact with ZL2RR earlier that morning. Parker used approximately 8 feet of wire for a ground radial and powered the transceiver from a 12 V battery. He was running around 12 W PEP.-WIA QNews

ARRL ASKS FCC TO SUPPORT VOLUNTARY BAND PLANS

Following up on action taken at the January ARRL Board of Directors' meeting, the League has formally asked the FCC to equate observance of voluntary band plans with "good amateur practice." In a request for a declaratory ruling filed April 3, the League asks the FCC to affirm that amateur operation that conflicts with established voluntary band plans and causes interference or adversely affects those operating in accordance with applicable band plans would violate FCC rules.

Specifically, the League wants the Commission to confirm that hams should be familiar with--and should abide by--voluntary band plans applicable to the bands they operate and to state that those who don't operate in harmony with those plans are not operating "in accord with good amateur practice." The League's filing builds on a 1983 declaration by the Chief of the FCC's Private Radio Bureau that simplex operation on a recognized repeater frequency was contrary to good amateur practice.

The League argues that a declaratory ruling that provides clear support for accepted voluntary band plans would highlight the importance of band plans in the amateur community and set "a standard of cooperative behavior which is expected of licensees." It also would make it easier to resolve interference complaints without having to resort to FCC action, the petition said.

The League requests the Commission "at an early date" declare that good amateur practice "anticipates compliance with the accepted voluntary international, national, and regional band plans adopted by cooperation and coordination" within the Amateur Radio Service. A complete copy of the League's petition may be found on the ARRLWeb at http://www.arrl.org/announce/declreq.pdf.

LEAGUE INAUGURATES ARBITRATION SERVICE

The League has inaugurated an arbitration service for hams, ham organizations, citizens and other groups having disputes relating to Amateur Radio. The ARRL Arbitration Service offers a substitute for litigation by providing binding arbitration to settle disputes. Arbitration will be arranged through the office of Chris Imlay, W3KD, the League's General Counsel. Arbitrators will include ARRL volunteer counsel. Potential cases could involve neighborhood interference situations, disputes within local radio clubs, disagreements between a hamfest committee and an attendee or exhibitor, or even the use of a frequency (typically, but not necessarily, involving one or more repeaters).

Creation of the Arbitration Service is the first step toward a complete Alternative Dispute Resolution

(ADR) system, as envisioned by the ARRL Board at its January 1997 meeting. The ADR system ultimately could include mediation and non-binding arbitration.

In arbitration, the evidence and arguments are received and adjudicated by a neutral arbitrator--either an attorney registered with the ARRL Arbitration Service or a Volunteer Counsel. (Panels of three arbitrators will be appointed in cases involving more than $10,000.) Arbitrators are sworn to remain impartial toward the parties--whether they are amateurs, amateur clubs, non-amateur neighbors, or neighborhood or municipal organizations. In disputes involving frequency coordination, the ARRL has reserved sole authority to designate the appropriate responsible coordinating organization.

During the informal process, the parties represent themselves (although parties also may hire attorneys if they wish). Unlike litigation, however, the arbitrator's judgment is final and not subject to appeal. Each party will get a chance to present material and relevant evidence, and exhibits may be received in evidence, similar to a court trial. Witnesses shall be sworn and subject to questions and cross examination. The arbitrator will issue a written award within 20 days from the close of the hearing or final submission of documents. The parties may determine as part of their arbitration agreement how the costs of arbitration will be allocated, but all costs will be paid by the parties involved.

Cases may be instituted under the ARRL Arbitration Service by filing a signed Arbitration Agreement--together with the $50-per-party filing fee--with the ARRL General Counsel. For complete details on this service, contact ARRL General Counsel Christopher D. Imlay, Booth Freret, Imlay & Tepper, PC, 5101 Wisconsin Ave NW, Suite 307, Washington, DC 20016-4120; tel 202-686-9600; fax 202-686-7797.

FCC TO ALLOW ELECTRONIC FILINGS IN RULEMAKING PROCEEDINGS

The FCC has amended its rules to allow the public to file comments and other pleadings electronically via the Internet in many rulemaking proceedings. Starting later this spring, the FCC will permit electronic filing in most notice and comment rulemaking proceedings, most proceedings involving petitions for rulemaking, Notice of Inquiry proceedings, and petitions for reconsideration. The FCC initially had proposed electronic comment filing only for rulemaking proceedings, but--in response to public comments--expanded it to include the other filings.

The Commission says it's "committed to taking advantage of new information technologies to serve the public" and says its new Electronic Comment Filing System (ECFS) "will make it much easier for members of the public to participate in the Commission rulemaking process and will increase the efficiency of the Commission's operations." Electronic filing now is available only in proceedings specifically designated by the Commission. It will become generally available in early June.

The ECFS will allow members of the public to file, review and print documents on-line through the Internet, rather than having to rely on paper copies accessible through the FCC reference room or copy contractor. The ECFS will accept electronically filed comments in rulemaking proceedings, scan-in paper documents, and locate, retrieve, download and print any documents in the system.

For now, the Commission will not accept electronic comments in broadcast allotment proceedings because of its concern that electronic filings in those restricted proceedings might not be properly served on the parties, and to give the Commission more experience in electronic filing before including the large number of broadcast allotment proceedings.

The FCC acted on the matter April 2 (Report and Order FCC 98-56). Commissioner Gloria Tristani took issue with a provision to permit a midnight deadline for electronic comments while the deadline for paper filers continues to be 5:30 PM.

The complete announcement is at http://www.fcc.gov/Bureaus/OGC/News_Releases/1998/nrgc8002.html.--FCC

ANDY THOMAS SUGGESTS WE'RE NOT ALONE

US astronaut Andy Thomas, KD5CHF/VK5MIR, thinks we may not be alone. Speaking from the Russian Mir space station via Amateur Radio April 8 with high school students in Roswell, New Mexico--the self-proclaimed UFO capital of the world--Thomas said in response to a student's question that he believes there is extraterrestrial intelligent life. "Yes, I think there probably is, when you consider the scale of the universe," he said during a scheduled Mir-school contact with students at Goddard High School and Roswell High School.

Thomas described life is "a very tenacious thing," that could exist beyond the bounds of Earth. But he said he very much doubts that space beings ever visited

Roswell, as some assert happened in the late 1940s. Tourist attractions in Roswell have since capitalized on the UFO talk.

The high schoolers asked 11 questions during the approximately 10-minute chat with Thomas, which took place via a telebridge with VK5AGR in Thomas' native Australia. Some 120 people, including fellow students, parents, teachers and the news media, were on hand for the occasion.

In February 1997, the Department of Transportation (DOT) and the Department of Defense (DOD) announced an agreement assuring civilian GPS users of a second frequency--referred to as L5 and considered essential for critical civilian GPS uses. According to a DOD news release, the White House Commission on Aviation Safety and Security, chaired by Vice President Al Gore, "called for the establishment of a second civil frequency as part of a broader program to maintain US leadership in aviation and satellite technology." For more information, see http://www.defenselink.mil/news/Feb1997/b022797_bt095-97.html.

MILO P. HNILICKA, AJ1S, SK

Renowned inventor and researcher Milo P. Hnilicka, AJ1S, of Harvard, Massachusetts, died February 22, 1998, following a brief illness. He was 85. A native of Czechoslovakia, Hnilicka was credited with inventing freeze-dried coffee and space blankets. During his active career, Hnilicka was chief scientist at the National Research Corporation in Cambridge and held 28 US patents in the area of cryogenics and vacuums. Other achievements include the development of simulators used for training astronauts. He also holds two patents associated with motion picture sound recording. Hnilicka has been listed in Who's Who in American Men in Science. He retired in the mid-1970s. Survivors include his wife, Lili, KA1CDP, and two daughters.--Donald Strang, N1PPS

ALABAMA TORNADOES BRING OUT THE BEST IN HAMS

What's being described as the worst weather of its type in many years brought out the best in Alabama's ham radio community this past week. The evening of April 8, 1998, became one for the record books as tornadoes touched down in central Alabama leaving death and destruction in their wake. Upwards of three dozen people died, and many were left homeless. "To say the least, it was a long night," said Alabama Section Manager Scott Johnson, N4YYQ, of Vincent. "The hams here did a great job!"

As the severe weather approached, dozens of hams spent hours on weather-spotting nets assisting the National Weather Service in tracking the storms and relaying reports of damage, hail, injuries and relief operations. David Black, KB4KCH, president of the Alabama Emergency Response Team (ALERT) and an ARRL PIO says hams were on the air well ahead of the actual tornadoes. As the "long night" wore on, mobile and stationary spotters on the West Alabama Emergency Net and the Alabama Emergency Net on HF checked in with weather spots, damage assessments, and injury reports. As needed, hams were assigned to assist with Red Cross shelters opened to house tornado victims. A second repeater was activated to handle damage reports. Lisa Wallace, KF4C, in Tuscaloosa, served as liaison on the unofficial net and assisted in passing traffic from the West Alabama Emergency Net to the Birmingham NWS office and the Tuscaloosa Red Cross.

ALERT members activated the well-equipped ham station at the National Weather Service office in Birmingham. As former Alabama SM and current ARRL Alabama District 8 DEC Tom Moore, KL7Q, explains, the station has VHF/UHF capability to access remote bases for linking to various repeaters--and local SKYWARN nets--in the region. Those attempting to track the weather on the ground gathered information not only via ham radio nets but via an Internet/packet radio gateway developed by hams in Alabama. The digital Internet/packet gateway has an extensive wide-area dedicated RF node network and provides hard copy of severe weather bulletins, exchange of storm and damage reports, and keyboard-to-keyboard contact with supporting SKYWARN groups. Johnson said the keyboard-to-keyboard aspect worked especially well and helped to relieve voice traffic congestion. "The more I watched this system, the more impressed I became with it," he said. He's hoping other Alabama counties can be convinced to adopt a similar approach.

Weather service meteorologist Brian Peters, WD4EPR, said hams often were first with important storm-related information. "They were absolutely great," he said. "We couldn't have done it without them." Peters classified the storm as an F5--the most

violent category. Winds were estimated in excess of 200 miles per hour. SKYWARN groups elsewhere in Alabama--including the capital city of Montgomery and in Northern Alabama--also were active as the severe weather ripped the state.

TV meteorologist James Spann, WO4W, had words of praise for his fellow hams. "I thought the watch and warning process was just flawless," he said. Peters, Spann and others agreed that spreading the word quickly on the approaching danger saved many lives, and hams deserve at least part of the credit.

Black says that, at one point, 14 Alabama counties were under tornado warnings at the same time. Tornadoes touched down in the Edgewater community west of Birmingham, damaging homes and other structures. More than 30 people died in Jefferson County alone, and the funnel cloud even threatened downtown Birmingham at one point. A tornado also caused heavy damage in western Tuscaloosa and St Clair counties, where others also lost their lives. Johnson said St Clair County ARES/RACES members assisted emergency management personnel and "probably did 90% of the damage assessment" in the county. Johnson says Mark Oglesby, KF4NLZ, left his home during the storm on a damage assessment foray only to return and find his own home gone in the tornado's wake.

As the extent of the damage became clear, hams in Birmingham were called upon to provide communication backup at Red Cross shelters set up for storm victims. More than a dozen shelters remained open a week later. Johnson says members of the HEART Net were very active in western Jefferson County providing shelter communication and other help as needed. Fortunately, Birmingham's repeaters remained on the air and got heavy emergency use. Hams also helped provide communication between responding agencies and volunteers searching for victims and assessing the damage from the violent weather.

Robert "RB" West, W4BAT, who lives near Montgomery and away from the disaster area, lent a hand to the Salvation Army in the storms' wake. "They are swamped with work in Birmingham," he said, "so, I gave a little help here at the Montgomery center." West said he worried about the Montgomery area as the storms approached, and he tuned to a local weather spotters' net. "I had no idea what was going on 100 miles north," he said. In the stricken zones, the Salvation Army has set up feeding centers and has been relying on hams for some logistical support.

Black passed along tales of personal heroism on the part of some amateurs. Some examples: Janice Rock, KF4PVR, Ricky Rock, KF4RRS, and Joel Booth, KF4PWA--all ALERT members and all Emergency Medical Technicians--responded and helped carry a man with a head injury nearly a quarter mile through a thicket of fallen trees to an ambulance. Lacking a stretcher, they used a door they found to carry the victim. After hours on the SKYWARN nets, Bill Heaton, KE4FBH, went around delivering water and food to victims who had not eaten all day. Walter Cooney, KF4AAG, was stationed at the Birmingham-Jefferson County EMA headquarters and became the point man for a heavy load of damage reports passed via 2 meters. Many other hams assumed less epic roles and just pitched in as needed with the work at hand.

Disaster officials called the destruction some of the worst they'd ever seen. Vice President Al Gore and President Clinton also have visited the disaster scene. Hams are expected to remain available to help as the long recovery process continues in Alabama.--thanks to David Black, KB4KCH, Tom Moore, KL7Q, Scott Johnson, N4YYQ, and others.

REPORT: NYC TAXIS ABANDONING 10 METERS

Under heavy pressure from authorities and from increased Amateur Radio activity, taxicab operators in The Big Apple reportedly are moving off 10 meters in droves, says Gerry Smith, W6TER, of New York. Smith heads an ad hoc committee that's been working for more than a year in the Hudson Division to clean up the problem. "Sure, there is a straggler or two, but for the most part, the band is clean," Smith announced recently in a report published in The Hudson Loop newsletter distributed to ARRL Hudson Division hams. Smith says that he was able to work Argentina recently on 28.045 MHz, one of the frequencies most often used by the cabbies.

ARRL Hudson Division Director Frank Fallon, N2FF, says Smith contacted him in early 1997 about starting up the ad hoc group to attack the problem. "I was honestly not too hopeful that we would be able to solve a problem that was almost ten years old," Fallon conceded. "Now, I'm no longer skeptical of what can be accomplished."

Smith credited a crackdown by the New York City Taxi and Limousine Commission (TLC) and the FCC for the exodus and called it "the largest successful enforcement action ever." During mandatory quarterly inspections, the FCC paid a visit and warned drivers with illegal radios that future violations could

result in hefty fines. For its part, the TLC mailed an industry notice to taxi owners, fleet shops and repair stations warning the cabbies of possible enforcement action. To help the process, the ad hoc committee purchased frequency counters for the TLC to use in its regular inspections and during airport raids and street inspections and is providing training in their use. The problem is potentially huge. There are some 44,000 New York City cabbies and more than 12,000 cabs. Drivers supply their own radios. Some 1500 or more illegal radios were believed to be in operation.

At its January meeting, the ARRL Board of Directors applauded actions by the FCC and the TLC to crack down on illegal use of the 10-meter band by taxi drivers. The Board urged confiscation of equipment and fines to drivers who fail to comply, as well as removal of illegal transmitters from all cabs.

Smith praised the "tremendous cooperation" between the TLC and the ad hoc committee, which also includes Fallon, RF engineer Marvin Bronstein, K2VHW, and attorney Arnold Katz, W2QK. A ham since 1954, Smith is a telecommunications consultant.

"The days of no fines are over with," he said, citing a pledge by the TLC to enforce its ban on illegal radios by imposing fines of up to $300. Smith encouraged hams to use 10 meters regularly as a way to deter interlopers and to report CB-type activity on the band.

Fallon hopes the success with the taxi radios indicates the "new mood" at FCC in enforcement. But he says hams will continue to monitor compliance. "The best part of the entire effort is to attend a New York City Amateur Radio club meeting and hear members say, 'Yea! The cabs are gone!' Fallon said.

$The May Treasurer's Report $

With the number of 'charter' members who pay dues in April, this past month was again a good one for our balance sheet. Income (dues) was $105.00 and expenses were $25.60 (two months of postage).

As approved by the membership at the April meeting, we sent an order to MFJ for five code practice oscillators. After the club discount this came to $99.67 from the Community fund.

Current balances are:

General fund:	$595.16
Community fund:	$440.92

Annual Report:

	FY98	FY97
Income		
Dues	520.00(1)	465.00
ARRL memberships	21.00	29.00
Bank interest	7.78	8.56
Donations	10.00	
Total income	558.78	502.56
Expenses		
Insurance	255.00	255.00
Newsletter printing	39.60	
Newsletter postage	217.60	350.55
Banking		5.00
PO Box	12.00	8.00
QSL Bureau	6.00	28.96
Field Day	53.83	55.00
Miscellaneous	31.38	38.94
Community	32.85	
total expenses	646.26	
Net income	(89.48)	(238.89)

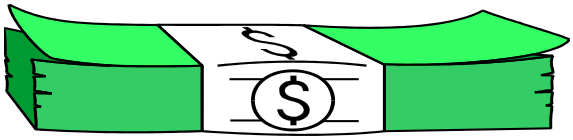
Notes:
(1) Four members paid through FY99 so $60 of this income comes from FY99 advances.

As you can see from this report, we have reduced our largest expense from FY97, newsletter postage, significantly. Income is essentially level from last year. Our net loss for the operating year is much lower than last year but we are still operating at a deficit.

Every member can help by remembering to renew your ARRL dues through the Club. While this alone would not bring us into the black, as you can see it does make a difference. 73,-Ralph KD1SM

FT 847 Review Addendum

In the month since the review of the Yaesu FT 847 featured in last months news letter, I have had more



time to assess this new transceiver. Some of my observations are added below.

I received one mention of key clicks on the radio while operating 40 meters after the review article went to press. This prompted me to measure the rise

and fall times of the keyed waveform. To my dismay I found that the rise and fall times are closer to 1 millisecond than might be desirable. It is not adjustable as on some of the modern higher end rigs. Testing on the bench and on the air indicate that the keying is a bit abrupt. On the positive side there is no overshoot as on some of the ever more expensive rigs. What I did find was that turning down the delay between transmit and receive to try and simulate QSK operation, does lead to an aggravated clicking situation. Turning up the delay so the rig is not going between transmit and receive between the dits of a character and everything seems OK. I do plan to correspond with Yaesu on this point, but operation seems satisfactory.

One other thing that I observed is a weak birdie in the FO 20 and FO 29 downlink band. I did determine that it is in "the radio". It is present with the receive antenna disconnected. I am not sure it is noticeable with the external pre amp in use. I measured the 144 MHz noise figure at about 5 dB. I have not measured the 432 MHz noise figure, but I am now using an external GaAs FET preamp, and it makes a significant improvement in the downlink performance on the FO satellites.

I am really pleased with the operation of the 847 in the satellite mode. The full duplex operation is smooth and the sub band tuning to keep up with the high Doppler changes on the low orbit satellites is really Sweet! Since this is one of the reasons I bought the FT 847 I am pleased. The 50 watts, although a step down from what I was using before, seems adequate for most satellite passes. This with our modest satellite antennas and the fact that they are mounted low and well below the trees. The satellite memory is also great as you can program the satellite uplink and downlink frequencies and then tune the band with the uplink following the downlink. The twelve satellite memory locations have a programmable tag such as FO 20 or RS 12. No more trying to figure out what the up link should be for a particular satellite. Just turn the memory knob to the satellite and then tune the downlink band with the main tuning. Then just turn the SUB-BAND to compensate for the Doppler. EASY!

Not that this should be a regular feature of the news letter, but I felt that the above additions to the review of last month were in order. I hope you found it interesting. 73 Bob W1XP

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

NVARC FoxBox out May 15-18 and 22 to 25
Saturday Aug 8th Gardner Mohawk ARA Flea
August 28-30 Boxborough ARRL NE Convention

NVARC
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V Pres.: William Davis K1WD
Secretary: Stewart Jackson K1YET
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 address: KD1LE@N1FT.NH