



SIGNAL



January 1999 Volume 8 Number 1

This Months Meeting

George W1ME will be the speaker for the January meeting and the topic will be AMSAT and Amateur Satellites in the US.

Next Month's Meeting

We don't know who is next month's speaker at this time. But the next two speakers in some order are Roger Perkins W1OJ who will talk about New England Repeaters and John Langner WB2OSZ who will speak on Amateur Television.

If you have any suggestions on speakers or other activities for a club meeting please mention it to one of the club officers.

Last Month's Meeting

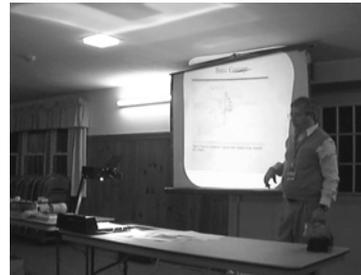
Last month's meeting was the annual Homebrew Nite theme. There were an abundance of projects presented. Following are the descriptions and some pictures of the activity.

Eric W1ZBT presented on a Beverage antenna he built for the low bands. He has had good success hearing signals that he couldn't receiver before.



This was connected to a project of Bob W1XP who built the matching transformer for the Beverage antenna.

Besides the Beverage matching transformer Bob also showed a QRP rig that he built.



Den KD2S did a presentation on a five and one half to fourteen MHz Log Periodic Dipole Array (LPDA) he constructed this fall. He uses it over this range for

short wave listening (SWL) and uses it on the thirty and forty meter bands for transmit and receive.

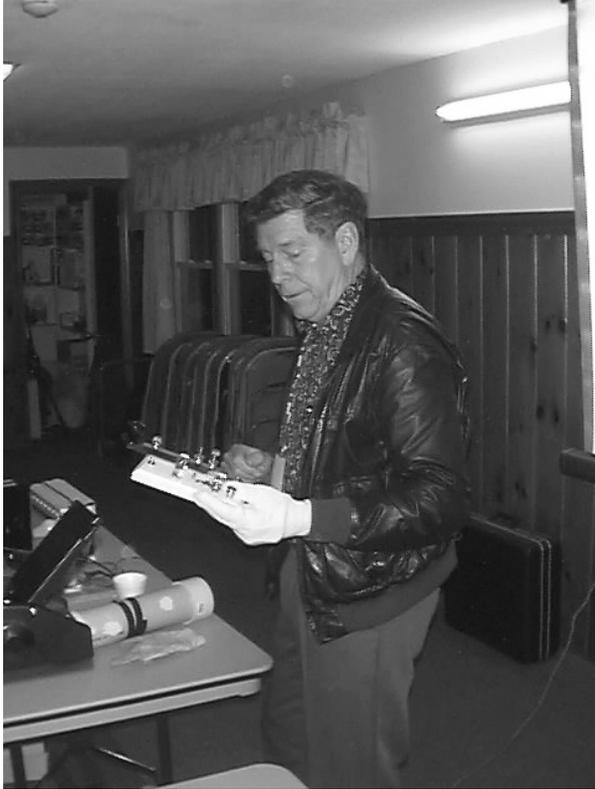


Craig N1ABY showed several six meter mobile antennas he built using available whips (11 meter) and machining the rest of the pieces. Another of the projects spawned since the six meter repeater went on line.

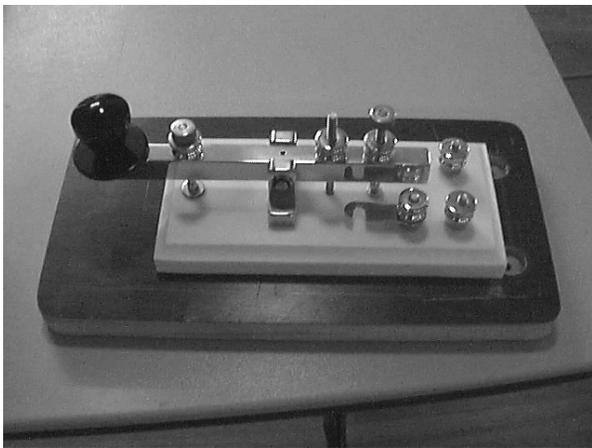
KD1LE showed the Fox Transmitter model and the battery chargers used to rejuvenate and maintain the fox batteries.

Rod WA1TAC displayed a six meter converter that he recently finished. The project had been languishing but now revived because of the new repeater.

Russ showed off the brass straight key he machined. It's a real beauty that belongs under glass.



This one is worth a close up.



Thanks to everyone who shared their projects with us last month. Special thanks to the Signal photographer, Ralph KD1SM, for all the images.

NE Cabinet Meeting

On Saturday, January 9 ARRL New England Division Director Tom Frenaye K1KI held a "cabinet meeting" in Chelmsford for all Section Managers and Affiliated Club Presidents in the Division. This meeting is scheduled twice a year just before the

ARRL Board of Directors meeting to allow Tom to gather input from the Division to take to the Board. Ralph KD1SM attended. Bad weather the previous day kept many Section Managers from attending; only the SMs from Maine and New Hampshire were present. Presidents or their representatives from nine clubs, covering every Section were also present.

Tom summarized the current League activities. Over the last twelve months there has been a decline of about 6% in League membership. This was attributed to the increase in dues a year ago as well as the increase in average age of the membership (and therefore the number of silent keys). As of December the membership numbers have once again started to rise, so the belief is that the impact of the dues increase is now past. The effect of the reduction in membership is a 3 to 4% reduction in the budget; about \$400K. This will partially be met by not filling six to seven staff positions at Headquarters as people there leave. Some space reductions in QST are planned, particularly to the Section News column. This will be offset by an increase in on-line information; the space allocated to Section News on the League Members web site will be increased. Additional information may be moved from QST to the Web site.

In the New England Division, the number of licensed Amateurs declined by 1% (390) in the past twelve months. Massachusetts leads the Division with 15,730 licensed amateurs. Connecticut is next with 9,048 followed by New Hampshire with 5,077. Maine, Rhode Island, and Vermont have 4,568, 2,540, and 2,264 respectively as of December 1, 1998. New Hampshire, Vermont, and Maine experienced a very small growth while the other sections lost numbers. 795 new licenses were granted in the Division during 1998.

The Education Activities Department (EAD) and the Field Services Department (FSD) are being merged. Rosalie White will head the department while Rick Palm spends more time travelling and doing "outreach".

Mike K1LJN, Official Observer Coordinator in the East Mass Section, gave a summary of the relationship with the FCC enforcement division. With the new FCC Director, FCC's enforcement activities have taken a major increase. The FCC Boston office has asked the local Official Observers to assist in gathering evidence to be used in enforcement cases.

During the Club President's round session several ideas were mentioned for new ham activities. GOTAP (Get On The Air Program) is helping some clubs to attract new members and help others learn new skills and upgrade. One club gave a Technician licensing class last summer as part of a Charter School program; they were able to conduct classes in the evening and had a good level of interest from the young students. Lee K1LEE from the South Berkshire ARC reported on their experience with running a booth at the Goshen Fair over Labor Day weekend. As is NVARC's experience with the Groton Septemberfest, Lee reported that the CW was the one thing that attracted the most interest. They try to have a CW station on the air at the booth but if conditions are bad they have a recording of CW QSOs (at 13WPM) to play.

These meetings are interesting to attend. In return for giving up a Saturday, you meet highly devoted folk from all over New England. The chance to swap stories and hear how each other's clubs are fairing (everyone has the same symptoms -- 10% of the Members seem to do 100% of the jobs) makes you feel you are not alone. The one or two really interesting ideas that you pick up (such as organizing classes through the Charter Schools) make the day all worthwhile.

The next Cabinet Meeting will probably be held in July.

73,-Ralph KD1SM

Public Service

If your thinking about participating in a public service activity there are two coming up in the next few months.

The Boston Marathon coming up April 19th. The BAA has requested 180 hams for the 1999 Marathon. The contacts for the Marathon are listed below.

Hopkinton-Start Steve K1ST 508-435-5178
stolf@ma.ultranet.com
Course/Medical Bob WA1IDA 508-650-9440
wa1ida@mediaone.net
Finish Line Paul W1SEX
ptopolski@net1plus.com

The Groton Road Race on April 25th needs 35 hams. For more information contact Erik Piip KA1RV at 978-448-5536.

piip@merl.com

You should also check the Public Service List which is available on packet, and from the following web sites.

From <http://www.arrl.org>:
Info & Services->
ARRL Field Activities/ARRL Field Organization->
ARRL Section Managers->
New England Division-
Public Service Opportunities

Or
From <http://www.qsl.net/ema-arrl/> (The EMA Site):
Resources ->
Public Service and Emergency Communications/Public Service List

NVARC FoxBox Report

The NVARC FoxBox is in for the Winter. It had a successful stay of four weeks at the Cowdrey Nature Center in Lunenburg which is located along Rte. 2A. We moved the Fox every week but kept it within that forested area. The idea of that location was to encourage hunters who had limited equipment and experience to give it a try.

To make it more enjoyable considering the relatively short distances involved we put the Fox on a two minute time between transmissions instead of the normal five minutes.

Most of the hunters found the Fox multiple times during that period. Congratulations to the following hunters; K1QT Bob, N1QDX Paul and his daughter Erin, N1MGO Gordon, W1XP Bob, WN1E Charlie, W1HFN Barry, KD1SM Ralph (who spent most of the four weeks providing the rest of us with this hunting opportunity), and KD1LE Stan.

We hope to see everyone out there again in the Spring. This break should give everyone a little time to get together that "other" piece of hunting gear they thought they needed. Like the sniffer Ralph demonstrated at HomeBrew Nite in December.

If you don't mind traveling the MMRA runs their live fox hunts every Saturday morning at 10:00 AM. They announce who will be the fox and the repeater the hunt will take place on during the club net on Tuesday evenings at 8:00 PM. The net takes place on the linked system of MMRA machines of which the closest is probably the Marlboro machine on 146.61. The format is open. You can communicate

with the rest of the hunters and some number of home stations that give bearings at the beginning or you can go it alone. The only rule they have is the fox has to be able to reach the repeater with a reasonable signal and be within 20 miles of the machine. Their intent is to practice for a jammer. That's roughly a 400 square mile box if you hadn't thought of it already. So there can be a bit of driving involved. It's definitely worth having some good road maps for this one.

73 Stan

ARRL Newsletter

ISS HAM GEAR INCHES CLOSER TO SPACE

The first Amateur Radio gear to be used on the International Space Station has moved a bit closer to its rocket ride into space. Although the inauguration of Amateur Radio aboard the International Space Station--ARISS--is at least a year away, the so-called Phase 1 ham gear is on a tight proveout and delivery schedule and is due at Kennedy Space Center in Florida by January 20.

Delays in the ISS program have put off the first crew deployment until next January. The first crew will consist of US astronaut William M. Shepherd, as the expedition commander. Shepherd is studying for his ham ticket. Accompanying him will be Russian cosmonauts Yuri Gidzenko and Sergei Krikalev, U5MIR. All three have previous space flight experience. The crew has been training for their launch on a Soyuz vehicle and a planned five-month mission on the ISS.

The interim ISS ham gear package will consist of Ericsson 2-meter and 70-cm hand-held transceivers set up for FM voice and packet operation, plus power supplies, cables, and accessories. Ericsson donated the commercial transceivers for the project, while the Italian ARISS team is providing the external antennas.

At this point, the equipment and accessories have been checked out in an end-to-end integration. Additionally, the transceivers have undergone EMI testing to ensure that they will not cause problems for other ISS onboard equipment. The radios also still must be programmed and labeled in accordance with NASA procedures and protocols for space flight. AMSAT members who happen to work for NASA at Goddard Space Flight Center have been doing the EMI testing.

Preparing to carry Amateur Radio gear for use aboard the ISS involves careful attention to detail all along the way. Crew safety is the primary consideration, but cost and crew time--and aggravation--also are important. "Because of the high cost of space travel, it's critical that hardware be thoroughly

tested and documented," said Will Marchant, KC6ROL, AMSAT's human spaceflight hardware manager. "Flight crews frustrated by buggy hardware are also less likely to want to participate in Amateur Radio operations."

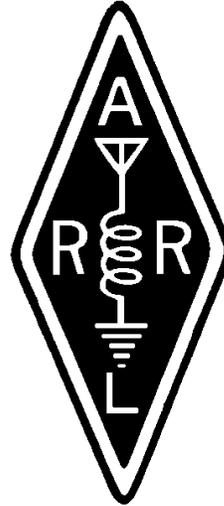
The qualification process also requires multiple versions of the same equipment. In this case, six complete hardware systems will be fabricated and configured. The complement

includes one flight system, a flight spare, systems for training both in the US and in Russia, one for development and testing, and one spare.

ARRL Educational Services Manager Rosalie White, WA1STO, a member of the Space Amateur Radio EXperiment (SAREX) Working Group, said she was pleased that NASA was taking no chances during the qualification testing of the ham gear. "I think it's great that they're taking the time to do a detailed examination," she said.

Getting Amateur Radio a permanent berth in space aboard the ISS has involved efforts in several countries. The primary players include the US, Russia, the UK, France, Germany, Italy, Canada, and Japan. "The ARISS team is truly an international, democratic, organization and is cooperating to provide human spaceflight Amateur Radio operations to the entire ham community well into the next decade," said Marchant.

Amateur Radio has been manifested aboard the ISS as "necessary crew equipment." The cost of providing just the interim Phase 1 amateur gear for use aboard the ISS is expected to exceed \$60,000. The total cost of putting Amateur Radio aboard the ISS is expected to approach \$700,000, with funds coming from the ARRL and AMSAT as well as from NASA.



Still unclear at this point are the actual frequencies and the call signs the crew will use from the ISS. The ultimate ISS ham radio complement—Phase 3—will include equipment to operate from HF through the microwave bands with SSB, CW, FM, packet, ATV, compressed ATV, and SSTV capabilities. The German team will supply a digitalker and full duplex repeater. Once aboard the ISS, Amateur Radio will serve as an educational tool through worldwide school contacts and as an outreach to the general public.

FIELD SERVICES, EDUCATIONAL ACTIVITIES JOIN FORCES

The sound of moving furniture, books, and equipment punctuated the holiday season at League headquarters as two ARRL departments prepared to merge into one entity. Effective January 4, the Field Services and Educational Activities departments consolidated to become Field and Educational Services (F&ES).

ARRL Executive Vice President David Sumner, K1ZZ, explained that the new department brings together staff members with similar missions and functions—primarily supporting ARRL volunteers who, in turn, support ARRL objectives and promote ham radio on a local and regional level. Working within a single department, Sumner said, HQ staffers could more easily share expertise, ideas, and resources. The move also was designed to reduce expenses in the face of a decline in both ARRL membership and overall Amateur Radio licensing and activity over the past year or so.

"The primary reason is efficiency," Field Services Manager Rick Palm, K1CE, explained in a letter to ARRL section managers. Palm will continue as the main contact person for section managers. He will focus on representing the League to the outside agencies it serves and on promoting and supporting the field organization.

Former Educational Activities Department Manager Rosalie White, WA1STO, has assumed the title of Educational Services Manager. She will oversee day-to-day operation of the combined department and will continue as the primary staff contact for Amateur Radio in space issues. "We expect the greater efficiency of the combined departments to benefit our members by putting related resources in the same place," White said of the move.

To accommodate the change, employees from the former Educational Activities Department moved

into quarters adjacent to the former Field Services Department, trading places with the ARRL Book Team headed by Joel Kleinman, N1BKE. Now that the two departments are in the same location, staff members have begun to settle in and work as a team. Telephone and e-mail addresses for individual staff members remain the same.

SOUTH AFRICA TO LAUNCH FIRST SATELLITE JANUARY 14

South Africa will launch its first satellite, SUNSAT, January 14 from Vandenberg Air Force Base in California. The satellite will carry an Amateur Radio package, a high-resolution imager, precision attitude control, and school experiments as well as other payloads, including NASA experiments. SUNSAT was built by students at the University of Stellenbosch, and its name is an acronym for Stellenbosch UNiversity SATellite.

Professor Garth W. Milne, ZR1AFH, heads the SUNSAT team, which has been in the US for several weeks preparing the satellite for launch aboard a Delta II rocket. The launch had been planned for today, but it was rescheduled.

SUNSAT will piggyback on the Advanced Research and Global Observation Satellite (ARGOS) built by Boeing. The ARGOS carries nine high-tech experiments that Boeing says "will demonstrate next-generation satellite technology."

Members of the Satellite Amateur Radio Club will be involved in control and monitoring of the satellite immediately after it's deployed. Eric Lemmon, WB6FLY, and Paul Fee, N6YCC, both of SARC, are on the Boeing Delta II launch crew. Lemmon says it's a matter of history repeating itself. "The Satellite Amateur Radio Club was founded more than 30 years ago for the express purpose of supporting the launch of OSCAR-1, the first Amateur Radio satellite," he said.

The satellite will have digital store-and-forward capability on VHF or UHF. Telemetry beacons will be on 436.25 or 436.30 MHz. SUNSAT also will have a voice store-and-forward capability that will be used for school demonstrations, according to SUNSAT team member Jan Koekemoer. He says the satellite carries two VHF and two UHF transmit and receive systems to maximize flexibility.

For more information on SUNSAT, visit <http://sunsat.ee.sun.ac.za>.

The launch will be carried live on shortwave and on various Amateur Radio frequencies by ZS6SRL. The shortwave broadcast will air January 14 1000 until 1130 UTC. on 31 meters (9525 kHz), 16 meters, (17870 kHz), and 13 meters (21530 kHz). The transmission will carry background interviews and live coverage from the launch site. QSL to SARL, PO Box 1942, Hillcrest 3650 South Africa; e-mail sarlnews@intekom.co.za.

ARRL DROPS SPRING VHF/UHF SPRINTS

The VHF/UHF Spring Sprints--traditionally held during April and May--have been dropped from the ARRL contest schedule. ARRL Contest Branch Manager Dan Henderson, N1ND, cites a lack of participation for the change. "Participation in the VHF/UHF Spring Sprints has never reached the level of a healthy national event," he said. "In 1998 only 200 individuals submitted logs spread across the seven frequency bands covered by the Sprints."

Henderson said budgetary constraints were another factor. "With the soaring costs and limited space available in QST and NCJ, the 1998 Sprint results were moved and made available to all on ARRLWeb," Henderson said. "We hate to drop the contest and would be willing to work with another group who would like to pick up sponsorship and running the sprints." But he said the League could not justify a decision to continue to devote staff time to a small event when it already sponsors several other more significant VHF/UHF events.

Many VHF/UHF events remain on the ARRL Contest schedule. These include the January VHF Sweepstakes, the June VHF QSO party, the August UHF Contest, and the September VHF QSO Party, plus two 10 GHz And Up weekends in August and September and the popular EME contest weekends each fall. Also, Field Day offers opportunities for VHF/UHF participation, Henderson pointed out.

For more information contact, Dan Henderson, N1ND, ARRL, 225 Main St, Newington, CT 06111; tel 860-594-0232; e-mail n1nd@arrl.org.

HAM BALLONIST TO SIT OUT ADVENTURE HE PLANNED

Bob Martin, KC5LHL, of Albuquerque, New Mexico, will sit out an around-the-world balloon attempt that he was instrumental in planning. Martin, a TV science reporter and helicopter pilot, said this week that he will stay behind when the Team ReMax balloon leaves Earth. The team had planned to make

some use of Amateur Radio during its effort to circle the planet.

Unlike previous attempts, the Team ReMax balloon will travel near the outer edges of the earth's atmosphere at an altitude of approximately 24 miles. Martin told reporters that he originally felt the team could fly the mission safely with three people aboard. However, it was later determined that the balloon will need to carry additional ballast aboard to safely reach its cruising altitude, so one of the three crew members had to remain behind. Martin, who has worked on the project for more than a decade, elected to be the one.

The launch from Australia has been delayed by weather and technical problems. Still planning to make the attempt are Denver real estate developer Dave Liniger and Australian co-pilot John Wallington. The team has until approximately January 20 to take advantage of the right wind patterns. The voyagers will ride in a pressurized capsule suspended beneath the huge balloon. The crew is equipped with spacesuits from Russia. The trip is expected to take up to three weeks.

For more information on the flight, see <http://www.remax.com>.

HAM HELPS NAB ROAD-RAGE SUSPECT

A California ham was instrumental in helping police to nab an angry motorist who had seriously injured another motorist after being cut off on the freeway in mid-December.

According to an account in The Orange County Register, the angry driver followed the other driver for miles "before confronting him on a busy city street, shoving him under an accelerating big rig, and kicking him even after he had been run over." The account says that the angry driver and his two co-workers drove off. But they were caught later in the morning when Ed Greany, KB6DOL, of Corona, heard a broadcast description of the vehicle and then saw the men pass by. He notified police via ham radio, and they arrested Richard Snyder, 28 and two others on suspicion of attempted murder.

The newspaper said Snyder had a string of previous convictions, and his license had been suspended. The injured motorist was reported in serious condition.

According to the FCC database, the Greany household includes three hams: Roberta Greany,

KC6AEP, and Michael Greany, KE6RDT. All are ARRL members.--thanks to Charlie Clifford Jr, W6QMY

\$The January Treasurer's Report \$

Received \$45.00 in dues at the December meeting, paid out \$33.00 in newsletter postage (December and January) and \$14.00 for the Post Office box.



Current balances are \$412.36 in the General Fund and \$440.92 in the Community Fund.

Apologies to anyone who may have sent mail to PO Box 900 in the past three months. The Post Office closed the box and returned all mail to the senders. We have corrected the problem.

-Ralph KD1SM

Calendar of Events

February	
Algonquin ARC Flea (Marlborough)	13
ICS Training Belchertown	13
ARRL Intl DX Contest CW	20-21
Vermont State Convention	27
March	
ARRL Intl DX Contest Ph	6-7
Mt. Tom Hamfest	7
Gardner Mohawk Auction	13
Maine State Convention	19-20
April	
MIT starts again	18
May	
Hosstraders, Rochester, NH	7-8
Dayton	14-16

ARRL E-mail Forwarder

ARRL members soon will be able to announce their membership through their e-mail addresses. Starting February 1, 1999, a new membership service will be available for those wishing to have an ARRL e-mail address, and you won't have to switch e-mail services to do it. Not only that but it will be free of charge to League members.

The new personalized League e-mail addresses will consist of the member's callsign@arrl.net. Electronic mail sent to the address will be forwarded automatically to any e-mail account you choose. As long as you remain a member, you'll never have to notify people of an address change—even if you change Internet service providers.

As soon as the service becomes available, members will be able to sign up quickly and easily through the ARRL Members Only Web Site. If you are not already registered for the Members Only Web Site, you can do so at <http://www.arrl.org/members/>.

From Tom Frenaye K1KI
ARRL New England Division Director



**Nashoba Valley
Amateur Radio Club**

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V Pres.: Den Connors KD2S
Secretary: Ian Norrish NZ1B
Treasurer: Ralph Swick KD1SM
Editor: Stan Pozerski KD1LE
PIO: Jon Kinney N1JGA

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, at Packet address: KDILE@NIFT.NH or pozerski@net1plus.com