



SIGNAL



de N1NC

January 2003 Volume 12 Number 1

This Month's Meeting

This month's meeting presentation will be on the "How the Internet gets your bits from here to there." by Ralph KD1SM.

Earl WR1Y will have a laminator for people who need their license or other card-sized items protected.

Bring your short Shows-and-Tell to the meetings. They are always welcome. Its always interesting to see the variety of things people are working on.

January Board Meeting

The January Board of Directors Meeting was held January 9th at the KA1RV QTH. Erik KA1RV, Ralph KD1SM, Earl WR1Y, Les N1SV, Bob W1XP, Den KD2S and Stan KD1LE were in attendance.

Ralph presented the Treasurers report to the Board and it is published later in the newsletter.

At the December regular meeting John KB1HDO volunteered for the position of Property Master for NVARC. Den KD2S was the other volunteer but withdrew since he already held a Board Position. Erik appointed John to the Property Master position and the Board approved the appointment.

A list of club equipment was drafted at the Board meeting to be given to the Property Master as a starting point.

Den presented more detailed information on customized mugs he had researched as requested at the December regular meeting.

Ron KB1GID reported the Townsend Cable Access meeting has been postponed again. The new date is in January.

The Board discussed having more member presentations and is soliciting three or four members to do a ten or fifteen minute presentation on a "Special Short Subjects Nite in February."

Club Email Reflector

The club email list will be available soon. Members need to opt-in to the list. To get added to the list contact Ralph or send him email at kd1sm@arrl.net. Les is also collecting names. Posting to the list will be limited to subscribers.

Welcome to New Member

Welcome to new member Paul Chang from Groton.

Last Month's Meeting

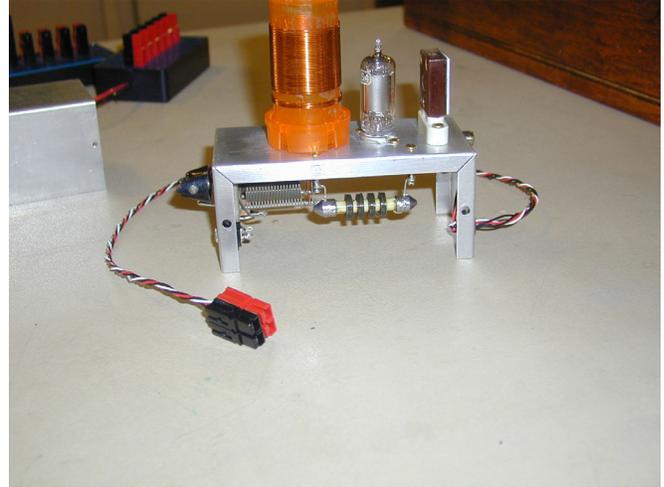
The purchase of NVARC logo cups as gifts for speakers, awards, etc was discussed. Den to get specific prices and quantities.

Den KD2S and John KB1HDO volunteered to take the Property Master position. Since Den is already a Board member he deferred to John. The position must be filled by a Presidential appointment and approved by the Board.

The December meeting was Homebrew night. Ten members brought at least one homebrew project and many brought several. Most had a Powerpole connector powering them so they could take advantage of the free ticket for the book drawing. See the pictures below.



Bruce K1BG, Powerpole adapters, rig to computer digital interface, and sound card interface.



Bob W1XP, single tube QRP rig that runs on batteries, sound card interface with complete audio and control line isolation and a Powerpole distribution box



Stan KD1LE, Doppler DF antenna and switching circuits, Powerpole adapters, low profile dolly for batteries or power supplies



Ralph KD1SM, ARES box with two mobile rigs and batteries for rapid deployment, Powerpole distribution box with recessed connectors and individual circuit fuses



Dennis K1LGQ, small package QRP balanced line antenna tuner



Earl WR1Y, Lorenz pancake inductance for antenna matching, an inductance bridge.



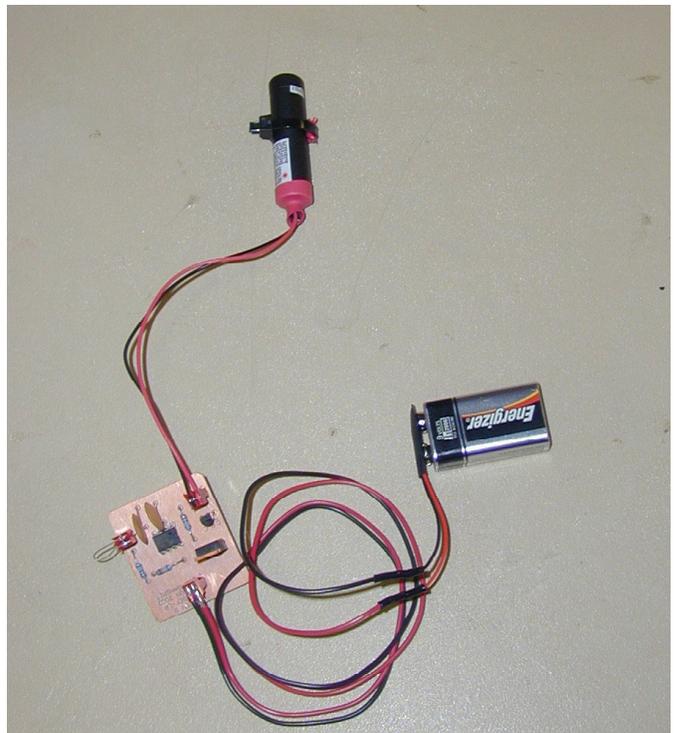
John KB1HDO, audio headphone/speaker switch box, tape measure fox hunting antenna



Phil, restored a General Radio Impedance Bridge (at left)



Larry KB1ESR showed a differential GPS mounted in a backpack for mapping trails



Les, 9 volt adapter for Auttek impedance analyzer powered from twelve volts via a Powerpole and a laser

transmitter, anti-climb barrier for towers, stub filter project.

Stan KD1LE won the hardbound edition of the ARRL Operating Manual and Larry Mouser KB1 won the Extra Class License manual.

We had three visitors at the meeting. Gary Mauser KB1IYX from Chelmsford, K0UL Tom Schreiner from Groton, and Paul Chang from Groton.

Bring your outgoing QSL's to the meeting and have the club send them out. See Bob W1XP.

Bring your short Shows-and-Tell to the meetings. They are always welcome. Its always interesting to see the variety of things people are working on.

160M Update

Les Peters, N1SV

At our September NVARC meeting, Craig Clark K1QX gave an interesting presentation on low band operating which motivated me to finish installing my first 160m-antenna. My goal was to install an inverted-L with four elevated radials in time for the CQWW SSB contest in mid October. As luck would have it the antenna didn't get finished in time and I ended up using two of the $\frac{1}{4}$ wavelength elevated radials as a very low dipole and did work a couple of stations with it.

In late October I got the Inverted-L up but it never really worked right. With 50% of the overall length being vertical the expected feed point impedance was 23-ohms so I decided to install a 1:2 balun. This balun that I had hoped would improve the match actually made it worse and was removed. Even with the balun removed the antenna resonated to high in the band and had to be lengthened. With the changes made I started on-air tests.

As a newcomer to 160m, the first thing I noticed was that 99% of the DX was on CW. It became apparent to me very quickly that if I was going to work DX on this band that I would have to improve my CW skills. I wasn't all that impressed with the performance of my inverted-L so I started talking with friends who had put up similar antennas. Shortly after that I decided to replace the four elevated radials with 16 ground mounted ones. The ground radials ranged in length from 30 to 100 feet and were laid out to fit in the backyard just for the winter. The new ground mounted radials seemed to make a big difference, the SWR was closer to what I had expected and on air performance seemed greatly improved as well. In early November with winter loom-

ing, I decided if 16 ground radials were good then 32 should be better and added 16 radials.

With the antenna now quite well, I started chasing DX. There is a certain amount of excitement when you begin operating on a new band; every state or country worked seems to be new one. With my CW skills improving I started working more and more countries and by the end of November I had worked 30 with my best DX being 9J2BO (Zambia), ZD8A (Ascension Is.), and UR5KFT (Ukraine) all in the same night. While I seemed to be able to deliver a good signal and break pileups, I was having difficulty hearing some of the weaker stations due to the typically high QRN level. After doing some research I decided on a RX antenna design but unfortunately winter seemed to interrupt my plans. So it looks like I'll have to make due with what I have for a while.

In December I decided to enter the ARRL 160m contest and made 327 QSOs in 52 US/VE sections and 13 countries (all CW). While not a very competitive score still it wasn't bad for someone who was quite rusty at CW. By the end of December I had worked 41 states including Alaska and Hawaii, 55 countries with the newest being VK6HD (Australia). Now it's January and I have been on the band a little under three months, my country total continues to climb steadily and I'm really having a whole lot of fun.

I never thought 160m would be this easy or this much fun. To anyone who has ever thought about getting on Topband, come on in the water's great!

Field Day Results

I could use the excuse I blinked and it went by or "I've been so busy" but I don't really know how I missed the Field Day results in the December issue of QST and nobody mentioned them to me.

We had a good time and made a good showing on Field Day again in 2002. We changed operating class and moved to 2B this time. That's two transmitters running five watts or less on battery power. We finished 18th of 77 entries in the class. With respect to area participants we finished first in EMA with the Genesis ARS (Plymouth) at 25th and the New England QRP Club at 28th.

Last year we operated in the 1B class where we finished 6th overall but ran only CW. With the addition of the second station running SSB there was more operating time available. The downside, there were four or more hours on each station that there was no operator. That means we need two to four more operators than

we had to keep the two stations active. We had good support during the set up and take down.

We are now closer to this years event than last years so it's not too soon to start planning. We need a volunteer to be the Field Day Coordinator for 2003.

Stan KD1LE

KD1LE Dolly

Do you have a large power supply or batteries that you would like to tuck under the bench at your operating position? The problem becomes access for maintenance. The dolly that Stan showed at Homebrew Night (below) allows you to put them out of the way and still be able to move them safely to a position where you can access them. Here the two deep cycle batteries that provide all the twelve volts to the shack sit under the operating position but can be easily rolled out.



Being Prepared

We are now officially in winter. Blizzards, ice storms, and the like are always a possibility. The segment in the ARRL Letter section, on the Typhoon in Guam, made me think a bit. We tout Amateur Radio as the communications of last resort. The thing that always gets through when everything else fails. And yet after the typhoon mostly what followed was silence. There was no electricity or fuel to run generators. The one amateur repeater tower was down. It took several days to restore the repeater. Any emergency plan that depends on the local gas station is problematic. Locally snow storms have knocked out power for several days. That made gas stations (and most other businesses) inoperative. No source for gas, spare batteries, or anything else. We don't get tested very often

but when we do it will probably be with short notice. How long could you stay on the air or support a hospital or shelter?' Could you keep at least a handheld going for three days with moderate usage?

Stan KD1LE

From The ARRL Letter and Bulletin

CHICAGO YOUNGSTERS ENJOY END-OF-YEAR ARISS QSO

Amateur Radio on the International Space Station (ARISS) school and educational contacts resumed in late December after a hiatus to change crews. Expedition 6 Crew Commander Ken Bowersox, KD5JBP, spoke December 29 via NA1SS with a dozen youngsters visiting Adler Planetarium and Astronomy Museum <<http://www.adlerplanetarium.org/index.html>> in Chicago. It marked the 81st ARISS contact and the first contact for Bowersox' crew with youngsters in the US. Expedition 6 crew members also conducted successful ARISS contacts on New Year's Eve with participants at the World Scout Jamboree in Thailand and with students in France.

"I'd say the most important thing that I have learned in space is that people are very, very strong and flexible, and we can adapt to all types of different environments," Bowersox told a youngster who had asked the space veteran to describe the most interesting or important thing he'd learned in space.

Other youngsters were curious about food and eating in space. Bowersox said he missed pizza most of all aboard the ISS. His favorite space food, he said, was bread pudding. "And I can just open a packet and eat straight out of the packet with a spoon," he said. Bowersox also explained that the human body still digests food very well in zero gravity. He also noted that the crew was trying to grow some tomatoes and herbs in space. "We're not sure how they'll turn out," he said, "but we're hoping they'll be very tasty."

An audience of some 200 people, including TV and newspaper reporters, were on hand to watch the youngsters interview Bowersox via Amateur Radio. Participating youngsters ranged between five and ten years old. Organizing the ARISS event were ARISS mentor Charlie Sufana, AJ9N, and the planetarium's Geri Smith.

Audio and video (Quicktime) clips of the Adler Planetarium ARISS contact are available via the Adler Planetarium Web site <<http://www.adlerplanetarium.org/education/events/iss/>>

On December 31, 15 Scouts at the 20th World Scout Jamboree <<http://www.worldscout.pacific.net.th/>> in Thailand spoke with Expedition 6 crew member Don Pettit, KD5MDT, via special event station E20AJ. Among other questions, the Scouts asked Pettit if he wanted his own kids to grow up to become astronauts, how the crew members bathe in space, and how the lack of gravity affects the human body.

Also on December 31, Pettit spoke with students at the Rene Mure school in Commelle-Vernay, France. ARISS International Vice Chairman Gaston Bertels, ON4WF, said some 60 schoolchildren and their parents assisted in the contact. The French youngsters wanted to know if Pettit believed in extraterrestrial life, whether the crew could feel the speed of the ISS through space, and if microgravity made it difficult for crew members to find their way in the space station.

SKYWARN, ARES ACTIVATE FOR ARKANSAS, MISSOURI STORMS

The same front that produced tornado activity in Mississippi on December 19 earlier touched Arkansas and Missouri with devastating and deadly effect. After nearly a year without any significant tornado activity, Arkansas was again at the heart of severe weather December 18. Tornadoes hit several counties in Missouri December 17 and 18. One person died in each state a direct result of the severe weather.

The National Weather Service (NWS) activated SKYWARN at approximately 2 PM in Arkansas, and participants remained active until after 11 PM. Little Rock Emergency Coordinator Dale Temple, W5RXU, reports that the NWS issued 48 warnings during the nine-hour net. Temple also is president of Arkansas SKYWARN.

Temple said NWS Warning Coordination Meteorologist John Robinson and Meteorologist-In-Charge Renee Fair praised the accuracy and dedication of the Arkansas SKYWARN volunteers.

In Arkansas, hail up to two inches in diameter, heavy rain up to six inches, damaging straight-line winds and tornadoes developed in Desha, Faulkner, Lincoln, Prairie, Saline, Woodruff, Jackson, Lonoke, White and Cross counties.

At the request of American Red Cross Arkansas State Disaster Director Roger Elliot, Richard Thompson, W5SUB, fired up the Amateur Radio station at Red Cross Headquarters to help coordinate the organization's efforts to provide needed services to about 85 families whose homes had been damaged or de-

stroyed by the severe weather. "Mr Elliot credited ham radio operators in assisting the Red Cross to mobilize more quickly and accurately to needy victims," Temple said.

Arkansas SKYWARN, the Central Arkansas Radio Emergency Net, Pulaski County, Little Rock and North Little Rock ARES/RACES actively supported state and local emergency management agencies as well as the Red Cross, The Salvation Army and area hospitals.

In central and southern Missouri, several Amateur Radio Emergency Service (ARES) teams activated the night of December 17 when severe weather struck. There were multiple instances of rainfall greater than one inch per hour, and hail was reported in several counties. Missouri SEC Don Moore, KM0R, said that in a couple of instances, the NWS issued severe thunderstorm warnings shortly after ARES reports came in.

Reports filed with the St Louis NWS Office included heavy rain, hail and damaging wind speeds. "There was a tornado reported in Laclede County that moved into Pulaski County, along with damaging wind speeds in excess of 75 MPH in another area during the early morning hours of December 18," Moore said. Tornado activity was also reported in Springfield and the surrounding area. Hams also worked with the Springfield NWS Office.

Linked repeater systems were used to pass information to the respective NWS offices and among local nets. Some five dozen hams involved in the response in three ARES districts logged double-digit work hours. Several county emergency coordinators said they monitored the statewide HF frequency for the Missouri Emergency Services Net in case there was traffic to pass. They also kept in contact with local governments and other served agencies in case Amateur Radio volunteers were needed.

SPECIAL EVENT, SPACE CONTACT TO MARK MARCONI TRANSMISSION CENTENNIAL

Special event station KM1CC will be on the air January 11-19, 2003, to mark the 100th anniversary of Guglielmo Marconi's inaugural wireless transmission between the US and Great Britain January 18, 1903 (January 19 UTC). On that date, from the sandy Cape Cod cliffs overlooking the Atlantic, Marconi--using a powerful (35 kW) rotary spark transmitter coupled to a massive antenna system--transmitted a 54-word greeting from President Theodore Roosevelt to England's King Edward VII. The monarch promptly acknowledged receipt of the message via land line and cable, literally igniting the spark of global communication.

The Marconi Radio Club, W1AA, and the Marconi Cape Cod Memorial Radio Club, KM1CC, are working in partnership with the National Park Service at Cape Cod National Seashore to organize the celebration. The special event will take place at the former Coast Guard station at Coast Guard Beach in Eastham, Massachusetts, which is near the original Marconi site. Operation will include several amateur modes, including SSB, CW, FM, digital and satellite.

Marconi Radio Club President Robert J. "Whitey" Doherty, K1VV, says operators will be on the air 24 hours a day from January 11 through January 19. "We have a half dozen operators who will live at the station for the full period," he said. The special event station will open to the public from 9 AM until 5 PM EST (1400-2200 UTC).

An Amateur Radio on the International Space Station (ARISS) school contact--the first of the new year with US students--is to be scheduled during the weeklong celebration. Doherty says that selected students from three Cape Cod high schools will speak via KM1CC with a member of the new Expedition 6 ISS crew.

Marconi's daughter, Princess Elettra Marconi, is scheduled to attend the a reenactment of the groundbreaking wireless transmission on January 18, when KM1CC will transmit the text of Roosevelt's original message to King Edward VII.

KM1CC QSL card requests from US amateurs (include a self-addressed, stamped envelope) go via Barbara Dougan, KB1GSO, Cape Cod National Seashore, 99 Marconi Site Rd, Wellfleet, MA 02667. DX stations are invited to QSL via the W1 QSL Bureau.

Additional details are on the Marconi Radio Club Web site <<http://personal.tmlp.com/k1vv/w1aa/>>.

HAM RADIO HAS ROLE IN GUAM RELIEF, RECOVERY

After a supertyphoon struck the Pacific Territory of Guam earlier this month, an opportunity for hams to step in and provide emergency communications never materialized, mostly due to a lack of fuel on the stricken island. Nonetheless, ham radio is playing a role as Guam residents get back on their feet.

"Most of the guys are trying to get themselves back together," said Dick Manns, KH2G, "but one of the main problems immediately after the typhoon was fuel for generators, as the tank farm was burning and no fuel could be brought out and what little was available was being reserved for emergency vehicles." The

Marianas Amateur Radio Club has discussed setting up emergency communications systems, he said, but insufficient funding has hampered the effort.

Supertyphoon Pongsona hammered Guam December 8. Manns says FEMA, the US military and the nongovernmental relief organizations have been helping a lot in the typhoon's aftermath. But, it would have been nice, he suggested, if local hams had been able to reciprocate with some communications help using portable repeaters and packet radio. Another problem: The storm pretty much devastated amateur antenna systems, he said.

Duncan Campbell, KF6ILA/KH2, was one of the few hams able to get on the air in the first few days after the storm hit, felling the island's lone 2-meter repeater tower in the process. Island hams used 2-meter FM simplex as a major means of communication, Campbell said. The repeater reportedly is back up. He was able to make several stateside HF to relay needs, but fuel to run emergency generators for radio use became scarce, and he had to shut down after December 10.

Manns said electrical power remains out for most residents and that only about a third of the electrically powered water wells on Guam were functional. Telephone service remains out "pretty much island-wide for varying amounts of time" due to the power outages, he said. It's expected to be several months until electrical power is fully restored on Guam.

At one point, despite an active listening campaign, Amateur Radio operators on the air from Guam were simply not to be found. "We have six amateurs engaged in this, almost our entire complement of HF operators," said ARRL District Emergency Coordinator for the Commonwealth of the Northern Mariana Islands (CNMI) Tim Hayes, NH0H, December 15. Amateurs on Saipan monitored the agreed-upon emergency frequency of 7085 kHz almost continuously for a week without hearing a single Guam signal, he said. The Pacific Inter-Island Net on 14,320 kHz also made a special effort to listen for Guam stations.

Meanwhile, the American Red Cross, The Salvation Army and 28 US Government agencies have combined to provide relief and recovery services. Reports say 1750 homes were destroyed or left uninhabitable by the typhoon.

The Salvation Army is operating 12 temporary shelters and housing an estimated 3000 residents left homeless. Salvation Army Team Emergency Radio Network (SATERN) Coordinator Pat McPherson, WW9E, said SATERN this week established contact between Guam and the SATERN national office in Chicago via an

EchoLink connection--a marriage of Amateur Radio and the Internet. McPherson credited Al Paja, WH2Z, on Guam with helping to set up the EchoLink connection.

Campbell, Manns and others have been able to maintain communication to the outside world via the Internet after December 11. The fiber optic line between Guam and the Commonwealth of the Northern Mariana Islands survived the storm, and local Internet Service Providers were able to reconnect to the backbone. With semi-reliable cellular telephone service available, Campbell was able to post updates on local conditions to several Internet bulletin boards.

The Guam Pacific Daily News Web site <<http://www.guampdn.com/>> also has remained active and current. It continues to provide a major conduit for those outside the island to leave messages for friends and relatives on Guam.

Amateurs affiliated with the US Department of Health and Human Services' Office of Emergency Response flew to Guam. "We're very active here with disaster relief and have two sites operational on HF," said Steve "Sid" Caesar, NH7C, the team's communications officer. Others on that team include Satoshi Manabe, WH6CTO, and Jayson Kohama, WH6BXK. Caesar has been in regular contact with amateurs in Hawaii over the past week.

\$January Treasurer Report\$

Income for December was \$30 from memberships, \$20.61 net from the FoxFinder project, \$10.00 from PowerPole connector distribution, \$6 from patches, and \$20 from the book raffle at the meeting.

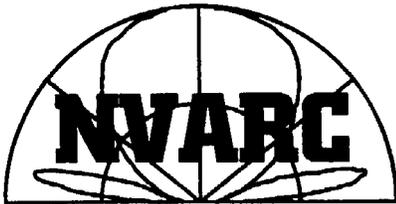
Expenses for December were \$47.08 for newsletter postage and outgoing QSL bureau.



Net income for December was \$39.53.
 Current balances: General fund: \$4993.44
 Community fund: \$1842.55
 73,-Ralph KD1SM

Fleamarket Calendar

15 Feb Algonquin ARC, Marlborough, MA
 20 Apr MIT, Cambridge, MA



**Nashoba Valley
 Amateur Radio Club**

PO Box # 900
 Pepperell Mass 01463-0900

mailto:nvarc_n1nc@arrl.net
<http://www.n1nc.org/>

Pres.: Erik Piip KA1RV
 V Pres.: Earl Russell WR1Y
 Secretary: Ian Norrish NZ1B
 Treasurer: Ralph Swick KD1SM
 Board Members:

Den Connors 2000-2003
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Editor: Stan Pozerski KD1LE
 Photographer: Ralph Swick KD1SM
 PIO Ron Wood KB1GID
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Meetings are held on the 3rd Thursday of the month -
 7:30 p.m. - Pepperell Community Ctr. Talk-in 146.490
 simplex

442.90 + 100Hz Repeater
 53.890 - 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 send items to

pozerski@net1plus.com
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