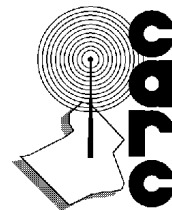




The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

January 2003

January Meeting

The next regular meeting of the Carbon Amateur Radio Club will be held on Thursday, January 16, at 7:30 p.m. at the EOC in Nesquehoning. This meeting will feature a special segment of the meeting dedicated to a postmortem of our response to the recent emergency and identify action items to address areas of improvement. See you there!



Treasurer's Report

By John, W3MF

Previous Balance	965.74
Receipts (dues)	0.00
Subtotal	965.74
Disbursements (newsletter)	7.03
Final Total	958.71



Rock Mite Nite 2

By Lamar, N3AT

There have been a number of requests to have another Rock Mite Nite, a group building session, to assemble the neat little Rock Mite transceiver. The first Rock Mite Nite included hams from four local clubs, and reports are coming in from several participants about contacts they have made. K2NZ has logged at least 17 states with his Rock Mite - even made a contact with one ham in Alaska!

The Rock Mite is a complete CW transceiver, with a built-in electronic keyer. It is built on a pc board that is only 2 by 2 1/2 inches, and fits inside the well known Altoids mint tin. The speed of the built in keyer can be varied from about 8 to 40 or more

words per minute. The transmitter puts out approximately 500 milliwatts - this is not QRP, it is QRPp! And it works! One ham in Tennessee worked a station in Australia with his 20 meter Rock Mite. The kit is available for either 40 or 20 meters and it is a lot of fun to build and to use.

We have set January 22, a Wednesday, for Rock Mite Nite #2. If you would like to try your hand at building, this is a good way to start. You will have help and guidance from several experienced people. Orders are now being accepted, and will be accepted until January 12. After that date we will not be able to accept any more orders. If you would like to participate, please get in touch with Lamar, N3AT, and place your order as soon as possible. Cost of the basic transceiver kit is \$25, and the hardware needed to mount it in an enclosure will be an additional \$5, a total of \$30. Imagine the fun you can have with a rig that costs so little! And the thrill of knowing that you built it yourself!



Mississippi ARES Teams Respond in Tornado-Stricken Community

(From the ARRL Letter)

Amateur Radio Emergency Service (ARES) teams from Jackson and Meridian, Mississippi, have converged on the tiny community of Newton to provide emergency communication support following a devastating tornado December 19. ARRL Mississippi Section Manager Malcolm Keown, W5XX, said about a dozen amateurs from the Metro Jackson ARES and the Lauderdale County ARES groups were taking turns supporting relief agencies in Newton, which has no ARES organization of its own.

The mid-day twister struck a Wal-Mart filled with

holiday shoppers, blowing out the front windows and collapsing part of the roof. The tornado also damaged a furniture factory. Newton is located roughly halfway between Jackson and Meridian in the Interstate 20 corridor. According to news accounts, some 70 people were hurt, but no one was killed. Property damage in the town was said to have been widespread, and Gov Ronnie Musgrove has declared a state of emergency in Newton.

Keown said the ARES teams were helping the Red Cross with damage assessment and with shelter communication. In the tornado's immediate aftermath, telephone service and electrical power were out in much of the town of nearly 4000 and in surrounding Newton County, he said. The hams also have been assisting The Salvation Army and the Southern Baptist Men's Kitchen canteen operations as well as making themselves available to local emergency management officials.

Although some reports indicated the tornado hit without warning, Keown said SKYWARN teams had activated all along the I-20 corridor in anticipation of the severe weather, and the National Weather Service had issued tornado warnings.

"We were up all day long," he said of the SKYWARN activity. "The first damage estimates to the National Weather Service came from ham radio SKYWARN reports."



Ham Radio Has Role in Guam Relief, Recovery

(From the ARRL Letter)

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

3 *The Illuminator*

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, WH6BXX. Caesar has been in regular contact with amateurs in Hawaii over the past week.



Hams Aid Maritime Rescue

(From the ARRL Letter)

Amateur Radio operators on a 40-meter net that's aimed at helping stations obtain the Worked All States award are getting at least partial credit for

helping to save a ham-sailor and two companions whose boat was caught up in rough weather off the West Coast December 14. Steve Letendre, KE6FQ, said that during a late 40-meter session of the 3905 Century Club Net <<http://www.3905ccn.com>> on 7.233.5 MHz, an emergency break came on frequency.

"The man's boat was in high seas and taking water approximately 350 miles south of San Diego near Cedros Island," Letendre said. "High winds and waves mostly kept him from spending too much time giving us info." Letendre says he later learned from the Coast Guard that the boat was being exposed to 12-15 foot waves and 60 MPH winds.

Net Control Station John Milner, W6BUM, requested a hold on the net while Letendre and Joe Seibert, AL1F, in Alaska attempted to communicate with the vessel's skipper — whom Letendre identified as Walter Jorgenson, W6ULT. "I was on the phone with San Diego Coast Guard, while Joe copied info as the questions came from them," Letendre said. "We were unable to get too much other info due to the boat getting slapped around pretty good. I'm sure the skipper had his hands full holding the wheel and a mic at the same time."

Somewhere in the excitement, Letendre said, the skipper fired a flare and a Mexican Naval vessel appeared and launched a raft. The passengers were taken aboard the naval vessel and the boat towed to safety. Letendre is modest about his net's role in the effort. "By the time we had good relays set up, he was rescued," he said.

The incident did provide an opportunity for Letendre to acquaint the US Coast Guard in his area with the net's existence. "The Coast Guard officer also thanked us and requested info on our group, so I gave him the home page," he explained.



ARRL DX Bulletin

DX Bulletin 1 ARLD001
From ARRL Headquarters
Newington CT January 2, 2003
To all radio amateurs

This week's bulletin was made possible with information provided by Tedd, KB8NW, the OPDX Bulletin, 425DXnews, DXNL, The Daily DX, K4AVQ, WA7BNM and Contest Corral from QST. Thanks to all.

GEORGIA, 4L. Toly, 4L1MA has been QRV on 40 meters CW around 2030 to 2200z. QSL via ON4RU.

DEMOCRATIC REPUBLIC OF EAST TIMOR, 4W. Thor, 4W6MM has been QRV using RTTY on 20 meters around 1100 to 1200z. QSL via TF3MM.

ANDORRA, C3. Peter, C31LJ has been QRV on 17 meters around 1400z and on 12 meters around 1500z. QSL via VE3GEJ.

DOMINICA, J7. Kelly, J79BEY has been QRV on 20 meters around 0100z. QSL via G1SSL.

OGASAWARA, JD1. Special event station 8N1OGA is QRV until January 12 to celebrate the 75th anniversary of the Japan Amateur Radio League. Activity is usually from 0800 to 2200z. QSL via bureau.

SOUTH ORKNEY ISLANDS. Jose, LU1ZA has been QRV on 15 meters around 2230z. QSL via LU4DXU.

ARUBA, P4. Alan, K4AVQ will be QRV as P40AV from January 4 to 18. Activity will be on 160 to 10 meters. He may give special attention to 160 and 80 meters using CW. QSL to home call.

NETHERLAND ANTILLES, PJ2. Chris, DL5NAM is QRV as PJ4/homecall from Bonaire, IOTA SA-006, until January 18. He is active using mainly RTTY as well as activity on 6 meters. QSL to home call.

PALAU, T8. T88HA has been QRV using RTTY on 20 meters around 0300z. QSL via JK1FNN.

CENTRAL AFRICA, TL. Charles, TL8CK has been QRV on 17 meters just after 0730z and then 10 meters around 0900z. QSL via F6EWM.

TURKS AND CAICOS ISLANDS, VP5. VP5/W6XK and VP5/N6EE are QRV on the

lower bands, plus the newer ones, using CW, SSB and RTTY until January 7. QSL to home calls. They will also participate in the ARRL RTTY Roundup as VP5NN. QSL via NN6NN.

CHAGOS ISLAND, VQ9. Larry, WD0HSP is QRV as VQ9LA on Diego Garcia, IOTA AF-006, and is here for about a year. He may be active on 80 to 6 meters using CW, SSB, RTTY and FM. QSL via operator's instructions.



ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 1 ARLP001
From Tad Cook, K7VVV
Seattle, WA January 3, 2003
To all radio amateurs

Last week this bulletin reported sunspot numbers dropping dramatically, and this week it became a trend. Average daily sunspot numbers for the past three weeks were 206.1, 164.4 and then 55.3 for this week. Average solar flux was 188.7, 169.1 and 117.1. The real shocker was Monday, with a sunspot number of only 44. I thought perhaps the sunspot number wasn't this low since the other side of the solar cycle (before the peak), but we actually saw lower values of 27 and 38 on September 11 and 12, 2000. But the previous value that was this low probably was on the other side of the peak, on September 26, 1999 when it was also 44.

Last year was surprisingly good if you like high sunspot activity. The average daily sunspot number for the 2002 calendar year was actually slightly higher than any of the three previous years. Average daily sunspot numbers for the years 1997 through 2002 were 30.7, 88.7, 136.3, 173, 170.3 and 176.6. Note the 176.6 value is lower than the 178.3 reported in last week's bulletin as the average sunspot number for the first 359 days of the year. The drop in sunspot numbers over the past week was so dramatic that it actually dropped the yearly average by nearly two points. Average daily solar flux for the same six years was 81, 117.9, 153.7, 179.6, 181.6 and 179.5.

What is the trend though? Next we'll look at quarterly averages.

5 *The Illuminator*

Average daily sunspot numbers for the past eight quarters was 147.3, 164.8, 170.4, 198.1, 178.3, 165.3, 193.5 and 152.7. Average daily solar flux for those same quarters was 164.4, 166.7, 175.5, 219.1, 203.9, 156.4, 178.1 and 164.2. As you can see, there is quite a bit of variability in the values. Solar cycles only look smooth when looking backward and doing a moving average of the data.

Currently earth is entering a solar wind from a small coronal hole on the sun. Conditions could be unsettled on Friday and Saturday. The projected planetary A index for Friday through Monday is 15, 15, 10 and 8. The projected solar flux for those same days is 120, 125, 125 and 130.

Several people wrote this week, including Larry, K0HNM and Tony, K6BBC asking for information on propagation. Everyone seems to be curious about what the numbers mean. As I've reported before, a simple way to look at it is that HF operators would like the sunspot activity to be high with the geomagnetic activity to be low. Unfortunately, it often doesn't work that way, and high solar activity can be accompanied by solar winds, which can disrupt or disturb HF propagation.

I did suggest K9LA's discussion of basic propagation and what the numbers mean. It is on the ARRL Technical Information Service web page devoted to propagation at <http://www.arrl.org/tis/info/propagation.html>. Past propagation bulletins also have information and some interesting web links, and an archive is at <http://www.arrl.org/w1aw/prop/>. The A index and K index express geomagnetic stability or instability, with the K index measured every three hours and the A index expressed once per day. They are on different scales, and the relationship between the two is explained at http://www.ngdc.noaa.gov/stp/GEOMAG/kp_ap.html. A web page explaining how sunspot numbers are derived is on the same site at <http://www.ngdc.noaa.gov/stp/SOLAR/SSN/ssn.html>.

Another useful tool is propagation prediction software, and a good free one is W6ELprop, available at <http://www.qsl.net/w6elprop/>. With this program you can plug in different dates, times, frequencies, locations and solar flux values, and see what band is likely to be open when and to where.

Sunspot numbers for December 26 through January 1 were 62, 63, 70, 51, 44, 50, and 47, with a mean of 55.3. 10.7 cm flux was 127.4, 116.5, 116.9, 114.8, 113.8, 115.1, and 115, with a mean of 117.1. Estimated planetary A indices were 15, 37, 19, 13, 15, 11, and 10, with a mean of 17.1.



League Keeps Eye on Emerging RFI Issues

(From the ARRL Letter)

ARRL Lab Supervisor Ed Hare, W1RFI, attended a November 12-14 meeting of the IEEE C63 "RFI" committee in Baltimore. Hare's visit was in response to a committee invitation for a presentation on the possible impact of Power Line Communications (PLC) on Amateur Radio. Hare also attended a very high bit-rate digital subscriber line (VDSL) standards meeting in Atlanta November 18-19. Hare says that both technologies present a potential to radiate signals that could raise the noise floor on nearby HF receivers by tens of dB. "What ham hasn't looked up at a power line and thought, 'Now there's a heck of a longwire antenna!'" Hare quipped. "The problem with PLC is that if a company wants to supply Internet service via PLC, it's going to happen at HF, and it will radiate." Following the presentation, the IEEE named Hare chairs its ad hoc working group on PLC. VDSL presents somewhat less of a challenge than PLC, Hare said, but for overhead telephone wiring, it's important that the industry include protections for Amateur Radio. Hare said the ARRL will continue to work these and other industry groups and build on the successes Amateur Radio has had recently with the HomePlug group and Home Phonenumber Network Alliance in reducing interference to amateur HF bands.



SKYWARN, ARES Activate for Arkansas, Missouri Storms

(From the ARRL Letter)

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 destroyed 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.



For Sale

Heath HW-2 2-meter HT (sorry, but it doesn't have PL). Lastly, I have two spare 19-volt 3-amp laptop power supplies available for free. Contact Bob at k3ph@ptd.net and these items can sit on your desk instead of his!



Helpful Hints

Motorists: Pressing your "fog lights" switch a second time, after the fog has cleared, will actually turn your fog lights off.



Shallow Thoughts

Why does sour cream have a "use by" date?



Carbon Amateur Radio Club – 2002-2003 Officers

President: Anthony "Goody" Good, K3NG, goody@fast.net
Vice President: Rob Roomberg, KB3BYT, roomberg@ptd.net
Secretary: Larry Lilly, N3CR, ka3afy@ptd.net
Treasurer: John Schreibmaier, W3MF, w3mf@ptdprolog.net
W3HA Callsign Trustee: Bill Dale, WY3K
W3HA Repeater Trustee: John Bednar, K3CT
Public Information Officer: Bill Kelley, KA3UKL

Directors

Bob Schreibmaier, K3PH, John Bednar, K3CT, Bob Culp, KB3IDV

Illuminator Staff

Editor: Bob, K3PH k3ph@ptd.net
DX: Bob, K3PH
Foxhunting: open

Propagation and Commentary: open
Newsletter Printing, Folding, and Mailing: Bob, K3PH

Services

W3HA Repeater: 147.255 MHz + PL 131.8

CARC Website: <http://www.learnmorsecode.com/carc/>
Webmaster: Rob, KB3BYT roomberg@ptd.net

CARC Email Reflector: see www.qth.net CarbonARC list for details

CARC Membership Information

Regular Membership is \$15.00, which includes autopatch privileges.

All amateur radio operators are invited to join the CARC ARES / RACES net held 2:00 local time every Wednesday on the W3HA repeater at 147.255 MHz + offset, PL 131.8. Any amateur radio operator or anyone with an interest in ham radio is welcome to attend our monthly meetings which occur the third Thursday of each month at 7:30 PM at the Carbon County EMA Center on Route 93 in Nesquehoning.

Carbon Amateur Radio Club
C/O Bob Schreibmaier K3PH
P. O. Box 166
Kresgeville, PA 18333-0166