



The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

May 2005

May Meeting

The next regular meeting of the Carbon Amateur Radio Club will be on Thursday, May 19, at 7:30 p.m. at the Emergency Operations Center in Nesquehoning. Goody, K3NG, will present some material on the "Zen of Contesting" and Bob, K3PH, will talk about his two favorite contests, CQ Worldwide DX Contest and ARRL DX Contest. I wouldn't be a bit surprised if others present their thoughts on contesting, too! This will be a star-studded event, so reserve your seats now!

See you at the meeting!



Carbon Amateur Radio Club Regular Meeting Minutes April 21, 2005

Meeting was called to order at 19:44 hours local time. In attendance were:

KB3LFD, N3TVV, KB3IDV, N3AT, W3EFI, KB3KLJ, KO3M, KB3BYT, WA3IEM, and WB3W.

A motion was made to accept the March meeting minutes as previous published. Motion was seconded and carried unanimously.

The Treasurer's Report was read by Brian, KB3KLJ, as shown below per email from John, W3MF:

Treasurer's Report

Previous Balance	\$976.82
Receipts (dues)	\$75.00
Sub-total	\$1,051.30
Disbursements	-\$4.07
Final Total	\$1,047.75

Motion was made to accept the treasurer's report as read. Seconded and carried unanimously.

Old Business

Brian, KB3KLJ, mentioned that the club tents and other supplies being stored in the EOC garage would be loaded into his truck to be moved to storage at his QTH after the meeting.

Brian, KB3KLJ, indicated that we have some members who have not renewed. Bob, WB3W was asked if any additional dues were received via PayPal; he said there were none. Brian, KB3KLJ, said he had membership cards (produced by Bob, WB3W) for everyone who had paid dues so far. The question was asked if remaining cards should be mailed, or held. It was decided that only the cards for life members Carl Merluzzi and Danny Ockenhouse, KB3BDU would be mailed (to be done by Brian, KB3KLJ).

Discussion was held about the three club web sites. We will keep all of them, as they all point to one another.

Discussion about posting members' email addresses on the web sites was held, and the current decision is that addresses will use the word "at" as opposed to the @ sign to make harvesting of email addresses by spammers less likely.

Bob, WB3W, reminded members of the Mid-Atlantic QSO Party on May 14th and 15th. This is not a club activity, but members are encouraged to participate individually. It would be good practice for Field Day as well as the PA QSO Party later in the year.

Brian, KB3KLJ, said that SKYWARN training was completed on 4/9 by a number of members. No cards or information have been received yet. Bob, WB3W indicated that we can setup a 440 link for SKYWARN for 147.255 repeater, which would be activated (by the SKYWARN coordinator, Bill,

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N3VAE) in the event of severe weather, and for the regular Thursday night SKYWARN weather net that runs from 9:00-10:00 PM local time. A motion was made for Bob, WB3W, to establish the 440 link for the 147.255 repeater. Motion was duly seconded and carried unanimously.

Brian, KB3KLJ, mentioned the electronics training board that Lamar, N3AT has been talking about in previous meetings and asked if there was any more movement on what we might want to do. It was mentioned that there was another course from Small Wonder. It has 8 lessons, and would make use of the training board. The course materials are available from the W3OI web site (<http://www.w3oi.org>) for download. Paul, NOKIA can be contacted for more info. Rob, KB3BYT, will get a parts list together if possible so this can be done as another project.

New Business

Bob, WB3W, shared how things have been changing with the Nation Traffic System (NTS) over recent years. As Internet and cell phones have become popular, the value of the NTS has been greatly diminished. More recently, digital messaging, called Winlink 2000 is being touted as the new way to handle traffic via amateur radio. The premise of Winlink is that digital stations can be established in an area that has lost its phone and email capability and link to stations in an unaffected area to provide digital communications. Winlink 2000 has three parts:

1. Paclink (windows based) – used in the affected area; uses a CPU/TNC and VHF radio for standard email
2. Telpac – used in the unaffected area; moves email to/from the internet
3. Airmail – wider area; uses HF. 14 stations in the US. Requires an expensive modem to do Factor 3.

We can look at doing this at the EOC.

Rob, KB3BYT, mentioned that he has been in contact with a lady in Effort who is homeschooling. She wants the kids to learn CW. There are 12 kids (plus parents). This is a possible “crop” of new HAMS. Rob has some older study guides, and left one. This is a great opportunity for the club to help out with awareness, materials, and mentoring.

Motion to adjourn the meeting at 20:18 local time; seconded and carried.

Minutes respectfully submitted by Brian, KB3KLJ.



US House Resolution Calls on FCC to Evaluate BPL Interference, Review Rules

(From the ARRL Letter)

Rep Michael Ross, WD5DVR, of Arkansas, has introduced a resolution in the US House of Representatives calling on the FCC to "conduct a full and complete analysis" of radio interference from broadband over power line (BPL). The resolution, H. Res 230, says the Commission should comprehensively evaluate BPL's interference potential incorporating "extensive public review and comment," and — in light of that analysis — to "reconsider and review" its new BPL rules, adopted last October. If approved by the full House, the non-binding resolution, introduced April 21, would express the requests as "the sense of the House of Representatives."

"We are grateful to Congressman Ross and his staff for taking a leadership position in recognizing that the BPL interference issue deserves more careful consideration than the FCC was willing to give it under former Chairman Powell," said ARRL CEO David Sumner, K1ZZ. The resolution has been referred to the House Committee on Energy and Commerce, on which Ross serves.

The resolution's prime focus is on BPL's potential to disrupt critical public safety radiocommunication. It cites National Telecommunications and Information Administration (NTIA) studies that "have determined that broadband over power line creates a 'high risk' of radio wave interference, and that harmful interference to public safety mobile radio receivers can be expected at distances of 75 meters from the power line where broadband over power line is in operation, and at distances of up to 460 meters from fixed stations, such as VHF police or fire dispatch communications facilities."

The resolution notes that the same NTIA study determined that BPL interference to aeronautical and airline travel communications "could be expected at distances up to 40 kilometers from the

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center of the broadband over power line system, and that interference to outer marker beacons for airline instrument landing systems could be expected at great distances as well."

Many public safety agencies and support services, including emergency medical services, fire, and law enforcement, utilize Low-Band VHF (30-50 MHz), the resolution points out. According to the resolution, at least 13 states — California, Connecticut, Florida, Illinois, Indiana, Mississippi, Missouri, Nebraska, North Carolina, South Carolina, Tennessee, West Virginia and Wyoming — use the band for state police operations. It's the primary public safety radio band in nine states.

The resolution further notes that the Association of Public Safety Communications Officials Inc (APCO), and the National Public Safety Telecommunications Council (NPSTC), urged the FCC to withhold final action in the BPL proceeding for at least a year, pending a "conclusive determination" of BPL's potential to interfere with public safety and other licensed radio systems operating below 80 MHz. It also cites comments filed by the Missouri State Highway Patrol, which uses a statewide radio system with more than 1400 Low-Band VHF users. The Missouri State Highway Patrol commented that the overall effect of BPL implementation would be "a potentially significant increase in interference to the mission of critical public safety communications," the resolution says.

The resolution recounts that the FCC has struggled for years to resolve widespread harmful interference to the radiocommunications of first responders on 800 MHz and "should not have proceeded with introduction of a technology which appears to have substantial potential to cause destructive interference to police, fire, emergency medical services, and other public safety radio systems" without first conducting a comprehensive evaluation.

ARRL President Jim Haynie, W5JBP, has urged ARRL members to contact their US representatives to support the resolution. A sample letter is available on the ARRL Web site <http://www.arrl.org/tis/info/HTML/plc/filings/hres230/HRes230-SampleLtr.doc>. Members are encouraged to express their support in their own words. If you're not sure who represents your congressional district, visit the United States House

of Representatives Web site <http://www.house.gov/>.

To expedite delivery, send all correspondence bound for Members of Congress — preferably as an attachment — to hres230@arrl.org or fax it to 703-684-7594. The ARRL will bundle correspondence addressed to each Member of Congress for hand delivery.

A copy of HRes 230 is available on the ARRL Web site <http://www.arrl.org/tis/info/HTML/plc/filings/hres230/HRes230.pdf>.



Expedition 10 Commander Racks Up School QSO Record (From the ARRL Letter)

As he wrapped up his last successful Amateur Radio on the International Space Station (ARISS) school group contact before heading home, Expedition 10 Commander Leroy Chiao, KE5BRW, also set a new ARISS record. Chiao's contact April 19 with youngsters at Schulhaus Feld 1 in Richterswil, Switzerland, marked his 23rd ARISS school group contact. That tops the previous record of 22 QSOs set by Expedition 3 Crew Commander Frank Culbertson, KD5OPQ, in 2001-2002. Chiao safely returned to Earth with crewmate Salizhan Sharipov and ESA Astronaut Roberto Vittorio, IZ6ERU, on April 24. During the contact between NA1SS and HB9IRM, Chiao told the eight, nine and ten-year-old youngsters that the ISS is still growing.

"There will be a few more modules added to the ISS. As soon as the shuttle starts flying again, we'll resume major construction," Chiao explained.

"There will be a European module, the Columbus, of course, and also the Japanese module, the JEM module, and a few other smaller ones." NASA announced this week that it's postponed the space shuttle "return to flight" mission to a date no earlier than mid-July.

The last ARISS school group contact of Chiao's duty tour was the first for Switzerland. Chiao told the youngsters that he had a nice view of the Swiss Alps and the Zurich region from his vantage point some 350 km above Earth. Before the ISS went out

of range, Chiao was able to answer all 20 questions the Richterswil pupils had prepared. As he went over the horizon, he wished the students "all the very best of luck," and — as he'd urged other school groups in previous contacts — told them to "reach for the stars and keep on dreaming." At least two newspapers published reports of the Richterswil contact.

Chiao, who said he enjoyed getting to answer questions about life in space posed by students on Earth, shifted into an accelerated schedule of ARISS school contacts as his duty tour drew to a close. His penultimate school QSO occurred April 15 with students at Fort Ross Elementary School in Cazadero, California, some 90 miles north of San Francisco. The school has an enrollment of just 50 students in kindergarten through grade 8.

Apparently the forest of tall redwoods surrounding the small school blocked signals, causing a slight delay in the start of the Fort Ross event as the ISS came over the horizon. Once contact was established, however, signals were reported to be excellent, and seventh and eighth graders at Fort Ross managed to get 15 of their 20 questions asked and answered. During the direct VHF contact between NA1SS and WA6M, students wanted to know — among other things — how small an object Chiao could view from the ISS, how high the spacecraft was flying and how many space walks he's done.

Bob Dickson, WA6M, served as the Earth station control operator, with assistance from David Horvitz, KD6BPS, and John Sperry, KE6IRX. The ARISS contact received news coverage in the Independent Coast Observer.

Chiao and Sharipov will spend several weeks in Star City, Russia — near Moscow — for debriefings and medical examinations. Now aboard the ISS is the Expedition 11 crew of Commander Sergei Krikalev, U5MIR, and NASA ISS Science Officer John Phillips, KE5DRY. The ARISS school group schedule is on hiatus until May 4 while the new team settles in.

ARRIS is an international educational outreach with US participation by ARRL, AMSAT and NASA.

ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 17 ARLP017
From Tad Cook, K7RA
Seattle, WA April 29, 2005
To all radio amateurs

Solar flux and sunspot numbers continue their lull, although again this week their relative positions see-sawed. For last week's bulletin of April 22 (ARLP016), we reported average daily sunspot numbers up a little, and average daily solar flux down a bit. This change was noted when the numbers were compared to the data in the April 15 bulletin (ARLP015). This week the daily sunspot number on average dropped 25 points to 25.9, and the average daily solar flux increased a little over two points to 84. Nothing significant about any of this, which is common behavior as the solar cycle continues to decline.

This week on Sunday, April 24 the earth-facing sun was spotless, and the sunspot number was 0. But the next day a new sunspot appeared, number 756, and it is a big one. The spot is growing quickly, and the resulting sunspot numbers for April 26-28 were 20, 45 and 71. Solar flux is heading toward 100. Predicted solar flux values for this weekend, April 29-May 1 are 103 on all days. Flux values should rise above 105 by Monday, May 2.

Geomagnetic conditions have been nice and quiet, but this could change over the next week. The predicted planetary A index for April 29 through May 3 is 8, 8, 20, 40 and 15. A planetary A index of 40 indicates a major geomagnetic storm, which is expected from the reappearance of a recurring coronal hole and associated high velocity wind stream.

The predicted smoothed sunspot number drops in May from 22 to 19. It will continue to decline, with the predicted smoothed sunspot number at 10 for the end of 2005 and 5 for the end of 2006, the predicted bottom of the solar cycle. In 2007 solar activity should rebound, and around the end of that year the smoothed sunspot number should be back to where it is now, 18 for November and 21 for December 2007. In 2008, based on the behavior of past solar cycles, sunspots should make a strong return. That's only three years from now.



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Robert Wilson, AL7KK wrote to say he worked for Voice of America and planned medium wave AM broadcasts that were around the 160 meter wavelength. He said that in 1989 he was using some propagation software that worked fine on 160 meters outside of the auroral zone. I've asked him to give us more detail, as the propagation programs I've used don't work below 3 MHz. I hope to have more information soon.

David Moore sent us a fascinating article from SpaceRef.com about the structure of coronal holes and the associated solar wind. The article talks about observations published in the April 22 edition of Science. You can read the SpaceRef article at <http://www.spaceref.com/news/viewpr.html?pid=16721>.

If you would like to comment or have a tip, email the author at, k7ra@arrl.net.

For more information concerning radio propagation and an explanation of the numbers used in this bulletin see the ARRL Technical Information Service propagation page at, <http://www.arrl.org/tis/info/propagation.html>. An archive of past bulletins is found at <http://www.arrl.org/w1aw/prop/>.

Sunspot numbers for April 21 through 27 were 22, 34, 35, 0, 25, 20 and 45 with a mean of 25.9. 10.7 cm flux was 77.1, 77.2, 79.3, 82.3, 86, 90.9 and 95.3, with a mean of 84. Estimated planetary A indices were 4, 9, 6, 10, 11, 5 and 4 with a mean of 7. Estimated mid-latitude A indices were 2, 7, 5, 5, 9, 2 and 1, with a mean of 4.4.



ARRL DX Bulletin

DX Bulletin 18 ARLD018
From ARRL Headquarters
Newington CT May 5, 2005
To all radio amateurs

This week's bulletin was made possible with information provided by CE3HDI, G3VOF, UA3FDX, QRZ DX, the OPDX Bulletin, The Daily DX, 425DXnews, DXNL, WA7BNM and Contest Corral from QST. Thanks to all.

TUNISIA, 3V. Jenö, HA5FA, Miklos, HA5VZ and Miklos, HA5GO are QRV from Djerba Island, IOTA AF-083, using club station call 3V8SM until May 10. Activity is on all HF bands using CW, SSB and PSK. QSL this operation via HA5FA.

KENYA, 5Z. Enrico, IV3SBE is QRV as 5Z4ES through the year 2007. He is active mostly during the weekends. QSL via the Kenya QSL bureau.

DEMOCRATIC REPUBLIC OF CONGO, 9Q. Gus, SM5DIC is here until the end of 2005 and QRV as 9Q0AR. He has been active on 6 meters and hopes to have 40 and 10 meters available to him soon. QSL via SM5BFJ.

CHILE, CE. Ric, CE3HDI is QRV as CE5R from Mocha Island, IOTA SA-061, until May 20. Activity is mainly on 40 and 20 meters, using CW and SSB. QSL to home call.

ANGOLA, D2. Janne, OH5NKD is QRV as D2DX until 2007. QSL to home call.

BALEARIC ISLANDS, EA6. Christian, DL6KAC is QRV as EA6/homecall from Mallorca until May 24. Activity is on 40 to 10 meters using mostly SSB. QSL to home call.

BELARUS, EU. Stations EV6ZK, EV7DP and EV8DP are QRV from Orsha, Mogilev and Gomel, respectively, until May 15 to commemorate the 60th anniversary of the end of World War II. QSL all calls via UA3FDX.

ENGLAND, G. Members of the Havering and District ARC will be QRV as GB2UW, GB0MW, GB2ARW and GB5SW from a number of windmills from May 7 and 8 during the National Mills On-The-Air weekend. Activity will be on 80 to 10 meters, including 17, 6 and 2 meters, and 70-cm, using CW and SSB. QSL via operators' instructions.

JERSEY, GJ. In celebration of 60 years of peace and freedom, look for GJ60LIB to be QRV for the month of May, with particular activity from May 7 to 15. QSL via GJ3XZE.

GUERNSEY, GU. In celebration of 60 years of peace and freedom, look for GU60LIB to be QRV for the month of May, with particular activity from May 7 to 15. QSL via GU3HFN.

OGASAWARA, JD1. Nob, JH1WCD and Joe, JR1AGC are QRV as JD1BLW and JD1BLZ, respectively, until May 8. Activity is on 80 to 6 meters using mostly SSB. QSL to home calls.

NETHERLANDS, PA. Members of the Netherlands Amateur Radio League are QRV using special call signs PI25BEA and PI25TRIX through May to celebrate the Silver Jubilee of Queen Beatrix. QSL via PE2HSB.

WESTERN SAHARA, S0. Mahfoud is QRV as S01MZ and have been active on 15 meters using SSB around 1600 to 1900z. QSL via EA1BT.

DODECANESE, SV5. Andrea, IK1PMR and Claudia, IK2LEO are QRV as SV5/homecalls from Rhodes, IOTA EU-001, until May 19. Activity is on 80 to 10 meters using CW and RTTY. They will participate in the ARI International DX and Volta RTTY contests. QSL both calls via IK1PMR.

CHAD, TT. Pierre, HB9AMO and Mike, PA5M are QRV as TT8AMO and TT8M, respectively, from Abeche until August 2005. Activity is on 40, 17 and 15 meters. QSL both calls via PA7FM.

UKRAINE, UR. A group of operators from the Lviv Shortwave Club are QRV as EO60W until May 15 to commemorate the 60th anniversary of the end of World War II. QSL via UT7WZ.

CAMBODIA, XU. Yuki, JH1NBN is here on business and will be QRV as XU7ADJ from May 8 to 13. He is active in his off-work hours during the evening. QSL to home call.

THIS WEEKEND ON THE RADIO. The New England QSO Party, The ARI International DX Contest, MARAC County Hunter CW Contest, Nevada QSO Party, 10-10 International Spring CW Contest, Microwave Spring Sprint, Oregon QSO Party, Indiana QSO Party and the North American Spring Meteor Scatter Rally will certainly keep contesters busy this weekend. Please see May QST, page 98 and the ARRL and WA7BNM contest websites for details.



The DX Cat

By Paul Dunphy, VE1DX

There are often things that defy explanation. Yesterday, one of the local QRPers made his way up the hill, this one puffing a bit the last few yards. He was carrying a cardboard box with the cover folded over and he set it gently on the table in our shack. "Want a cat?" he said, getting right to the point and looking us right in the eye. We are not often lost for words, and many will attest to this fact. This time, however, we came close. "A cat!" was all we could get out . . . but we quickly recovered and put forth our best DX face.

"Yes," the QRPer continued, "a cat. And not just any cat either. A real DX cat!" We thought about this for a moment, for it wasn't immediately clear what the difference was between a DX cat and a regular cat. So we carefully lifted the cover of the box and had a look. "Looks like any other cat to us," we said to the QRPer. "What makes this one any different?" At this point we were ready for about anything, including some variant of the tale in QST years ago about the cat that copied CW . . . and we were aware that story had appeared in the April issue.

The QRPer was serious. "I've had this cat for almost five years now. And I'm convinced that at least half of the DX I've worked is a direct result of this cat. He's always in the shack with me. He likes the heat from the amp. Why, he's spent hour after hour lying on top of it, sometimes sleeping, but most of the time he watches me break pileups. He knows when I make a QSO . . . he perks right up when he hears me send RR TU 5NN. A real DX cat! And I'd never have done it if he wasn't there with me."

We had to know more, for instead of answering questions, the QRPers explanation was generating more. "How does this cat, or any cat for that matter, help you break pileups?" The QRPer was prepared, "You know that in this world of DX, not everything is obvious, and that to be a real DXer, you have to be a believer. And that if something works, like your method of tail-ending or the way you time your transmissions, or any of a dozen other things, then you don't change it. And while you may never be quite sure why, if it works, you keep doing it, right?" We had to agree that this was indeed true. For we too had some techniques that worked, some of which defied logical explanation.

“Well,” the QRPer continued, “it’s like that with my cat. If he’s in the shack, lying on the amp, I usually break the pileup in a call or two. If he’s somewhere else in the house, I call for hours. This cat is one of the Mysteries of the Ages, one of the Eternal Enigmas of DXing. I don’t know how he does it, but he helps me work the DX.” At this point we were still a bit skeptical, but we had learned long ago that the road to DX understanding often took strange turns. Maybe the QRPer was on to something. So we shrugged and nodded in agreement.

We still were confused, so we asked the obvious question, “If this cat is so good, and for whatever reason, helps you blast your way through all these pileups, why are you giving him away?” The QRPer looked us right in the eye and replied, “It’s like this, he said, I’ve worked a lot of DX with this cat . . . probably got over 150 new ones while he was in the shack. Now, I’ve been thinking that, in keeping with the amateur’s code, this is giving me an unfair advantage. As DXers, we all should help each other, right? And this cat has helped me get my DXCC and then some. So I figured I should let someone else have him for awhile. You’ve always helped me with DX advice, steered me in the right direction and taught me most of what I know about DXing. And, in appreciation of all this, I’m going to give you my DX cat!”

We didn’t know quite what to say. And we really didn’t have a chance, for the QRPer was out the door and making his way down the hill, with his hands in his pockets, whistling away. We looked over at the cat. By now he had crawled out of the box and was starting to explore the shack. What could we do? We’d never had a cat before. What does one do with a cat? Especially a valuable one like this, a DX cat. So we got out some milk and gave it to him. The cat was agreeable, drank the milk and then hopped up on our amp, sniffed it a few times and lay down with a sleepy look. Son of a Gun! Maybe the QRPer was right. The amp was on, warmed up and ready for the next DX spot that might show up on the DX cluster. We had this nagging feeling that something wasn’t right. We couldn’t put our finger on it, but something in the QRPer’s stride when he’d left seemed a bit too carefree.

So we did what we always did when we were in need of enlightenment. We made our way up the hill and found the Old Timer. He was touching up

the base of his tower with some anti-rust paint. We told him about our new cat and the QRPer’s newly found desire to share the secret of his DX success. The Old Timer put down his can of paint and his brush, wiped off his hands and looked at us with an amused grin. “This QRPer,” he said, “do you recall him working the 3B7 that was on last week?” We had to admit that we hadn’t. In fact, now that we thought about it, we remembered the QRPer complaining about not being able to crack the pileup with his 100 watts. “Why didn’t he work the 3B7?” we asked the Old Timer, “and why was he only running 100 watts?”

The Old Timers grin grew broader. “You didn’t hear? His amp is in for repairs. His cat has a bladder control problem.” A wave of enlightenment swept past us! And it wasn’t DX Enlightenment, either! We recalled the cat making himself comfortable on our own amp less than an hour ago . . . and he probably was still there. “Gotta run!” we told the Old Timer as we made our way out the door and back to the shack. Maybe, if we hurried, we could get the cat boxed up and over to that new DXer who had just moved in from Palos Verdes. For once we were in complete agreement with the QRPer. DXers should help each other. It sure would be in keeping with the amateurs code if we were to share this DX cat with the new kid on the block. Absolutely! DXers share. Always! That’s one of the reasons why DX IS!



Helpful Hints

Travelers: Avoid the need to pack bulky shampoo bottles, which can leak in your suitcase, by getting a “skinhead” haircut a day or two before departure.



Shallow Thoughts

If a parsley farmer is sued, can they garnish his wages?

Carbon Amateur Radio Club – 2004-2005 Officers

President: Anthony "Goody" Good, K3NG, goody@fast.net
Vice President: Rob Roomberg, KB3BYT, roomberg@ptd.net
Secretary: Brian Eckert, KB3KLJ, eckertb@ptd.net
Treasurer: John Schreibmaier, W3MF, w3mf@ptd.net
W3HA Callsign Trustee: John Bednar, K3CT, k3ct@verizon.net
W3HA Repeater Trustee: Bob Wiseman, WB3W, wiseman@ptd.net
Associate Repeater Trustee: Anthony "Goody" Good, K3NG, goody@fast.net
Public Information Officer: Lisa Kelley, ldkelley@voicenet.com
Emcomm Coordinator: Bruce Fritz, KB3DZN, bruce56@ptd.net

Directors

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Bob Wiseman, WB3W, wiseman@ptd.net

ARES/RACES Committee

Bruce Fritz, KB3DZN (DC), bruce56@ptd.net
Darryl Gibson, N2DIY, n2diy@losch.net
Todd Deem, KB3IKX, kb3ikx@localnet.com

Services

W3HA Repeater: 147.255 MHz + PL 131.8
CARC Website: <http://carc.wb3w.net>

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

Emergency Power Equipment Trustees: Lisa and Bill Kelley, KA3UKL,
ldkelley@voicenet.com

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
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