



# The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

August 2006

## August Meeting

The next regular meeting of the Carbon Amateur Radio Club will be on Thursday, August 17, at 7:30 p.m. at the Emergency Operations Center in Nesquehoning. Bob, WB3W, will give a demonstration of Winlink. Don't miss it!

Don't forget to meet the gang for supper at 6:00 at Izio's, at the bottom of the hill in Nesquehoning!

See you there!



## Carbon Amateur Radio Club Regular Meeting Minutes July 20, 2006

The meeting was called to order 19:45 local time by Goody, K3NG. In attendance were: Doug, KB3LFD, Eric, N3TVV, Bob, K3QG, Lamar, N3AT, Denny, W3EFI, Brian, KB3KLJ, Goody, K3NG, Anne, KO3M, Rob, KB3BYT, Bob, K3PH, John, W3MF, Kent, WA3IEM, Joel, WB3IWC, Mel, N3EHY, Marty, N2HCS, Pat Bach, Naida Schwartz, and Josh Eckert (18 in all).

The treasurer's report was read by John, W3MF as follows:

### Treasurer's Report

Previous Balance	\$1,255.70
Receipts (dues)	\$0.00
Sub-total	\$1,260.38
Disbursements (newsletter)	-\$4.68
<b>New Balance</b>	<b>\$1255.70</b>

A motion was made to accept the report as read; seconded and carried.

Goody, K3NG read the July meeting minutes. A motion was made to accept the minutes; seconded and carried.

## Old Business

### Field Day

Goody, K3NG summarized our field day activities and some thought for the future:

- Did not put on beam because of weather/lightning.
- Move the 6M beam to the "hatch" next year.
- Too much soda (although if we had more visitors, that would likely have been used up a bit more).
- Get news coverage for next year (contact WB3DYE?).
- Do more public relations to promote next year's field day activities.

## New Business

Discussion was held about being involved in events: fairs, festivals, etc. We will need to be ready with materials.

Goody, K3NG noted there is an expectation of increased interest in Ham Radio after the FCC rules on Morse Code requirements: we need to be ready to respond, encourage, and welcome newcomers to the hobby.

Goody, K3NG indicated that we have interest in getting testing going in Carbon County. ERIC N3TVV, Goody K3NG, and Brian KB3KLJ all expressed interest in VE accreditation. Goody, K3NG will look into the requirements.

### **RACES Activation**

Goody, K3NG, and Brian, KB3KLJ summarized the end of June RACES activation due to the flooding in our area:

- Things went reasonably well
- Had a good response from operators
- Able to continuously operate the station at the EOC from about 23:30 on 27 June until 18:03 on 28 June.
- Identified a number of improvements that can be made for future operations.
- Further follow-up is expected.

#### **Future Programs**

- August: Winlink presentation and demonstration by WB3W.
- September: Video on T33 DXpedition compliments of K3PH.
- October: Packaging for High Density Electronics ("Defense Electronics 101") by N3EHY.

Lamar N3AT mentioned a DC40 construction project as a future program. Anyone interested in what it entails can Google "DC40 transceiver."

The meeting adjourned at 21:14 local time.

Following the regular meeting, Mel, N3EHY, and Joel, WB3IWC did a wonderful and well-received presentation on their experience with providing Amateur Radio communications for the Iditarod this year.

*Minutes respectfully submitted by Brian, KB3KLJ.*



### **Swain's Island is Newest DXCC Entity**

(From the ARRL Letter)

A recent addition to the DXCC rules has led to the designation of Swain's Island (KH8) as the 337th DXCC entity. A brief inaugural DXpedition operating under the call sign KH8SI was to get under way soon.

In June, the ARRL DXCC Desk announced the addition of a Paragraph (c) under Section II, DX List Criteria, 1. Political Entities of the DXCC Rules:

"The Entity contains a permanent population, is administered by a local government and is located at least 800 km from its parent. To satisfy the 'permanent population' and 'administered by a local government' criteria of this subsection, an Entity must be listed on either (a) the US Department of State's list of 'Dependencies and Areas of Special Sovereignty' as having a local 'Administrative Center,' or (b) the United Nations' list of 'Non-Self-Governing Territories.'"

The new language effectively reclassified American Samoa as a political entity for DXCC purposes. Subsequently, the DX Advisory Committee and the Awards Committee concurred with a request, accompanied by substantiating evidence, and added Swain's Island to the DXCC List as the first "separation entity" from American Samoa.

"The distance between American Samoa and Swain's Island has been determined to be in excess of 350 km as required by DXCC Rules Section II, Paragraph 2, Section b)," the DXCC Desk said. Contacts made with Swain's Island on or after 0001 UTC on July 22, 2006, will count for DXCC credit.

For more information, including the DXCC Reference Number for Swain's Island, contact the DXCC Desk [dxcc@arrl.org](mailto:dxcc@arrl.org).

**Editor's Note:** By the time you read this, the KH8SI operation will have come and gone. Hope **YOU** worked them! If not, don't worry. There's bound to be another operation someday. There always is. The great days of DX are here! DX Is! Be a Believer!



### **New Emergency Communications Bill Includes Role for Hams**

(From the ARRL Letter)

A bill to enhance emergency communication at the Department of Homeland Security (DHS) includes Amateur Radio operators as part of an overall effort to provide interoperability among responders. The 21st Century Emergency Communications Act of 2006 (HR 5852), an amendment to the Homeland Security Act of 2002, passed the US House this week on a 414-2 vote and has gone to

the Senate. Its sponsor, Rep David G. Reichert (R-WA) — who chairs the Subcommittee on Emergency Preparedness, Science and Technology — says his legislation is designed "to improve the ability of emergency responders to communicate with each other" — interoperability.

"Until the events of September 11, 2001, many people in this nation believed and assumed that first responders from different disciplines and jurisdictions could actually talk to each other," Reichert — a former police officer — told the House in support of his bill. "It wasn't happening. It is still not happening today. Unfortunately, that was not the case then, and, as demonstrated by the inadequate responses to Hurricane Katrina, that is not the case today."

Reichert told his colleagues that the inability of first responders to communicate with each another effectively led to the loss of many lives along the US Gulf Coast last year. "This is simply unacceptable," he said.

His measure also would require the DHS to strengthen its efforts to improve emergency communications. HR 5852 calls for Amateur Radio operators to be part of a "Regional Emergency Communications Coordination Working Group" (RECC Working Group) that would be attached to each regional Department of Homeland Security office. The RECC Working Groups would advise federal and state homeland security officials.

In addition to radio amateurs, membership in the RECC Working Groups would include state and local officials; law enforcement, first responders such as fire departments; 911 centers; hospitals; ambulance services; communications equipment vendors, telephone, wireless satellite, broadband and cable service providers; public utilities; broadcasters; emergency evacuation transit services; state emergency managers, homeland security directors or representatives of state administrative agencies; local emergency managers or homeland security directors, and "other emergency response providers or emergency support providers as deemed appropriate."

Federal government representatives to the RECC Working Groups would include representatives from the DHS "and other federal departments and agencies with responsibility for coordinating

interoperable emergency communications" with state, local, and tribal governments.

According to the bill, the RECC Working Groups would function to assess the survivability, sustainability, and interoperability of local emergency communications systems to meet the goals of the National Emergency Communications Report. That report would recommend how the US could "accelerate the deployment of interoperable emergency communications nationwide."

The RECC Working Groups also would be tasked with ensuring a process to coordinate the establishment of "effective multi-jurisdictional, multi-agency emergency communications networks" that could be brought into play following acts of terrorism, natural disasters and other emergencies.

HR 5852 has been referred to the Senate Committee on Homeland Security and Governmental Affairs.



**FOR SALE:** Mosley TA-33M 3-element tribander, 40-foot American Tower, and HyGain rotator and control box (either Ham II or Ham III, not sure which). Buyer to take down and remove. Contact Mark Petruno, K3MP, k3mp at verizon.net.



### **ARRL Propagation Forecast Bulletin**

Propagation Forecast Bulletin 31 ARLP031  
From Tad Cook, K7RA  
Seattle, WA August 4, 2006  
To all radio amateurs

Last Friday, July 28, a high speed solar wind stream hit earth, and created a geomagnetic disturbance that drove the planetary and mid-latitude A index up to 29 and 26, respectively. This actually began in the early hours of Friday UTC, which was Thursday afternoon and early evening in North America. Both mid-latitude and planetary K index rose to six. If you noticed some periods of

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high absorption, or when the only propagation seemed to occur north to south, that would be why.

Now we are moving slowly toward the fall equinox, and HF radio conditions tend to get better when the hours of light and darkness are equal between the northern and southern hemispheres.

This week we saw the average daily sunspot number rise over five points to 20. We will see little variations like this as the solar cycle declines toward its minimum next year. Solar activity still seems too high to be at the bottom though. A glance at graphs of smoothed sunspot numbers shows we are still experiencing more sunspots than the minimum back in 1996. Check the graph at <http://wm7d.net/hamradio/solar/historical.shtml> on the very bottom of the page, and <http://www.sec.noaa.gov/weekly/pdf/prf1613.pdf> on page 9. Further down on page 9, you can see that the prediction for the smoothed sunspot number for August 2006 is the same as for August of next year, and the minimum is somewhere in between. That means according to this graph, a year from now the new solar cycle will be bouncing back from the minimum, and rising past the point where we are now. The smoothed numbers are averaged over many months (I think this graph uses a moving six-month average) to help us see past the "noise" of daily variations. This graph shows a minimum in January 2007, only five months from now, with a smoothed sunspot number of five.

July is over, so we can look at some monthly averages of sunspot numbers and solar flux.

The average daily sunspot numbers for the months July 2005 through July 2006 were 68.7, 65.6, 39.2, 13, 32.2, 62.6, 26.7, 5.3, 21.3, 55.2, 39.6, 24.4 and 22.6. Average daily solar flux for the same months was 96.5, 92.4, 91.9, 76.6, 86.3, 90.8, 83.4, 76.5, 75.5, 88.9, 80.9, 76.5 and 75.8.

Over the past week I've been playing with the excellent HF radio propagation software, ACE-HF Pro, written by Richard Buckner. ACE is an acronym: Animated Communications Effectiveness, and it was originally written for VLF communication with submarines.

This program is really a treat. ACE-HF Pro is based on software that Buckner wrote for military and commercial clients while at Collins Radio, and it uses the VOACAP engine. He has a new version

2.05 out, which is much more Windows-friendly than earlier versions. With it, you can produce colorful graphs that make it easy to visualize propagation over time and space, and users can even animate the results to produce a movie of signal coverage over time. Unlike other propagation programs I've used, it also makes 160-meter predictions, and attempts to predict sporadic-E skip.

Tomas Hood, NW7US, who writes the monthly Propagation column for CQ Magazine, did some detailed reviews of ACE-HF in the May and July issues. He also has reviews online at <http://hfradio.org/ace-hf/>. Among the interesting and unusual features is the ability to factor antenna radiation patterns into the calculations of propagation paths.

David Mays, W8UI of St. Marys, West Virginia sent some big beacon lists for HF and six meters, put together by G3USF. See them at <http://www.keele.ac.uk/depts/por/28.htm> and <http://www.keele.ac.uk/depts/por/50.htm>. Also, Bruce Brackin, N5SIX of Brandon, Mississippi commented on Larry Godek, W00GH and his wish for a database of 10-meter repeaters searchable by frequency, all across North America, rather than lists sorted by state. This would help him identify the location of 10 meter repeaters when they appear. David recommends getting the ARRL TravelPlus CD, then exporting the data to a CVS file and sorting it in a spreadsheet program.

If you would like to make a comment or have a tip for our readers, email the author at, [k7ra@arrl.net](mailto:k7ra@arrl.net).

For more information concerning radio propagation, see the ARRL Technical Information Service at <http://www.arrl.org/tis/info/propagation.html>. For a detailed explanation of the numbers used in this bulletin, see <http://www.arrl.org/tis/info/k9la-prop.html>. An archive of past propagation bulletins is at <http://www.arrl.org/w1aw/prop/>.

Sunspot numbers for July 27 through August 2 were 23, 17, 19, 23, 25, 11 and 22 with a mean of 20. 10.7 cm flux was 74.4, 72.6, 73, 73.9, 72.4, 72.8, and 72.1, with a mean of 73. Estimated planetary A indices were 9, 29, 5, 5, 12, 12 and 10 with a mean of 11.7. Estimated mid-latitude A indices were 5, 26, 3, 3, 11, 9 and 7, with a mean of 9.1.



## ARRL DX Bulletin

DX Bulletin 33 ARLD033  
From ARRL Headquarters  
Newington CT August 3, 2006  
To all radio amateurs

This week's bulletin was made possible with information provided by HC2GF, WD0AVV, QRZ DX, the OPDX Bulletin, DXNL, 425 DX News, The Daily DX, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

**GHANA, 9G.** Scott, AC3A will be QRV as 9G5SE from Accra from August 5 to 12. Activity will be on 40 to 6 meters.

**CROATIA, 9A.** Peter, HA9MDP and Tamas, HG9MET are QRV as 9A/homecalls from Pasman Island, IOTA EU-170, and possibly others, depending on the weather, until August 13. Activity is on 80 to 2 meters. They will also participate in the Alps Adriatic VHF contest as 9A/HG9VHF from JN73qw. QSL to home calls.

**MOZAMBIQUE, C9.** A group of German and British operators will be QRV as C94KF from Inhacamba Island, IOTA AF-103, from August 5 to 14. They will operate two stations on 40 to 10 meters using CW and SSB. They will be active as either C94RF or C93RF while on the mainland. QSL via G3OCA.

**ECUADOR, HC.** A group of Ecuadorian operators will be QRV as HD4DX from Puerto Lopez on the Manabi coast from August 5 to 13 during the Whale's Festival. Activity will be on 80 to 10 meters using CW, SSB, RTTY, SSTV, PSK and Satellite. QSL direct via EA5KB.

**DOMINICAN REPUBLIC, HI.** Mark, KB2MS is QRV as HI3/KB2MS from Puerto Plata, IOTA NA-096, until August 23. Activity is on all bands except 160 meters. QSL direct to home call.

**REPUBLIC OF KOREA, HL.** Kang, DS4DRE/4 is QRV from Hong Island, IOTA AS-093, until the end of 2006. Activity is on 80 to 10 meters using CW and SSB. QSL to home call.

**ITALY, I.** Members of ARI Ancona will be QRV as IY6GM from Monte Cappuccini from August 5 to 20 in celebration of the 102nd anniversary of Guglielmo Marconi's radio experiments on that site. QSL via I6GFX. Meanwhile, look for special event station I15RW to be QRV August 6 to 14 during Roverway Italia 2006. QSL via I3GJJ.

**BELGIUM, ON.** Special event station ON6BDC will be QRV from August 5 to 8 to commemorate the August 8, 1956 mine disaster at Bois du Cazier in Marcinelle. Activity will be on 40 and 20 meters using SSB from 0700 to 1200z. QSL via bureau.

**DENMARK, OZ.** Jens, DL8WOW will be QRV as OZ/DL8WOW from Bornholm Island, IOTA EU-030, from August 7 to 17. Activity will be on 40 to 10 meters using mainly CW and QRP power at 5 watts. QSL to home call. Meanwhile, Michael, DL3FCG will be QRV as OZ/DL3FCG from Romo Island, IOTA EU-125, from August 5 to 19 using CW and SSB. QSL to home call.

**DODECANESE, SV5.** Giannis, SV5FRI will be QRV from Symi Island from August 6 to 19. Activity will be on 80 to 10 meters using CW and SSB. QSL direct to home call.

**CANADA, VE.** Kevin, WD0AAV will be QRV as WD0AVV/VYO from Iqaluit, Nunavut from August 14 to 18. Activity will be on 40 to 10 meters using primarily CW. QSL to home call.

**CHAGOS ISLAND, VQ9.** Jim, ND9M is QRV as VQ9JC from Diego Garcia for about four months. QSL to home call.

**ROMANIA, YO.** Operators YO3JW, YO8RIJ, YO9GJX, YO9WF and YO9XC are QRV as YP1W from Sacalinu Mare, IOTA EU-183, until August 6. They will also try to be active from a couple of lighthouses signing homecalls/portable. QSL via YO3JW.

**MONTENEGRO, YU.** Toma, YU1AB and Emin, T91S are QRV as YU6/YU1AB and YU6/DK4ES, respectively, until August 10. QSL via YU1AB.

**THIS WEEKEND ON THE RADIO.** The ARRL UHF Contest, TARA "Grid Dip" Shindig, 10-10 International Summer SSB Contest, European HF Championship, North American CW QSO Party,

National Lighthouse-Lightship Weekend, RSGB RoPoCo 2, SARL HF Phone Contest, ARS Spartan CW Sprint and the NAQCC Straight Key/Bug Sprint will certainly keep testers busy this weekend. Please see August QST, page 88 and the ARRL and WA7BNM contest websites for details.



### **The Old Refrain**

By Hugh Cassidy, WA6AUD and Paul Dunphy, VE1DX

One of the Locals was by last week and we sat in the shade of the big oak tree and just talked. Mostly about DXing. Our friend was not especially bubbling with joy.

"Whatever happened to the good old days," this QRPer asked, "the days when every country was new and the bands were open twenty-four hours a day, even ten meters. And two meters was alive and DXers were always there to talk or listen. What happened?"

Maybe it is true, as they say, that the best therapy is talk. We urged this one to tell us more.

"Look at the activity of the local DXers," this Local said, "remember when we used to have big crowds at every Flea Market DX booth, club meeting, and dozens for every DX get together. And on the local DX repeater, where we all hung out, the fights, the arguments and the general chaos, you never were sure what was going on but it sure was fun and exciting. What happened?"

We said nothing, just planning to keep silent and to remember some of those good old days long gone. Like the time that one of the local Big Guns was fuming because the operator of a DX station had become a SK before he had confirmed a certain six-meter QSO. Or when the short lived ZL8 of '91 came up out of the noise of 15 meters for about ten minutes and asked for five stations from each call area. The Big Guns with the monobanders and kilowatts worked him one after another just as he was fading away, never to be heard on the east coast again. And then they came on the DX repeater and said "Heck, that wasn't even a new prefix." We recalled having to take the ropes away from a couple of the QRPer's. We couldn't find lynching in the Amateur's Code, even when one is

scooped for a new one. We even looked in the ARRL operating manual on this one. No ropes. So, we had convinced the QRPer's that another ZL8 would come around again, although maybe not for some time. And one had. They always do.

Or when one or two of us would turn off the two-meter rig over some perceived slight, vowing never to speak of DX again. Only to recant a week later and be back making land line calls to the same ones who had upset us . . . making sure they didn't miss that new one on 10 meters. DXers are forgiving. Sometimes.

Or the time when one or two of the DXers made a comment that some of the Locals were working all the DX on phone, and that true DXers only worked CW. And these comments upset a couple of the QRPer's to the point where they tuned their two-meter rigs off the spotting repeater for up to a month. One of them is still mad about it! The next day he started working CW exclusively and the last we heard, he was approaching Honor Roll on CW. And he still hates the mode. Absolutely. But he is a stubborn QRPer and we have no doubt he won't stop until he has them all worked. He's a happy QRPer. Make no mistake about it. DXing is fun, more so when you are both stubborn and happy.

Then there was the advent of our local Packet Cluster. We recalled there had been a lot of controversy over that. Maybe there still is. The Old Timer and even a few of the newly minted QRPer's swore they'd never have anything to do with packet and computers. Never! This was cheating! And nothing short of it, either. There was no convincing them otherwise. Having a DX station's call and operating frequency pop up on a computer screen? Not in my shack, pal! Even Red-Eyed Louie vowed never to be caught with a computer. Real DXers tuned the bands and found it by themselves. For sure.

We thought back at how they all stuck to their guns, too. Some for a month, the more stubborn ones even for a couple of years. And it wasn't until they started comparing their DXCC totals to those on packet that their dislike of computers began to wane. And, one after another, they all saw the light, became Believers, and joined the Anointed Ones. Some became packet gurus, looking down at their screens with a steely glare, daring anyone to remind them of their recent conversion. From a distance, that is.

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We snapped back to the present and turned our attention to the Local who had asked the questions. This one, an industrious DXer, had turned out to be a good member and a good DXer. He, over the years following, had often been helpful to others. And remembering our own good times from earlier in the century was not doing our visitor any good. "Just what bothers you," we asked to wind him up again, "and what do you think should be done?" It was a good move.

"You know what I think," the Local said and indeed he was right. We had heard the litany recited before but, having said that, the Local was again in his pulpit for another go-round.

"Look at packet radio," the Local started in, "look at what has happened to two meters. Once it would crackle all day and most of the night. Now hardly anyone is to be found there. Right?"

He won our vote. Two meters is not what it used to be and with packet radio one can check a whole day's action in a few minutes and even without having to listen on the bands. Or even two meters for that matter.

"And the meetings and DX repeater and going to lunch after the flea markets," the Local continued after drawing a deep breath, "they are not what they used to be. Back in the good old days, things were fun and most of us DXers would come early and stay late. And remember the night that Don Miller was there with that other fellow, remember the crowd that night and the almost non-stop cheering that rattled downtown San Mateo. Remember?"

Of course we remembered. Those were good old days but the good old days are gone and no new ones are left. Maybe it gets like some fellows tell of WWII and the good times they had in the service. Like the fellow in the club who says that after the war in Europe ended the Air Force lost him for four months in Paris. He only surfaced when his name came up on shipping orders to go home. Often these stories get better with the years.

There always seems to be someone around who says he found the good times even at the bottom of Maunder Minimum II. But before we had to run that route again, the Old Timer came up the hill on his way home and stopped by for a few minutes.

Our Local set out to enlist the Old Timer in his cause. It was a good pitch. We could see that the Old Timer was listening. Finally the Local asked the Old Timer just what he thought might have happened.

The Old Timer thought a bit, stood up preparing to leave and only said, "They don't sing the old songs anymore." And he was gone.

For a while there was a bit of silence. Then the Local asked, "What was that supposed to mean?"

What could we say? We knew what the Old Timer was saying. Always somewhere there is a band playing "Roses of Picardy." Some hear it and understand. Others hear it and do not understand. And they have to ask why.

Why?

### **Carbon Amateur Radio Club – 2004-2005 Officers**

President: Anthony "Goody" Good, K3NG, [goody@grpis.org](mailto:goody@grpis.org)  
Vice President: Rob Roomberg, KB3BYT, [roomberg@ptd.net](mailto:roomberg@ptd.net)  
Secretary: Brian Eckert, KB3KLJ, [kb3klj@ptd.net](mailto:kb3klj@ptd.net)  
Treasurer: John Schreibermaier, W3MF, [w3mf@ptd.net](mailto:w3mf@ptd.net)  
W3HA Callsign Trustee: Lamar Derk, N3AT, [n3at8z30@netscape.com](mailto:n3at8z30@netscape.com)  
W3HA Repeater Trustee: Bob Wiseman, WB3W, [rwiseman@ptd.net](mailto:rwiseman@ptd.net)  
Associate Repeater Trustee: Anthony "Goody" Good, K3NG, [goody@grpis.org](mailto:goody@grpis.org)  
Public Information Officer: Lisa Kelley, [ldkelley@voicenet.com](mailto:ldkelley@voicenet.com)  
Emcomm Coordinator: Brian Eckert, KB3KLJ, [kb3klj@ptd.net](mailto:kb3klj@ptd.net)

### **Directors**

Eric Bott, N3TVV, [etb75@hotmail.com](mailto:etb75@hotmail.com), Bill Kelley, KA3UKL,  
[ldkelley@voicenet.com](mailto:ldkelley@voicenet.com), Bob Wiseman, WB3W, [rwiseman@ptd.net](mailto:rwiseman@ptd.net)

### **ARES/RACES Committee**

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

### **Services**

W3HA Repeater: 147.255 MHz + PL 131.8

CARC Website: <http://carc.wb3w.net>, Webmaster: Bob Wiseman, WB3W,  
[rwiseman@ptd.net](mailto:rwiseman@ptd.net)

CARC Email Reflector: <http://mailman.qth.net/mailman/listinfo/carbonarc>

Education Services: <http://www.learnmorsecode.com/cgi-bin/carcnitesurvey.pl>  
Contact: Rob Roomberg, KB3BYT, [roomberg@ptd.net](mailto:roomberg@ptd.net)

Emergency Power Equipment Trustees: Lisa and Bill Kelley, KA3UJKL,  
[ldkelley@voicenet.com](mailto: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 21:00 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  
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