



# The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

July 2005

## July Meeting

The next regular meeting of the Carbon Amateur Radio Club will be on Thursday, July 21, at 7:30 p.m. at the Emergency Operations Center in Nesquehoning.

George Wieland, N3SQD, presented a program to CARC several months ago on the subject, "Choosing, Using, and Abusing Batteries." Members who attended the meeting learned a lot. He has since developed another interesting program, "The Linear Regulated Power Supply" which he will present at this month's meeting. His talk will include "Replacing or Making Your Own 12 VDC Wall Warts," and a lot more information about "wall warts." Don't miss it!

See you at the meeting!



## W3HA Field Day 2005

Rumor has it that a whole bunch of Carbon Amateur Radio Club members descended on the Bott Building in Jim Thorpe on the fourth full weekend in June to operate Field Day. This year, the club operated in the 2A class using emergency power with a VHF station and a GOTA (Get On The Air) station.

Here are the gory sadistics:

	CW QSOs	Phone QSOs
80 meters	147	16
40 meters	163	157
20 meters	83	70
6 meters	0	34
GOTA	0	105
<b>Total QSOs</b>	<b>393</b>	<b>382</b>

At two QSO points per CW QSO, one point per phone QSO, plus a power multiplier of 2, our raw score is 2336 points. We expect 1160 bonus points, for a grand total of 3496 points.

Bonus points are being claimed for the following:

Emergency power for two transmitters	200
Media publicity	100
Public location	100
Public information table	100
Message to Section Manager	100
Additional NTS message	10
W1AW Field Day message	100
Site visited by elected official	100
GOTA station over 100 QSOs	100
APRS demo	100
SSCTV demo	100
Electronic summary submission	50

Great job by everyone involved! And, a special thanks to Eric, N3TVV, and family for providing this year's CARC Field Day site!



## Carbon Amateur Radio Club Regular Meeting Minutes June 16, 2005

Meeting was called to order by Goody, K3NG, at 19:36 local time.

In attendance were: KB3LFD, N3TVV, K3QG, N3AT, W3EFI, KB3KLJ, K3NG, KB3GPM, KB3FSU, KO3M, N3HYB, KB3BYT, K3PH, W3MF, WA3IEM, KB3LYS, and WB3W (17 in all).

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

**Treasurer's Report**

Previous Balance (5/21/05)	\$1,077.94
Receipts (dues)	\$65.00
Sub-total	\$1,142.94
Disbursements (newsletter)	-\$4.81
<b>New Balance</b>	<b>\$1,138.13</b>

Motion to accept the treasurers report was made, duly seconded, and carried unanimously.

The minutes of the 5/20/05 meeting were read by Goody, K3NG, and were approved by an affirmative vote.

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**Old Business**

Lamar, N3AT, indicated the George, N3SQD, will definitely be coming to the July 21st meeting to give a program on building your own power supplies.

Goody, K3NG, asked for program ideas for the August and September meetings. Ideas shared where:

- QSLing
- Goody's code practice transmitter
- Test equipment
- Building a SW receiver for 40m CW – We can build them and give them to kids interested in Ham radio (we can schedule and do as soon as Rob, KB3BYT, has a circuit board printed)

A determination for the programs will be made at the July meeting.

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**New Business**

**General Discussion**

Lamar, N3AT, mentioned that *AMQRP Homebrewer* magazine may be of interest to members and it is now available on CDROM.

Goody, K3NG, announced that the club call sign (W3HA) trustee was transferred to Lamar, N3AT.

Rob, KB3BYT, announced that he has an extra General class license manual if there was anyone interested in upgrading to General.

Rob, KB3BYT, mentioned that he has a new book on making your own vacuum tubes, if anyone was

interested in the subject.

**Field Day**

Bob, WB3W, took the floor to go over the status and logistics for Field Day.

We need to finalize operators and times, food, and equipment.

Bob, WB3W, passed out schedules and lists for people to commit to the remaining needs.

Goody, K3NG, indicated that we want to run a small generator. Bob, K3QG, said he had a portable Honda generator rated at 2000W. Goody, K3NG, discussed running Bill's, KA3UKL, army generator during the day and Bob's, K3QG, during the night because of noise to the neighbors. There will be a need to secure the generator with a lock and chain.

Kent, WA3IEM, and Doug, KB3LFD, have worked on a hatch cover for the roof, and have a 40ft telescoping mast to put there (will probably only need 20ft of it).

Rob, KB3BYT, said that a 40m Carolina Windom antenna was donated to the club. We won't plan to use it this year because of the current logistics.

Lamar, N3AT, donated a 10A power supply to the club.

Kent, WA3IEM, will bring an electric grill, hotdogs, and rolls.

Those doing setup will meet at the Bott Building at 18:00 local time (pizza and soda will be delivered).

The meeting adjourned at 20:30 local time, and was followed by a presentation and familiarization with the equipment that would be in use on Field Day.

*Minutes respectfully submitted by Brian, KB3KLJ.*



**Ten-Tec Co-founder Al Kahn, K4FW, SK**  
(From the ARRL Letter)

Albert R. "Al" Kahn, K4FW, of Cassopolis, Michigan, died June 15. He was 98. An ARRL member, Kahn — with Jack Burchfield, K4JU, co-founded Ten-Tec following his retirement from Electro-Voice (E-V), which he'd also founded and

served as president. Kahn continued his regular CW schedules until just a few days before he died.

"It's a sad day, but few of us will leave the sort of footprints that Al did during his long and productive life," remarked ARRL CEO David Sumner, K1ZZ. Ten-Tec, on its Web site, acknowledged Kahn's passing "with the deepest regret." Kahn had remained a member of Ten-Tec's Board of Directors.

Kahn's daughter Carol Bieneman says that radio and sound communication fascinated her father from childhood. "At age 12 he joined a Boy Scout troop and was sent home with a radio to repair," she recounts. "This was the start of his lifelong passion for radio."

Born in LaSalle, Illinois, Kahn moved as a child to South Bend, Indiana. He became licensed there in 1921 as 9BBI and later held W8DUS in Michigan. As Burchfield tells it, Kahn (with Lou Burroughs, a local machinist) in 1927 started a radio service shop in South Bend. Legendary Notre Dame football coach Knute Rockne needed a public address system to amplify his voice during practice sessions, and he came to Kahn for help.

Most microphones of the day were carbon-button types, but Kahn constructed a superior velocity — or ribbon — microphone and put together a PA system that Rockne called his "electric voice." In 1930, Kahn and Burroughs adopted the name Electro-Voice for the business and began making velocity microphones, which they also supplied to the military during World War II. During the war, Kahn invented and patented a noise-canceling microphone and marketed it successfully to the military. The design is still in use.

E-V added "high-fidelity" equipment and speakers to its product line, and, in 1960, the company built two plants in Tennessee and shifted operations there from the Midwest. Kahn was president of E-V until 1969 when it merged with Gulton Industries. After departing E-V, Kahn and Burchfield founded equipment manufacturer Ten-Tec, now in its 37th year of manufacturing HF radio equipment for Amateur Radio, commercial, and military applications.

Kahn accumulated many honors over his more than eight decades as a radio amateur and industry figure. He was inducted into the CQ Amateur Radio

Hall of Fame and was a member of the First-Class CW Operators Club (FOC), the Old Old Timer's Club, the Quarter Century Wireless Association (QCWA), and the A-1 Operator Club. In 2002, the QCWA honored Kahn on his 80th anniversary as an amateur licensee. He also received an Army/Navy "E" Award in 1945 for supplying the War Department with thousands of microphones during World War II. The Boy Scouts of America presented Kahn with its Silver Beaver Award for staffing Amateur Radio stations at international scout jamborees.

A memorial service for Al Kahn is set for Saturday, July 16, at the Diamond Cove Missionary Church, 22541 Diamond Cove Road, Cassopolis, Michigan. Visitation will be from 2 PM until 4 PM at the church, followed immediately by the memorial service at 4 PM.

Memorial contributions are invited to Cass County Hospice, 310 East Sherwood St, Decatur, MI 49045 or to the Michiana Amateur Radio Club, c/o Noel Kindt, W9EFL, 90888 Bluff Dr, Marcellus, MI 49067. — Some information from the N9VV Ten-Tec History Web page



### **Ham-Astronaut Testifies Before Congress From Space**

(From the ARRL Letter)

NASA International Space Station Science Officer John Phillips, KE5DRY, made history June 14 by becoming the first person to testify before Congress while in orbit. The Expedition 11 flight engineer appeared via satellite before the House Science Committee's Subcommittee on Space and Aeronautics, chaired by Rep Ken Calvert (R-CA). Phillips answered questions from subcommittee members about what it's like to live and work in space, focusing on the space station's role in preparing humans for longer-duration missions outlined in NASA's Vision for Space Exploration.

"We constantly learn new lessons up here," Phillips said, while traveling through space at five miles per second. "The experiences we gather will enable us to establish a long-term station on the moon and to go on to Mars."

Two other astronauts, Peggy Whitson, KC5ZTD — who served on the ISS Expedition 5 crew in 2002, and Expedition 9 crew member Mike Fincke, KE5AIT, testified in person before the subcommittee.

For most of the lawmakers, their interview of Phillips marked their first opportunity to speak directly with a space traveler on orbit. In response to members' questions, Phillips talked about the tremendous view from 220 miles up, floated around the ISS and talked about the hard work he's doing.

"The most important thing up here is that we \*are\* the experiment; we are learning how to fly in space," Phillips told the subcommittee.

For more information about the ISS, visit the NASA Space Station Web site [http://www.nasa.gov/mission\\_pages/station/main/index.html](http://www.nasa.gov/mission_pages/station/main/index.html). — NASA



## ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 27 ARLP027  
From Tad Cook, K7RA  
Seattle, WA July 1, 2005  
To all radio amateurs

Last weekend's Field Day exercise had better propagation than predicted. For several weeks, active geomagnetic conditions were forecast for June 25-26. But by late Friday afternoon in North America that prediction had moderated somewhat. Solar wind arrived early, causing a geomagnetic storm on Thursday, June 23. The planetary K index shot up to 7, and planetary A index for that day was 48. Mid-latitude A index was 30. Activity declined, and there were no visible sunspots for several days. Mid-latitude A index for Saturday and Sunday, June 25-26 was 9 and 6 respectively.

Fifteen meters performed much better than expected, at least as observed from the Pacific Northwest. The K7RA Field Day operation was very modest, operating Class C (Mobile) from a hilltop spot just north of Seattle at a former missile site. Operation was on SSB and CW on 15 and 20 meters, and for just a few hours late Saturday afternoon West Coast time. Fifteen had

surprisingly good propagation to the Southeast United States, with many stations contacted in Florida, Georgia, and Tennessee.

Dan Eskenazi, K7SS reported that six meters opened from the Seattle area to the southwest U.S. just before Field Day's end on Sunday. He was working stations in a swath from San Diego to Tucson, and also found 10 meters active with sporadic-E skip.

Emory Gordy, W4WRO reported that the Silver Comet Amateur Radio Society operating in North Georgia observed unusual propagation. They only worked four stations on 15 meters, with 20 meters being the productive band. 80 meter activity was the best he'd heard in years. They worked the West Coast quite easily, but didn't hear much from Texas, Arizona, Utah, the Midwest, and worked very few stations in Florida or Tennessee, and not one station in Kentucky.

Yesterday was the end of the second quarter of 2005, so let's look at some quarterly averages to examine any trends.

From the first quarter of 2003 through the second quarter of 2005, the average daily sunspot numbers were 120.3, 107.3, 110.2, 99.2, 72.9, 71.3, 69.3, 61, 46.1 and 55.7.

The average daily solar flux for the same period was 134.3, 124.2, 120.8, 137.4, 111.1, 99.5, 111, 104.8, 96.4 and 93.1.

Sunspot counts dropped during the first quarter of this year, but recovered by nearly ten points during the second quarter. So the declining solar cycle is a general trend, but there is still a lot of variation. Solar flux dropped a few points over the same period. This cycle is still expected to hit bottom around the end of 2006.

For the next few days, a solar wind stream should keep geomagnetic activity higher. Predicted planetary A index for Friday through Monday, July 1-4 is 20, 20, 15 and 15. Solar flux should rise over the next few days, peaking around 115 from July 5-7.

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

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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 June 23 through 29 were 19, 14, 12, 0, 11, 20 and 57 with a mean of 19. 10.7 cm flux was 77.5, 76.7, 76.7, 78.7, 77.4, 80 and 88.9, with a mean of 79.4. Estimated planetary A indices were 48, 17, 11, 8, 4, 5 and 6 with a mean of 14.1. Estimated mid-latitude A indices were 30, 7, 9, 6, 3, 3 and 4, with a mean of 8.9.



### ARRL DX Bulletin

DX Bulletin 26 ARLD026  
From ARRL Headquarters  
Newington CT June 30, 2005  
To all radio amateurs

This week's bulletin was made possible with information provided by HA3JB, the OPDX Bulletin, The Daily DX, 425DXnews, DXNL, WA7BNM and Contest Corral from QST. Thanks to all.

**ALGERIA, 7X.** 7W1ASF has been QRV on 20 meters SSB between 1530 and 1900z. QSL via 7X2DD.

**ST. PAUL ISLAND, CY9.** The CY9SS DXpedition is QRV until July 7. Activity is on all bands, including 6 and 2 meters, using CW, SSB, WSJT-MS and EME. QSL direct to VY2SS.

**GERMANY, DL.** Andy, DL7AT will be QRV from Foehr Island, IOTA EU-042, from July 3 to 9. Activity will be on 40 and 20 meters. QSL to home call.

**ITALY, I.** Alfredo, IK7JWX and other amateurs will be QRV as IR7LH/p from Sant' Andrea Island from a couple of lighthouses, with ARLHS numbers ITA-187 and ITA-266 from July 2 to 3. QSL to home call.

**DJIBOUTI, J2.** Vlad, UA4WHX is QRV as J20VB and has been active on 40 and 20 meters using CW. QSL to home call.

**JAPAN, JA.** JN6CJR/8 plans to be QRV from Rishiri Island, IOTA AS-147, from July 6 to 7. QSL to home call.

**LEBANON, OD.** Naim, OD5LN has been QRV on 80 meters between 1945 and 2015z. QSL via operator's instructions.

**SURINAME, PZ.** Bob, N3CXM and Carroll, KG4EHW are QRV as PZ5JR and PZ5CM, respectively, until around July 18. They are active in their spare time. QSL both calls via K3BYV.

**POLAND, SP.** Special event station SN125LO is QRV until July 20 in celebration of Sanok, the "High School Number One's" 125 years of operation. QSL via SP8PAB.

**EGYPT, SU.** Gab, HA3JB will be QRV as SU8BHI from July 1 to December 31. Activity will be on all bands using CW, RTTY, SSTV, PSK and some SSB. He will also participate in all the major upcoming contests. QSL direct to home call.

**TURKEY, TA.** Metin, TA1ED and Nuri, TA3BN are QRV as homecalls/0 from Giresun Island, IOTA AS-154, until July 4. Activity is on all HF bands plus 2 meters, with one station using CW and the other SSB. QSL to home calls.

**GABON, TR.** Alain, TR8CA has been QRV on 80 meters around 0330z. QSL via operator's instructions.

**KALININGRAD, UA2.** Members of the RU-QRP Club are QRV as special event station UE3QRP/2 until July 8. QSL via RU2FM.

**BELIZE, V3.** KU5B will be QRV as V31UB from July 4 to 10. Activity will be on 80 to 10 meters, and possibly 6 meters, using CW and SSB. He plans to be active in the IARU contest. QSL to home call.

**SYRIA, YK.** Saad, N5FF will be QRV as YK1BA from July 2 to 16. This is not a DXpedition, so his operating time will be limited. He plans to be active mainly on 20 meters, but on 80 to 10 meters as

well, depending on propagation, using CW, SSB and RTTY. QSL to home call.

**SOUTH COOK ISLANDS, ZK1.** Tommy, VK2IR will be QRV as ZK1IIR from Rarotonga, IOTA OC-013, from July 3 to 14. Activity will be on 40 to 6 meters using SSB. QSL via W3HMK.

**THIS WEEKEND ON THE RADIO.** The RAC Canada Day Contest, NCCC Thursday CW Sprint, Venezuelan Independence Day Contest, WLOTA Contest, DL-DX RTTY Contest, Original QRP Contest, DARC 10-Meter Digital Contest and the MI QRP July 4th CW Sprint will certainly keep contesters busy this weekend. Please see July QST, page 104 and the ARRL and WA7BNM contest websites for details.



### **CQ Contest**

By Paul Dunphy, VE1DX

One of the Local QRPers was by the other day and had a concern about QSLs. "You know," he began, "I read on the Internet that most of those Big Gun contest stations don't QSL. I've been waiting for the contest season to pick off a few new ones. Now I don't know what to do. Is it true that contesters are not good QSLers?"

Although we were not equipped for the Internet, and had no intention of doing so, we usually knew what was being said. Even us traditional DXers have our high tech sources. Absolutely. We had heard that this topic had come up in one of the more high profile discussion groups. And while this may have been a new topic on the Internet, it had been around since the Early Days of DXing. "What exactly are they saying?" we asked the QRPer, putting forth an innocent face.

"Well," he replied, "one of the more vocal types told a newcomer that, with few exceptions, there wasn't any point in working contest stations for new ones because you'll never get a QSL. He said they almost never do. And then a number of the Big Guns jumped on him and said that this wasn't so. They said contesters were great QSLers and were bragging about how many cards they'd gotten from contest stations. They said contesters were better QSLers than regular DX stations."

We looked at the QRPer for a moment, and then replied, "It sounds like the one who started all this was one of the Legion of Hand Wringers. One of the malcontents who was just trying to stir things up. And if the Big Guns are all saying that you'll get cards, you have nothing to worry about because they've been around the track long enough to know." The QRPer was still not satisfied: "That's what I thought at first," he sighed, "but then I got a little suspicious because all these guys were sticking up for contesters. So I dug out my QST and CQ magazines for the last couple of years. I looked up the calls of these guys and, sure enough, they were all contesters! And I think they are just on the defensive . . . maybe the guy who said they didn't QSL was right. What do you think?"

At this point we decided we needed a second opinion. So we hauled the QRPer up the hill to see the Old Timer. The Old Timer listened to the story without saying a word, then asked a question: "This one who said that contesters are poor QSLers. Was he listed in the contest results too?" The QRPer looked a bit confused, then replied slowly; "I don't think so. I never looked at the calls once I got below the top 20-25 scores. If he was, he wasn't in with the high profile types, that's for sure." The Old Timer thought this over for a moment and then said, "Is he a DXer? Do you see him DXCC listings?" The QRPer was quick to answer, "Yes, of course! He's a top notch DXer. He always shows up in the pileups, he's listed every year in QST and I see a lot of spots from him on the DX cluster."

The Old Timer was silent for a few moments, then he began to speak, "Son, there are DXers and there are contesters. Some operators are both. DXers need contesters to go to spots that aren't very active. They need them to activate countries with big signals on the low bands. They need them to fill in band countries and to be active on all modes. Isn't this a fact?" The QRPer nodded. "Did you ever think that contesters need DXers just as much?" The QRPer looked puzzled and shrugged, "No, not really. Why would that be?"

The Old Timer looked intently at the QRPer and said, "Once the contesters all work each other, in the first hour or two of the contest, who are they going to work then?" The QRPer thought for a minute, then replied, "DXers, I suppose. There will be a few traffic types that will give them a QSO, but for the most part it will be DXers. After all, aren't

they the ones with the biggest antennas, the best rigs and the most power? I guess contesters pretty much depend on DXers to give them the points and multipliers, right?"

The Old Timer nodded and then asked: "And how many true-blue DXers do you suppose would bother to work anyone who wouldn't QSL? Someone who wouldn't confirm the QSOs . . . would they pick up a lot of points and multipliers?" This time the QRPer was seeing the light: "Of course not. It's a two way street! Why I bet all the Big Gun DXers know which ones will and will not QSL. Maybe they even keep a list and pass it on to their fellow DXers! I bet they do. And I bet it would be fair to say that the contest scores listed in the magazines are proportional to the number of QSLs sent out for the previous contests. Why, it's as plain as day once you figure it out. The only way to win a contest is to send out QSLs to everyone! This has to be one of the most important Eternal Enigmas of DXing!"

With that, he was off down the hill, prepared to hunt for those calling "CQ contest, CQ contest" from distant lands beyond the horizon. We looked over at the Old Timer for a moment and then asked: "Why does it take them so long to understand? Why does everything have to be black or white, on or off, yes or no? Why can't they understand that there are gray areas in this world of DX . . . and that questions like that one cannot always be answered?"

The Old Timer was quick to reply: "Computers. It's all those computers. While they may consider themselves DXers or contesters, maybe even both, they don't understand the difference between analog and digital. With computers, everything is digital. It's either true or false . . . represented by bits set to zero or one. These newly minted DXers buy the most powerful computer they can afford, get an Internet account and read all the DX information they can. They think digital. But do they tune the bands? Do they dig the weak signals out of the QRN at 3:00 AM like we used to? They are not true-blue DXers. They are digital DXers. They think in binary terms! And as you well know, to become one of the Deserving, you have to believe! You have to understand that the Mysteries of the Ages and the Eternal Enigmas of DXing are not found on a Web Site . . . they are learned by experience. And while some DXers learn them

faster than others, none have learned them on a computer."

We thought about what the Old Timer had said and then replied: "You're right. And it seems that even true-blue DXers are prone to lose their understanding of such things. It's become more and more evident that some who were once true-blue DXers, those who have achieved the 'DX moment,' have regressed. Why even some Honor Roll types are never found on the bands . . . they seem to have become the gurus of the Internet. Have you noticed that?"

The Old Timer nodded his head, then said: "Yes, but is that a bad thing? Maybe it's just natural selection doing its job. The same way lists and nets have proven to help the true-blue DXer. Remember, the solar cycle is returning. Those who have remained true-blue will work the DX . . . and the contest stations. Those that stare at their computer screens won't be in the pileups! They won't be prepared! They'll be too busy arguing over which modem is the best, or who has the best logging program. And don't tell them otherwise! They wouldn't listen anyway, but don't chance it. Leave them on the Internet. The Great Days of DXing are at hand. Bring on the DX! DX IS!"



### **Helpful Hints**

Save money on doorbell batteries by removing them and simply popping to the door every two minutes to see if anyone is there.



### **Shallow Thoughts**

Why is it tennis if it is played by only two or four people?

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

President: Anthony "Goody" Good, K3NG, [goody@fast.net](mailto:goody@fast.net)  
Vice President: Rob Roomberg, KB3BYT, [roomberg@ptd.net](mailto:roomberg@ptd.net)  
Secretary: Brian Eckert, KB3KLJ, [eckertb@ptd.net](mailto:eckertb@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, [wiseman@ptd.net](mailto:wiseman@ptd.net)  
Associate Repeater Trustee: Anthony "Goody" Good, K3NG, [goody@fast.net](mailto:goody@fast.net)  
Public Information Officer: Lisa Kelley, [ldkelley@voicenet.com](mailto:ldkelley@voicenet.com)  
Emcomm Coordinator: Bruce Fritz, KB3DZN, [bruce56@ptd.net](mailto:bruce56@ptd.net)

### **Directors**

Bob Culp, KB3IDV, Bill Kelley, KA3UKL, [ldkelley@voicenet.com](mailto:ldkelley@voicenet.com), Bob Wiseman, WB3W, [twiseman@ptd.net](mailto:twiseman@ptd.net)

### **ARES/RACES Committee**

Bruce Fritz, KB3DZN (DC), [bruce56@ptd.net](mailto:bruce56@ptd.net), Darryl Gibson, N2DIY, [n2diy@iosch.net](mailto:n2diy@iosch.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, [twiseman@ptd.net](mailto:twiseman@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, KA3UKL, [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  
c/o Bob Schreibermaier K3PH  
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Kresgeville, PA 18333-0166