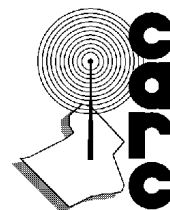




The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

May 2003

May Meeting

The next regular meeting of the Carbon Amateur Radio Club will be held on Thursday, May 15, at 7:30 p.m. at the EOC in Nesquehoning. See you at the meeting!



Treasurer's Report

By John, W3MF

Previous Balance	1241.51
Receipts (dues)	15.00
Subtotal	1256.51
Disbursements (newsletter mailing and P. O. Box)	23.81
Final Total	1232.70



What to Expect at the Sunspot Minimum

By Larry, N3CR

10m - Lots of open bandspace. No 10m FM or AM to speak of. DX openings between 11 am and 1 pm with weak signals unless you have a lot of antenna and power so they can hear you. At that time many were limited to 200 watts below 28.5 MHz. The band was dead after 5 pm on phone with only CW stations heard until about 7:30 pm.

20m - Overloaded with stations from 9 am local until after 7 pm. DX stations with big antennas or quads until 6 pm with moderate signals. Other DX stations medium power heard until about 4 pm. After that, lots of Texas and California big power - big antennas heard and, of course, that JH1 station with 20 elements and a KW.

17m - much like 20m and 15m. DX comes in about 10 am until about 3 pm with moderate signals and the bands go into a frenzy, especially 15m. Only F2 and sporadic E skip will improve conditions and then you can watch the conditions change from East to West. Stations in the favored area are the ones working the DX unless you have the ideal QTH. Again, lots of TX and CO and CA and FLA heard. The band fills in as conditions improve.

30m - This band is a popular choice much like 40m. When the band opens, lots of stations all over heard. DX heard early morning and 6 pm until ?? Here again the antenna and QTH make the QSO. Occasional surprises after dark when the other bands are shot. Generally, when 20m goes short, 30m and 40m are the ones to look for and peek at 80m also.

These would come under the heading NORMAL CONDITIONS. As you know, we always have to throw in some solar geomagnetic activity, which wipes out all the bands except for some activity on 30m and 40m. Those two bands survive some of the worst condition albeit short skip out to 500 miles. Throw in summer noise and you have to really dig for signals. Toss in the long winter nights and you never know what surprises you will find out there during quiet nights. The seasonal propagation always plays into conditions. Evening conditions can shorten any band openings long or short. 10m dies first, 15m next, 17 m after that, etc. The low bands are the only ones showing any amount of activity after dark, often short skip to 300 miles but signals can still hold up remarkably well. As one old timer once told me (K3II) many years ago - go for the maximum antenna and the longest. I have always found that the European stations heard first and last were all running some form of quad or delta antenna. That is why even with my poor QTH when I can raise a delta or quad for any particular band - it goes up - if only for a day and I make contacts with 160 watts. Keep in mind even a single element is two ways directional which

gives more gain over a dipole. Add a second element and you begin to see new stations appear with the new capture angle and forward ERP. A driven element and reflector are preferred choices. If you can put up a dipole, you likely have the real estate for a single quad or delta. de Larry N3CR



ARES/RACES

By Goody, K3NG

I'm pleased to announce that we have created an ARES/RACES Committee within the club to lead ARES/RACES preparedness, communications, and activities. This committee consists of Bruce Fritz, KB3DZN, Darryl Gibson, N2DIY, and Todd Deem, KB3IKX. Bruce will continue as EC. Darryl brings to the group previous ARES/RACES experience from his old stomping grounds in New Jersey. Todd is involved in several public safety and county organizations and can provide an interface and insight into these organizations.

With this new committee, I'm confident that we can look forward to increased formalization of our ARES/RACES program and increased training and know-how leading to better emergency preparedness. Please join me in welcoming this new committee and lend them your support.



"Broadband over Power Line" Poses HF Interference Threat

(From the ARRL Letter)

The FCC soon will invite public comment on the concept of using existing electrical power lines to deliver Internet and broadband service to homes and offices. The Commission initiated a Notice of Inquiry (NOI) in ET Docket 03-104 when it met April 23. What the FCC calls "Broadband over Power Line" (BPL) is a form of carrier-current technology typically known as power line communication (PLC). Whatever its name, the technology is raising serious interference concerns within the Amateur Radio community, since BPL would apply high-frequency RF to parts of the power grid. One aspect of the NOI is to gather information on

potential interference effects on authorized spectrum users.

"Entire communities will be affected, so every amateur in that community could have part of the radiating system 'next door' on the power wiring of his or her street," cautioned ARRL Lab Supervisor Ed Hare, W1RFI. Hare chairs the PLC Work Group of the IEEE C63 Accredited Standards Committee on Electromagnetic Compatibility <<http://c63.ieee.org/>>.

The complete NOI has not yet been released, and until that happens, the FCC will not formally accept comments in the proceeding. The ARRL will be among those expected to submit detailed comments in ET 03-104.

So-called "access BPL" would use medium-voltage (1 kV to 40 kV) power lines to deliver Internet and broadband applications. Hare says access BPL is likely to be a more significant interference source than in-building PLC technology "because overhead electrical wiring is a much better antenna than the electrical wiring within a building."

ARRL CEO David Sumner, K1ZZ, editorialized on the subject of PLC in "It Seems to Us . . ." in the October issue of 2002 QST. "Is it possible to do power line communications without causing interference to over-the-air communications?" Sumner asked. "Count us among the skeptics. What may be a fine transmission line at 60 Hz looks more like an antenna at HF." Hare said his own computer analyses of interference potential from access BPL/PLC suggest "a significant increase in noise levels" from deployed systems.

The FCC appears enthusiastic about BPL, however, saying it has the potential to "provide consumers with the freedom to access broadband services from any room in the house without adding or paying for additional connections." The Commission also touted BPL as "a competitive alternative to digital subscriber line and cable modem services."

New digital power line designs use multiple carriers spread over a wide frequency range — from 2 MHz up to 80 MHz — and capable of high data rates — up to 20 MB/s, the FCC said.

In addition to viewpoints on interference potential, the FCC also has requested comments on the

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current state of high-speed BPL technology, test results from BPL experimental sites, appropriate measurement procedure for testing emission characteristics for all types of carrier-current systems, changes that may be needed in Part 15 technical rules, and the equipment approval process to foster the development of BPL.

Tests of BPL are under way in several states, including Alabama, Maryland, Missouri, New York, Ohio, Pennsylvania and Virginia. Hare says ARRL Lab personnel will visit some of the test cities this spring to take field measurements to quantify the potential for interference to Amateur Radio operations.

BPL/PLC technology already has been deployed in some European countries, and amateurs there have complained about interference. Japan — responding in part to concerns expressed by its amateur community — decided last year not to adopt the technology because of its interference potential.



Hams Abound on UN World Food Program's Iraq "Fast Intervention Team"

(From ARRL Letter)

Several radio amateurs — including some of the world's top operators — are among United Nations World Food Program (WFP) "Fast Intervention Team" (FITTEST) personnel already in Iraq or poised nearby and expected to be inside the war-ravaged country very soon. FITTEST is responsible for building technical infrastructure to ensure WFP can move relief food supplies rapidly and safely. Any ham radio operations would be secondary to the WFP's efforts in Iraq, however.

Peter Casier, ON6TT — who's expected in Baghdad as early as next week — says the WFP will have a critical role in the post-conflict era in Iraq "where 60 percent of the population is dependent on external food aid." In ham radio circles, Casier may be better-known as a top contester and one the operators of Afghanistan's YA5T after the US-led military action there in 2001.

Other YA5T alumni expected to soon be in Iraq as part of the WFP effort include Robert Kasca, S53R

— the last UN international staff person evacuated from Iraq before the conflict — Mark Demeuleneere, ON4WW, and Mats Persson, SM7PKK. Casier and Demeuleneere paired up at World Radiosport Team Championship (WRTC) events in 2000 and 2002. Kasca was director of competition for WRTC 2000. Casier says he, Kasca and Dane Novarlic, S57CQ, were on the air from Iraq until just before the war broke out.

Casier reports that Diya Sayah, YI1DZ — one of the primary operators at the Baghdad Radio Club's YI1BGD and the WFP's Baghdad telecommunications officer — is safe and well in Iraq.

FITTEST also has a mandate to install or build basic technical networks, Casier said, including such systems as VHF repeaters, satellite communications and HF fixed and mobile stations. The team also will set up radio rooms, rework administrative procedures, and assign call signs for all UN humanitarian-aid workers and non-governmental organizations (NGOs) — other international aid organizations.

Others ready to go include Ed Giorgadze, 4L4FN, who's in Turkey. Until last November Giorgadze had operated from North Korea as P5/4L4FN while on a WFP assignment in Pyongyang. Patrick Pointu, F5ORF, and Mark Tell, VK4KMT, among several other FITTEST team members who are radio amateurs.

The Daily DX <<http://www.dailydx.com>> reported this week that Willie Mohney, YI/KV4EB, has been operating daily on 15 meters at or around 21.270 MHz, moving to 20 meters — perhaps around 14.255.



Hamvention Announces 2003 Award Winners

(From the ARRL Letter)

Hamvention has named the winners of its 2003 Amateur of the Year, Special Achievement and Technical Excellence awards. Well-known contester Larry "Tree" Tyree, N6TR, will receive Hamvention's 2003 Amateur of the Year Award. Tyree is the creator, organizer, and promoter of the

successful Kid's Day

<<http://www.arrl.org/FandES/ead/kd-rules.html>> — now administered by the ARRL. Kid's Day is an operating activity designed to give young people a chance to experience Amateur Radio firsthand and possibly inspire them to become licensees. Tyree also developed the popular TR-LOG contest logging software. A ham since 1967, Tyree lives in Boring, Oregon, with his wife and three daughters.

"I hope to be able to use this to help encourage others to encourage young people to join our hobby," Tyree commented. "Obviously the help the ARRL has given me by taking over the event has been part of the success that enabled this [award]." The award to Tyree is in line with Hamvention's 2003 theme, "Year of the Youth." The show, May 16-18 at Hara Arena near Dayton, Ohio, will be on young hams and on attracting 12 to 18-year olds into Amateur Radio.

Jonathan Taylor, K1RFD, of Ridgefield, Connecticut, is the winner of Hamvention's 2003 Special Achievement Award. Taylor developed the Internet-linking program called EchoLink and the repeater-control program called EchoStation. EchoLink allows amateur stations to connect with each other via the Internet to expand repeater and simplex coverage and to provide Amateur Radio operators with access from their PCs.

Hamvention's 2003 Technical Achievement Award goes to Dr Steve Dimse, K4HG, of Cudjoe Key, Florida. Dimse was behind the development of the global Automated Position Reporting System (APRS) Internet network <<http://www.aprs.net/>> that links more than 20,000 APRS operators around the world. Dimse also wrote the findU global database software <<http://www.findu.com>>, and he helped form the Citizens Weather Service (CWS).

Awards will be presented at an award winners' reception at Hara Arena May 17.

Hamvention 2003 also recognized the contributions of several Silent Keys to Amateur Radio. Those recognized include the crew of the shuttle Columbia STS-107 mission, which included three Amateur Radio licensees. Other Silent Keys honored included ham radio author Joe Carr, K4IPV; inventor Al Gross, W8PAL; ham radio author Bill Orr, W6SAI; and ham radio volunteer and Elmer Ernie Hudson, K18O.



DXCC to Accept Iraq Portable Operations Approved By Commanding Officers

(From the ARRL Letter)

ARRL Membership Services Manager Wayne Mills, N7NG, says the League will accept for DXCC credit YI/ operations from Iraq by US or British military personnel provided the operator has written permission from his or her commanding officer.

"There is precedent for this," Mills said, citing an operation during the 1991 Gulf War. "These operators will need written authorization to operate from their commanding officers until an interim Iraqi civilian government is in place," Mills said. After that point, operators would need documented permission from Iraqi authorities.

The Daily DX <<http://www.dailydx.com>> has reported that several hams with the US military in Iraq have been showing up on the air in recent days. Mark Smith, NG5L, has been active from near Nasiriya as YI/NG5L on SSB, usually around 0500 UTC near 14.195 MHz. He's also been spotted in Europe and North America on other 20-meter frequencies and at other times of the day. Smith is in Iraq with the 82nd Airborne Division.

Jim Dunkerton, YI/KT4CK, has been active on 15-meter SSB between 1430 and 1600 UTC. Dunkerton is believed to be with the 101st Airborne. Bob Furzer, 9K2ZZ/K4CY, reportedly has been on the air from Iraq as K4CY/p or K4CY/m. Other hams are known to be in Iraq but have not yet been reported on the air.

Still not known is whether Ed Giorgadze, 4L4FN — now in the Middle East after wrapping up his North Korean (P5) operation last fall — will be on a United Nations World Food Program assignment inside Iraq in the near future. That could depend in part on how big a role the UN plays in rebuilding Iraq.

FCC Opens Receiver Interference Immunity Inquiry

(From the ARRL Letter)

The FCC wants to know how it can incorporate receiver interference immunity specifications within its overall spectrum policy. In a Notice of Inquiry (NOI) in ET Docket 03-65, released March 24, the FCC seeks public comments on possible methods and means of improving receiver performance. The Commission suggests that these could include incentives, guidelines or regulatory requirements — or a combination of all three.

"From a technical standpoint, a radio receiver's susceptibility to interference is largely dependent on the interference immunity of the device, particularly with regard to its rejection of undesired radio frequency (RF) energy and signals," the FCC said in its introduction to the NOI. While expressing its reluctance "to implement a new regulatory regime" of mandatory receiver standards, the Commission said it believes incorporating receiver performance specifications could "promote more efficient utilization of the spectrum and create opportunities for new and additional use of radio communications."

The FCC said the NOI builds upon the recent work of its Spectrum Policy Task Force, which looked at ways to improve overall radio spectrum management. The ARRL commented on the Task Force report and plans to comment in the receiver interference immunity NOI as well.

While the NOI does not specifically address interference from Amateur Radio transmitters to consumer TV and radio receivers, the FCC does seek information describing the interference immunity characteristics of "receivers used in the various radio services." With respect to broadcast sets, the FCC suggests in its NOI that set manufacturers have been doing a pretty good job all along.

The FCC seeks comments on "the desirability of developing minimum interference immunity performance specifications for broadcast receivers." But it added that the Commission has no plans to reverse its "longstanding practice of allowing the market to determine the performance of broadcast receivers, with the Commission stepping in only where obvious deficiencies appear" that could disrupt reception.

FCC Chairman Michael Powell said he'd prefer that the Commission "rely on market incentives and voluntary industry programs to establish receiver immunity guidelines."

The FCC Notice of Inquiry in ET Docket 03-65 is available on the FCC Web site http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-54A6.doc. Although it has not formally been posted for the filing of comments via the FCC's Electronic Comment Filing System (ECFS), the system is accepting comments. The formal comment period concludes 75 days from publication of the NOI in the Federal Register, which has not yet happened. The FCC does not post such dockets for electronic comments until publication occurs.



ARRL DX Bulletin

DX Bulletin 18 ARLD018
From ARRL Headquarters
Newington CT May 1, 2003
To all radio amateurs

This week's bulletin was made possible with information provided by 4L1W, TI2DLL, the OPDX Bulletin, The Daily DX, QRZ DX, 425DXnews, DXNL, WA7BNM and Contest Corral from QST. Thanks to all.

GEORGIA, 4L. Members of Georgia club station 4L1W are QRV May 6 and 7 in commemoration of the 5th anniversary of the Iveria ARC. Activity is on 20, 17, 15 and 10 meters using CW and SSB. QSL via operators' instructions.

GERMANY, DA. Peter, DH9YPA is QRV from Borkum Island, IOTA EU-047, until May 9. QSL to home call.

FRENCH POLYNESIA, FO. Fabien, F8CFU will be QRV as FO/F8CFU from Tubuai Island, IOTA OC-152, from May 6 to 16. Activity is on 20 to 10 meters, including the newer bands. QSL to home call.

MARQUESAS ISLANDS, FO. Stations I2YSB, IK2DIA, IK2GNW, I2MOV, IK2WXV, IK1AOD and

IK1PMR are QRV as TX4PG until May 9. QSL via I2YSB.

DOMINICAN REPUBLIC, HI. Special event station HI0RCD is QRV until May 6 as part of the Sixth International Book Show. Activity is on 80 to 10 meters. QSL via bureau.

THAILAND, HS. Charlie, K4VUD is QRV as HS0ZCW until around June 15. Activity is on 40 to 10 meters using CW and SSB. QSL to home call.

ITALY, I. Stations IK4MSV, IK4SWX, IK4IDS, IK4HLU, IZ4COT, IZ4DIW and IZ4AGI will participate in the ARI International DX Contest as IR4A. QSL via bureau.

ANTARCTICA. Obi, 8J1RF is working as the doctor of the "44th Japanese Antarctic Research Expedition" in the scientific station Dome Fuji, IOTA AN-016. He is active using CW, SSB, RTTY and SSTV at various times daily and during the weekend. QSL via operator's instructions.

OGASAWARA, JD1. JM1LJS is QRV as JD1BLK until May 4. Activity is on 160 to 10 meters using CW and SSB. QSL to home call.

PUERTO RICO, KP4. Members of the Caribbean Amateur Radio Group are QRV using special event call K4C from May 3 to 17 to celebrate the Hamfest and Old Timers Recognition event. Activity is on 40, 20, 15 and 10 meters SSB. QSL via KP4ARN.

BULGARIA, LZ. Special event station LZ03KM is active on all bands and modes until May 31 to celebrate St. Cyril and Methodius' Day. QSL via LZ1BFR.

SLOVAK REPUBLIC, OM. Erwin, OM7PY, Zsolt, HA6PS and Laci, HA6NL are active from Ruzina until May 5 and will participate in the AGCW-QRP and ARI International DX Contests as OM/HA5RT/p. QSL via operators' instructions.

SAN MARINO, T7. Piero, IZ1ERR and Giovanni, IW2BSQ plan to be QRV as T7/homecalls from May 3 to 5. They will concentrate on satellites UO-14 and possibly FO-20, as well as Meteor Scatter on 2 meters. QSL to home calls.

COSTA RICA, TI. In celebration of the 75 years of amateur radio activity here, Costa Rican amateurs

are QRV using the special prefix TE75 until May 31. QSL via the bureau.

UKRAINE, UR. Special event stations EO58JM and EO58JS will be QRV from May 5 to 12 to commemorate the 58th anniversary of the end of World War II. QSL via KG6AR and KD5RBU, respectively.

LORD HOWE ISLAND, VK9L. Trevor, VK7TS and Rex, VK7MO will be QRV as VK9LS from May 3 to 10. Activity will be on 20, 15 and 10 meters using CW, SSB, RTTY, SSTV and PSK31. They will also be on 2 meters and 70 and 23 cm using JT44, FSK441, VFSKCW and SSB for Meteor Scatter QSOs. QSL via operators' instructions.



ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 18 ARLP018
From Tad Cook, K7RA
Seattle, WA May 2, 2003
To all radio amateurs

Even as this solar cycle slowly declines, there will still be periods of rising activity, and this week was one of those times. As this bulletin is being written on Thursday, a large sunspot, number 349 is aimed squarely at earth.

http://science.nasa.gov/spaceweather/images2003/01may03/midi512_blank.gif shows the spot, centered in the solar disk such that earth has maximum exposure. Earth is currently in a solar wind stream, as it has been for weeks, and the appearance of sunspot 349 as well as other new spots resulted in a rising sunspot number. After periods in the single digits, the daily sunspot number reached 224 on April 29. It hasn't been this high since March 9.

Average daily sunspot number for this week rose nearly 85 points to 185.1. Average daily solar flux was up nearly 29 points. Average daily sunspot number from this week in 2002 was 152.1, 143.6 in 2001, 144.4 in 2000, 74 in 1999 and 39.7 in 1998. Just sampling the numbers from Propagation Bulletin number 18 from 1998-2003 makes it appear that we are currently enjoying the peak of the cycle. Averaging the sunspot numbers for the full month of April may give us a better feel for our

current place in the cycle. Average April sunspot numbers for 1998-2003 are 73.6, 92.9, 193.4, 163.6, 194.9 and 114.3. Still, what matters most to HF operators is the sunspots over the recent few days, so enjoy conditions when and if geomagnetic conditions stabilize to a K index of three or less.

The past week saw active geomagnetic conditions, and the activity only declined to an unsettled level on April 26-27 when the planetary A index was 15. The most active days were April 30 to May 1, with a planetary A index of 40 and planetary K indices as high as six over both days. This indicates a strong geomagnetic storm.

Over the next week geomagnetic activity should settle a bit, providing improved HF conditions. The predicted planetary A index for Friday through Monday, May 2-5 is 25, 15, 10 and 15. Predicted solar flux for those same days is 145, 140, 135 and 130.

MUFs over most paths should be somewhat lower during May than in April, and with May being further from the spring equinox, 10, 12 and 15-meter openings should be shorter as well. To compare, run W6ELprop (which you can download for free from <http://www.qsl.net/w6elprop/>) twice, so you can ALT-TAB to switch between them. Try different paths using the same sunspot number, but one program for April 15 and the other for May 15. Switching back and forth highlights the differences, and makes it easier to compare. For instance, a path from Salt Lake City to Costa Rica with a sunspot number of 111 shows MUFs (Maximum Usable Frequencies) between 1830-

2230z as 24.4-25.9 MHz for April 15, but 20.4-20.6 MHz for May 15. This means that given the same sunspot count, most of the time 17, 15 and 12 meters would be open on April 15, and only 17 meters would be open on that path for May 15.

For more information about propagation and an explanation of the numbers used in this bulletin see the Propagation page on the ARRL Web site at <http://www.arrl.org/tis/info/propagation.html>.

Sunspot numbers for April 24 through 30 were 171, 173, 193, 200, 175, 224, and 160, with a mean of 185.1. 10.7 cm flux was 128.3, 143.6, 143.7, 154.1, 152.2, 155.1, and 153.5 with a mean of 147.2. Estimated planetary A indices were 24, 32, 15, 15, 20, 20, and 40, with a mean of 23.7.



Helpful Hints

Old telephone directories make ideal personal address books. Simply cross out the names and addresses of people you don't know.



Shallow Thoughts

Why do they report power outages on TV?

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

ARES/RACES Committee

Bruce Fritz, KB3DZN (DC)
Darryl Gibson, N2DIY
Todd Deem, KB3IKX

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

Emergency Power Equipment Trustees: Lisa and Bill Kelley, KA3UKL

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 Schreibmaier K3PH
P. O. Box 166
Kresgeville, PA 18333-0166