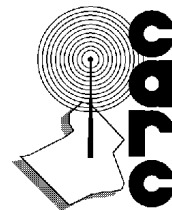




The Illuminator



The monthly newsletter of the Carbon Amateur Radio Club

July 2003

July Meeting

The next regular meeting of the Carbon Amateur Radio Club will be held on Thursday, July 17, at 7:30 p.m. at the EOC in Nesquehoning. We expect to discuss the results of this year's Field Day effort. See you there!



Treasurer's Report

By John, W3MF

Previous Balance	1241.78
Receipts (dues)	0.00
Subtotal	1241.78
Disbursements (newsletter)	5.92
Final Total	1235.86



Abbie, KB3BPR Graduates!

On Saturday, June 14, Abbie Bednar, KB3BPR, the daughter of John, K3CT, and Suzie, N3DVF, graduated from Northampton Area High School in a ceremony held at Stabler Arena in Bethlehem. Abbie was the Valedictorian, Class President, and Prom Queen.

In addition, she received the following awards: English Department Award; French Award; Mathematics Award; Chemistry Department Award; Physics Department Award; Donley Award for Excellence in Leadership and Service; Lafarge Corporation Merit Scholarship; Lehigh Elementary School PTA Scholarship; NASHS Class of 1979 Scholarship; Northampton Area School District Council of PTA's Scholarship; Northampton Exchange Club Scholarship; Northampton Senior High School PTSA Scholarship; The Express-

Times/Lafayette College Academic All-Stars; Lehigh Valley Society of Women Engineers; Lutron Electronics' Scholarship.

This is one impressive young lady!

Abbie will be attending Carnegie Mellon in the fall for a dual major in Material Science Engineering and Mathematics.

Congratulations to Abbie and best wishes for her future success!



40-Meter Realignment Compromise Reached at WRC-03

In a last minute compromise, the delegates to WRC-03 agreed to move broadcasters out of 7100 to 7200 kHz in Regions 1 and 3 to make room for the Amateur Service. This will eventually mean a 200-kHz worldwide allocation at 40 meters for amateur radio. The change is to go into effect in 2009. While this seems very slow, it's actually speedy by International Telecommunications Union (ITU) standards, as one of the proposed timelines would have held off changes until 2033! Those who remember WARC-79 know that the new bands approved then took 6 to 10 years to become reality.

The agreement calls for broadcasters to vacate 7100 to 7200 kHz by March 29, 2009.

It should be noted that a number of countries in Region 3 and the Arab States have, "by footnote", allocated 7100 to 7200 kHz to Fixed and Mobile Services, shared with amateurs on a national basis.



Carbon Amateur Radio Club Runs QRP Battery-powered Field Day

And now for something completely different...

For 2003, the Carbon Amateur Radio Club decided to try running a 2A Battery Field Day running at 5 watts. Once again, the club operated from Bill and Lisa Kelley's QTH and enjoyed their tremendous hospitality (if you've never had one of Bill's bacon cheeseburgers, you don't know what you're missing!). Antennas consisted of two 130-foot long, open-wire-fed dipoles with antenna tuners, a 5-element beam for 2 meters, as well as N3AT's shortened 20-meter dipole. Equipment included an IC-706 (courtesy of KB3BYT), IC-735 (courtesy of K3PH), K1 (courtesy of N3AT), and a 2-meter all-mode (courtesy of WA3IEM).

Here are the gory sadistics:

Band	CW QSOs	Phone QSOs
80	83	57
40	137	21
20	97	12
15	7	0
2	0	1

The grand total is 324 CW QSOs and 91 phone QSOs for a total of 415 QSOs. Given the power multiplier of 5 for QRP battery operation, plus the bonus points, our claimed score is expected to be just short of 4,500 points. Compare this to our last effort in 2001, when the club made 4,074 points.

Thanks to everyone who participated and especially to Bill and Lisa — it could never have happened without you!



No Morse Code Controversy at WRC-03 (From the ARRL Letter)

Whatever else happens at World Radiocommunication Conference 2003 (WRC-03), there's no mystery about the delegates' direction regarding the Morse code requirement. Morse code proficiency will disappear as a treaty obligation for high-frequency access when the International Telecommunication Union (ITU)-sponsored gathering under way in Geneva concludes July 4.

"One matter on which there appears to be no disagreement is the Morse requirement," said International Amateur Radio Union (IARU) Secretary (and ARRL CEO) David Sumner, K1ZZ, in a report <<http://www.iaru.org/rel030623.html>> on the second week of activity at WRC-03. "It is clear that the outcome will be to leave it to administrations' discretion whether or not to have a Morse receiving and sending requirement." He said no administration participating in the sub-working group spoke in favor of retaining the Morse code treaty requirement.

The modification of Article 25.5 of the international Radio Regulations cleared Working Group 4C on June 24. Working Group 4C is dealing with this and other proposals relating to Article 25. The modified text says, "Administrations shall determine whether or not a person seeking a license to operate an amateur station shall prove the ability to send and receive texts in Morse code signals."

It's possible but unlikely that the text would be tinkered with further at the committee level or even in the Plenary, which considers items for adoption. Sumner said delegates continue to wrangle over other aspects of Article 25, which defines Amateur Radio operation.

Adoption of the Article 25.5 modification would not mean the immediate disappearance of the Morse requirement to operate on the amateur bands below 30 MHz. Each administration, including the FCC, would then decide whether or not to drop the requirement from its domestic regulations. Some countries have indicated a desire to retain a Morse code requirement.

Editor's Note: It *obviously* does not mean the disappearance of Morse Code from the amateur bands!



First Joint Cuba-US Field Day Operation Set (From the ARRL Letter)

Members of the Piña Colada Contest Club (KP2AA) will join forces with the Federación de Radioaficionados de Cuba in the first-ever joint Cuba-US Field Day operation June 28-29.

Operating as CO0US (and T42FD for the "Get On The Air" newcomer station), the team will operate from a location near Havana (Grid EL83) on 80 through 2 meters. Commemorative QSLs recognizing the two countries' common interest in emergency communication preparedness and international goodwill through Amateur Radio will be available via K7JA (include an SASE or SAE and other return postage).

Participating Cuban operators will include Arnie Coro, CO2KK. Chip Margelli, K7JA, will be among the US operators. "All the operators and support people look forward to making as many QSOs as possible and testing our ability to provide a wide-area emergency communications link throughout the duration of Field Day," Margelli said.

This marks the second year that Field Day welcomes participation by stations throughout International Amateur Radio Union Region 2 — the Americas. Operators outside the US and Canada exchange operating class and "DX" as their "section" designator. No signal reports need be exchanged during ARRL Field Day, which begins at 1800 UTC June 28 and ends 2100 UTC June 29. Complete rules are on the ARRL Web site <http://www.arrl.org/contests/rules/2003-fd-2003.html> — Chip Margelli, K7JA



ARRL Urges Informed Comments in FCC BPL Inquiry

(From the ARRL Letter)

The ARRL is urging amateurs to file well-thought-out, informed comments when responding to the FCC's Broadband Over Power Line (BPL) Notice of Inquiry (ET Docket 03-104). The FCC published its NOI on May 23. The NOI asks how the FCC should regulate the delivery of broadband services to homes and businesses using electrical wiring to conduct high-speed digital signals. While the FCC has dubbed this technology Broadband over Power Line, it's more commonly known as Power Line Carrier or PLC.

BPL would use building and/or overhead power lines to conduct HF and low-VHF digital signals to network computers. The FCC has expressed its unabashed enthusiasm for BPL, which it views as a

competitive Internet access point. Utilities consider BPL as another means to use existing infrastructure to generate additional revenue.

The NOI is not asking if BPL technology should be permitted. Under existing FCC rules, BPL systems may be built and used in the US right now. The FCC is asking how the rules might be changed "to promote and encourage new BPL technology," in the words of the NOI.

Present FCC Part 15 rules say that carrier-current systems — including BPL/PLC — need to meet the general radiated emission limits for unlicensed "intentional emitters." While the rules permit BPL at significant power levels, utilities would prefer that the FCC authorize even higher power levels. BPL systems under development and in field trials use spectrum between 1.7 and 80 MHz, but the NOI also asks whether BPL should operate on other parts of the spectrum as well.

As of mid-June, nearly 1000 comments already had been filed in the proceeding. The ARRL has urged amateurs who comment to outline the important uses they make of Amateur Radio and the impact strong interference from BPL could have at HF and low-VHF amateur frequencies.

Electric utility companies will operate many, if not most, BPL systems. ARRL members who have had experience dealing with power line interference and utilities' responses to complaints also may want to describe those experiences in their comments to the Commission.

Amateurs filing comments to the FCC NOI might want to consider these topics and points:

- * Amateur Radio is a valuable resource that must be protected.
- * Describe the uses you make of Amateur Radio, especially those with a public service or emergency communication aspect.
- * The present FCC Part 15 limits for this technology already can result in substantial interference potential to amateur frequencies.
- * BPL systems that radiate on wide swaths of spectrum and occupy entire neighborhoods have greater interference potential than localized

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systems, such as switching power supplies or electric motors.

* The FCC has promised to protect licensed users of the spectrum. We must hold them to that promise.

For more information, see "Understanding the FCC's Broadband Over Power Line (BPL) Notice of Inquiry"

<<http://www.arrl.org/news/features/2003/06/19/2/>>.

An ARRL white paper, "Calculated Impact of PLC on Stations Operating in the Amateur Radio Service"

<http://www.arrl.org/tis/info/HTML/plc/files/C63NovP LC.pdf> provides technical details. The ARRL's

Broadband Over Power Line resource page contains links to worldwide studies and other resources.

The ARRL has initiated an important Spectrum Defense Fund campaign to support activities to educate government officials on the potential threat that BPL poses to Amateur Radio. To find out more, or to support ARRL's efforts in this area, visit the ARRL's secure BPL Web site

<https://www.arrl.org/forms/development/donations/bpl/>.

The complete NOI is available on the FCC Web site

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-100A1.doc.

Comments are due on or before July 7, 2003.

Reply comments are due on or before August 6, 2003. Interested parties may submit electronically filed comments via the FCC's Electronic Comment Filing System (ECFS) <http://www.fcc.gov/cgb/ecfs/>.

Under ECFS Main Links, click on "Submit a Filing." In the "Proceeding" field, enter "03-104" and complete the required field. Comments may be typed into a form or you may attach a file containing your comments. Comments also may be submitted via e-mail, per instructions on the ECFS page.



60-meter Rules Add New Record-keeping Requirement

(From the ARRL Letter)

When the five new 60-meter channels become available to US Amateur Radio operators at midnight (12 AM) local time on July 3, the rules will impose a new record-keeping requirement for hams. The requirement applies only to those using something other than a simple half-wave dipole for an antenna on the 5-MHz allocation.

According to §97.303(s), a half-wave dipole on the 5 MHz allocation will be presumed to have a gain of 0 dB. "Licensees using other antennas must maintain in their station records either manufacturer data on the antenna gain or calculations of the antenna gain," the newest addition to the FCC's Amateur Service rules says.

Because the new rules also require hams to run no more than 50 W effective radiated power (ERP) on the new channels, the choice of antenna becomes an important compliance factor. The FCC rules stipulate, "For the purpose of computing ERP, the transmitter PEP will be multiplied with [sic] the antenna gain relative to a dipole or the equivalent calculation in decibels."

If you use a half-wave dipole — about 87 feet 3 inches for the "middle" channel according to the formula — setting your transmitter's power output power at up to 50 W peak envelope power (PEP) should ensure compliance.

Under no circumstances may amateurs on 5 MHz radiate more than 50 W ERP in any direction, so those choosing to employ gain antennas will have to "do the math" and calculate their ERP. They also will have to keep a record of such antenna gain calculations on file. This might include documentation such as output from a computer modeling program for a homebrew antenna design. For example, an amateur using an array for 5 MHz exhibiting a calculated or modeled gain of 3 dB would have to cut power to 25 W PEP to comply with the new rules.

Operating on 60 meters is the subject of the July 2003 QST "It Seems to Us . . ." editorial <http://www.arrl.org/news/features/2003/07/01/1/> by ARRL CEO David Sumner, K1ZZ. "If we demonstrate that we can use [the 60-meter channels] responsibly, cooperatively and in the public interest, there is no reason we cannot seek expanded access at an appropriate time," Sumner wrote. "If your personal operating practices are

inconsistent with that, please do yourself and everyone else a favor and confine your operating to the traditional bands."

The FCC Report and Order in ET Docket 02-98 is available on the FCC's Web site http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-105A1.doc. The ARRL has posted a list of frequently asked questions concerning 5 MHz operation on the ARRL Web site <http://www.arrl.org/FandES/field/regulations/faq.html#sixty>



Amateur Radio on the International Space Station Logs 100th School Contact

(From the ARRL Letter)

The Amateur Radio on the International Space Station (ARISS) program reached a milestone June 12 with its 100th school group contact. Doing the honors was Expedition 7 NASA Science Officer and Flight Engineer Ed Lu, KC5WKJ. Lu took the controls of NA1SS aboard the space outpost to answer a dozen questions from students gathered at Lively District Secondary School in Sudbury, Ontario, Canada.

"I would choose to go on a mission to Mars," Lu told the students, answering a question about what mission he would pick if he had the choice. "Because I think that's the place in our solar system that has the best chance of having life besides our Earth, and I would love to go there to try and find that." Lu said that while a human spaceflight mission to Mars is not yet on NASA's schedule, he hopes to one day have the opportunity to journey there. "Maybe one of you kids down there will get a chance to do it if I don't get to go."

Lu says he sees a lot of things that are "incredibly interesting" from his vantage point in space, including looking down at Earth and viewing the northern and southern lights. But he said he hasn't been inspired to want to live in space indefinitely.

Aboard the ISS since late April, Lu is part of the first two-person crew headed by Expedition 7 commander Yuri Malenchenko, RK3DUP. They arrived aboard a Russian Soyuz vehicle, which also

serves as the escape vehicle for ISS crew members. The Expedition 7 crew is scheduled to return to Earth in October.

Asked whom he would like to have accompany him into space if he could pick one person, Lu replied, "If I could bring one person with me, it would be my fiancée, and if I said anything else, boy would I be in trouble."

On Earth, Steve Gorecki, VE3CWJ, served as control operator. He had assistance from members of the Sudbury Amateur Radio Club, who helped to install antennas on the roof of the school's gymnasium and equipment inside. Students participating in the contact came from several area schools.

"It definitely had an impact on the kids," Gorecki told ARRL after the contact, "but it only dawned on them later what they'd actually done." Students involved were in grades 7 through 12.

On June 14, pupils at another Canadian school — École primaire de l'Apprenti-Sage in Québec — enjoyed a successful ARISS contact. Among other topics, the primary schoolers wanted to know how long Lu would be in space, if it hurt during liftoff on the Soyuz, his favorite activities in space and how the crew "drives" the ISS. Youngsters at the school had been studying space and space-related topics leading up to their scheduled contact. Members of the Club Radio Amateur de Québec (VE2CQ) <http://www.craq.qc.ca/> set up and managed the Earth station for the direct contact.

Gaëtan Trépanier, VE2GHO, handled control duties as some 500 students and visitors looked on. A dozen students each got to ask a question before the ISS zipped over the horizon. "It was a resounding success," said Daniel Lamoreaux, VE2KA, the Radio Amateurs of Canada Quebec director who was on hand for the event. Lamoreaux is a member of the ARISS Educational Outreach/School Selection Committee.

On June 18, students at Kuise Elementary School in Amagasaki, Japan, chatted with Lu during a direct contact between NA1SS and 8N3ISS. Among other topics, youngsters wanted to know what country's time the crew followed aboard the ISS, whether zero gravity was "convenient" and if zero gravity changed the intensity of odors.

ARISS is an international project with participation by ARRL, NASA and AMSAT.



ARRL DX Bulletin

DX Bulletin 27 ARLD027
From ARRL Headquarters
Newington CT July 3, 2003
To all radio amateurs

This week's bulletin was made possible with information provided by the OPDX Bulletin, The Daily DX, QRZ DX, 425DXnews, DXNL, WA7BNM, WB9CEJ and Contest Corral from QST. Thanks to all.

MALTA, 9H. Thomas, DL1ASA, will be active from Gozo Island (EU-023) from August 1 to 15, as 9H3TM. His activity will be on all HF bands on CW, SSB and RTTY. He will also participate in the WAE-CW Contest.

CHINA, B4. The People's Republic of China Headquarters Station BY1PK (operated by the JiangSu DX Club) will be active in the IARU HF World Championship as B4HQ. QSL via BA4RD, Ken Wang, P.O.BOX 538, Nanjing 210005, P.R. CHINA.

VIRGIN ISLANDS, VP2. Jeff, WB9CEJ, will be QRV as VP2V/WB9CEJ from Tortola, IOTA NA-023, from July 7 to 13. He will also be active as KP2/WB9CEJ from St. John and St. Thomas, IOTA NA-106, from July 14 to 19. Activity will be primarily on 20, 17 and 15 meters, using SSB and CW. QSL to home call.

BAHAMAS, C6. Look for Jimmy, W6JKV, to be active as C6/W6JKV until July 7. His activity over the past week has been on 6 meters at various times between 1000 and 1800z, usually looking for Europe, 50110 and 50125 kHz.

CORSICA, TK. Fred, F5OZK, will be active as TK/F5OZK between July 5 and 25. Activity will be on 40 to 10 meters, including the newer bands. QSL via his home call sign, direct or via the bureau.

AZORES, CU2. Lars, SM3CVM, plans to sign CU2/SM3CVM/p from Sao Miguel (EU-003) until July 6. CW operation is planned on 80 to 10 meters. QSL via bureau.

BOTSWANA, A2. Joe, AA4NN, Aldo, IK2ANI, and Fabrizio, IN3ZNR, are signing A25NN, A25NI and A25FV, respectively, in CW and SSB until July 13. QSLs via home calls.

EAST KIRIBATI, T32. La Marr will be active as T32Z, using SSB, CW, and digital modes on HF and 6 meters for several weeks. QSL via K3PD.

MAURITANIA, 5T. DL8YHR will be active as 5T6M mostly on 6 meters until July 7. QSL via ON4ANT.

MAYOTTE, FH. Martrial, FH/F5SIE, will be QRV in CW only on 15, 17 and 40 meters until July 15. QSL via bureau.



ARRL Propagation Forecast Bulletin

Propagation Forecast Bulletin 27 ARLP027
From Tad Cook, K7RA
Seattle, WA July 3, 2003
To all radio amateurs

Average daily solar flux and sunspot numbers rose slightly last week, by 24.6 for sunspots and 11.3 for solar flux. Geomagnetic indices were about the same, with average A index for the week just two points higher.

The second quarter of 2003 ended on Monday, so now let us examine quarterly averages of daily sunspot and solar flux numbers to try to confirm a trend.

The average of the daily sunspot numbers during April 1 through June 30, 2003 was 107.3. The average for the previous eight quarters was 164.8, 170.4, 198.1, 178.3, 165.3, 193.5, 152.7 and 120.3.

The average daily solar flux for the same period was 124.2, and averages for the previous eight quarters were 166.7, 175.5, 219.1, 203.9, 156.4, 178.1, 164.2 and 134.3

The drop from 193.5 to 152.7, 120.3 and 107.3 for sunspot averages and 178.1 to 164.2, 134.3 and 124.2 for solar flux shows a definite and continuing decline of cycle 23. The monthly sunspot averages for May through June were 114.3, 89.6 and 118.4, and the solar flux averages for the same period were 126.8, 116.6 and 129.4, so for the short term May was down but June activity was back up.

Looking at the daily A index over the past week, Saturday was the most active day, which was the first day of ARRL Field Day. I operated Class C mobile on 20 and 15-meter phone and CW while parked in a cemetery west of my home in Seattle. Sunday seemed more difficult to me, with the only stations worked during the last hour of Field Day being Class D stations operating from home. On both days our earth was awash in a fast solar wind that has continued, making HF conditions dicey. Saturday saw the return of a large sunspot, which is now almost squarely aimed at earth. This sunspot, number 375, released several powerful solar flares in early June.

Another solar wind stream is flowing from a coronal hole, and it should reach earth Thursday or Friday, July 3 or 4. Predicted planetary A index for the next few days is 20 to 25. Solar flux values are expected to continue to rise, perhaps peaking around 160 to 170 from July 7-9. A hopeful prediction shows a low planetary A index of 10-12 around July 9-10. We were fooled before when a low A index of 8 was predicted, with the forecast value revised upward due to changing conditions just prior to the expected date, so don't count on low A index predictions too much. I have no idea when the generally active geomagnetic conditions will cease.

60 meters opened for use today for amateurs in the United States. I'm eager to hear reports from that band, which you can send to k7ra@arrl.net.

Some possibly confusing prose in ARLP025 concerning the relationship between A and K indices and geomagnetic conditions resulted in further confusion in ARLP026. Each index relates to a basic measure of geomagnetic disturbance called nT. The A index is a linear scale referenced to nT, and the K index is a semi-logarithmic scale referenced to nT. Thanks to N0AX and K9LA for helping to straighten all this out.

For more information on 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>. You can write to the author of this bulletin at k7ra@arrl.net.

Sunspot numbers for June 26 through July 2 were 122, 128, 151, 112, 159, 138, and 153, with a mean of 137.6. 10.7 cm flux was 118.9, 123.9, 123.9, 127.3, 128.2, 131.1, and 134.8, with a mean of 126.9. Estimated planetary A indices were 19, 28, 32, 26, 20, 13, and 15, with a mean of 21.9.



Helpful Hints

Avoid parking tickets by leaving your windshield wipers turned to "fast wipe" whenever you leave your car parked illegally.



Shallow Thoughts

What's another word for "thesaurus?"

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

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