

# RCA AMATEUR RADIO CLUB

APRIL, 2006

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, APRIL 4, 6:30 PM AT DOOKZ SPORTS GRILL, 3800 E. 96<sup>TH</sup>  
STREET, INDIANAPOLIS, IN

## RCA ARC NEWS

**SUMMARY OF THE MARCH 7, 2006, MEETING** – At the March meeting, it was noted that the repeater is working well now, thanks to K9RU, tightening up the guy wires. The condition which causes the transmitter to get back into the receiver at the transmit site is apparently related to metal-to-metal contact or lack thereof intermittently. Moving the junk from the ham shack at Thomson was again mentioned as a task to be done relatively soon. Clarence Rudd, W2PGS, related the problems with the Club's Internet site which is still basically unavailable because of problems with the previous domain name registrar. W9RCA.com expires in April at which time we will switch to W9RCA.org and hopefully have a fully functional and updatable web site. AF9A and W9ZB gave an informal demonstration of Jim's home brew software defined radio.

**PRESIDENT'S RAMBLINGS** – As you can read below the Echolink is off the air on the 88 repeater. I want to thank Bud for all his hard work putting the system on the air and being the control operator. Bud presented the idea of putting Echolink on the repeater to the club, put the system together and was there on the air promoting it. It has been a lot of fun being able to talk around the world using a 2 meter HT. It also showed that amateur radio was ahead of the game with people just now discovering VIOP phones.

We still have the long term goal of moving all of the repeater system down to Mike's, but following one of the main rules, "don't fix it if it is not broke". We are maintaining the repeater system as a split site with main control and autopatch located at Thomson in Carmel and the transmitters down at Mike's.

As most of you have read in the *Indianapolis Star*, Thomson is a target for at take-over and Thomson is selling Audio, Video and Accessories SBU. So nothing really changed over the past few years. Thomson is always changing and the club has to be prepared to go with the changes.

With spring here, being a 6 meter fan, we can start looking for the band to open up. Spring also provides some of the best conditions for 10, 12, and 15 meters.

**ECHOLINK IS OFF THE AIR** -- On the weekend of March 11-12, W9EEJ suffered lightning damage to many electronic devices in his home. The Kenwood transceiver and computer used for EchoLink were damaged. Bud has provided the EchoLink service for the '88 repeater for the last four years. For various reasons, Bud has decided not to attempt to replace the equipment and continue with EchoLink.

We need for someone in the Club to step up and volunteer to provide the link and Internet connection. Preferable, someone within easy linking distance on VHF to Thomson with a broadband Internet connection will volunteer to help out.

Garland Borden is looking into the possibility of operating from EchoLink from inside Thomson, but this is far from a sure thing at the point.

**BULTMANS ARE SELLING OUT AND MOVING TO TENNESSE** -- Gerry and Paul Bultman, our long-time hosts for Field Day at their Radio Ranch on the southwest side of Indianapolis, have announced they are putting their property up for sale before 2006 Field Day. We'll have to remove in our antennas and mast from their barn. If we don't, it will be auctioned off with the other stuff they have. This was been a great location and Gerry and Paul have been great hosts.

**2006 FIELD DAY SITE NEEDED** – The Club needs to decide if we are going to operate in Field Day this year. If so, we'll need to find another FD site. We do have a site offered to us in Johnson County but we are open to looking at any site. Anyone who would like to volunteer a site should contact Jim Rinehart, K9RU. Field Day is the fourth weekend in June. We got used to operating at the Bultman's Radio Ranch and now if we will have to go back to tents with no air conditioning, it'll be tough! A new site will offer new challenges, were to put the antennas, setting up a tent and arranging to get everything to the site.

**THE W9CGI BEACON IS ON THE AIR** -- Dave has put a beacon on 145.55 MHz FSK31 (PSK31 in all respects - except FM radios both ends) back on air 24/7/365. He would appreciate day/time receiving QTH reports from anyone who hears it (every 30 minutes, but not set to on hour/half hour). "If you can, put your PSK31 decoder into the external speaker of an FM rig and actually decode it - let me know - send me what you decode. It is about 20 seconds long and two text lines - the second is coded to tell power/antenna etc. so don't worry about what the ### after the PHG really mean - I will be happy to explain at meeting." 51.55 and 434.55 coming soon, and 28.131 REAL PSK31 (USB) in May. -73, Dave, W9CGI

**BE SURE AN SEE "A DREAM STATION" IN APRIL, 2006 QST:** This is an article about the remotely controlled station in Greenfield, IN built and operated by K9SG and K9LZJ.

## **HAMFESTS; EVENTS**

May 19-21 Dayton Hamvention  
June 24-25 ARRL Field Day  
July 8 Indy Hamfest

## **BPL CHIP MAKER SHOWS INTERFERENCE ABATEMENT IMPROVEMENTS**

A demonstration at ARRL Headquarters of DS2 BPL equipment suggests the chipset developer and manufacturer is working to minimize--if not altogether eliminate--interference from its products on amateur bands, ARRL Laboratory Manager Ed Hare, W1RFI, says. Hare met with two DS2 officials at ARRL to discuss the company's improved approach to Amateur Radio band notching techniques. Based upon his observations during a demonstration of DS2's latest generation G2 technology, Hare says he's cautiously optimistic. A spectrum analyzer check of the modem's output showed the G2 modem could attain a notch depth of up to 40 dB.

"While there's no certainty that all BPL products using this technology could achieve 40 dB of protection within notched spectrum, our tests show the capability to do so is there," Hare commented. "This may not prevent all interference problems, but a 10 to 15 dB improvement over the notching used by many BPL systems in place today would be a significant improvement."

Hare points out that DS2 chipsets are used by BPL equipment makers Ambient, Amperion, Corinex and Mitsubishi, among others. "Our work with DS2 could help manufacturers as they address interference problems in earlier-generation equipment," he said.

In its October 2005 Petition for Further Rule Making in the BPL proceeding <http://www.arrl.org/tis/info/HTML/plc/filings/BPL-FNPRM.pdf>, ARRL cited BPL systems using Main.net and DS2 chipsets as among those that lack fixed, permanent notches in the ham bands and "have caused numerous cases of harmful interference to stations in the Amateur Service."

Hare says he was intrigued by an earlier demonstration showing that DS2 had improved the notching capability of its latest chipset. Preliminary tests showed that although close-in notching wasn't much better than other systems', BPL noise dropped below the ambient noise level deep into the notches. Hare and DS2 agreed to work with ARRL to further investigate the notching improvements.

On March 9 DS2 Vice President of Technology and Strategic Partnerships Chano Gómez and Product Manager Eduardo Lluna, EA5ETP, brought a pair of modems using DS2's latest-generation G2 technology to ARRL Headquarters. Gómez directs DS2's US office in California. Lluna is based in Valencia, Spain. The modems were set up in the ARRL Laboratory's screen room, and checked on a spectrum analyzer in the 20-meter band. Hare said the 40 dB notch depth across the entire band was typical of all bands measured.

The DS2 modems also were tested at Maxim Memorial Station W1AW, where they were plugged into outlets in separate parts of the building and set to transmit data. Hare listened on a number of ham bands and on adjacent spectrum. Inside the ham bands, the signal was inaudible, he said.

"Although this was encouraging as a reasonable quick-look test of DS2 modems on premise," Hare cautioned, "testing on a BPL installation using overhead power lines would present a more realistic situation from which to draw firm conclusions." Gómez offered to look into ways such tests might be arranged.

Gómez said he's happy to be working with ARRL to demonstrate that DS2's chipsets are Amateur Radio-friendly. "We have made a huge effort to ensure that the 40 dB programmable notches in our OFDM chipset provide adequate protection," he said. Lluna said several vendors already have deployed DS2-based equipment in the US, "and this gives them the mechanism to avoid interference problems completely." Feedback from the ARRL "has been invaluable" in achieving that goal, he added.

Afterwards, Hare, Gómez and Lluna discussed BPL and electromagnetic compatibility (EMC) issues and potential solutions to head off most cases of interference. "We had a solid exchange of ideas about the technical aspects of interference problems and how improved notch depth could be combined with other techniques to prevent and correct interference," Hare said. "The DS2 staff has a good grasp of the technical issues involved and believes many of them ultimately can be implemented in deployed systems."

ARRL CEO David Sumner, K1ZZ, concurred with Hare's cautious optimism. "We very much appreciate this dialogue with DS2, and we are looking forward to turning talk into action and solutions," he said. --ARRL Letter

## **LIGHTNING IS STRIKING AGAIN**

*This week, visit Web sites that assist you in doing something about lightning before it strikes home.*  
By Stan Horzempa, WA1LOU

One Christmas morning back in the mid-1960s, found me shoveling snow from the sidewalk of my parent's house with a light snow falling, when out of the blue or should I say, "out of the gray," there was a flash of lightning and a roll of thunder. "What the...?"

That was my first encounter with lightning and thunder in a snowstorm. I thought it was so unusual that I was going to get on the phone and dial up Robert Ripley, but upon further investigation, I learned that snow lightning was not as rare as I thought.

As spring tries to spring while winter winds down, I recall a snowstorm a few weeks ago when lightning struck again and then I think about the late spring and summer thunderstorms that will be rolling through here later this year. Next, I remember the ground cable of my antenna tower that I bumped with the snow thrower earlier this winter and remind myself to check the integrity of the cable real soon now.

Lightning and ham radio do not mix. Over the years, I have lost thousands of dollars in electronic equipment to lightning and none of those were direct hits. So, I am very wary of lightning and maintaining lightning protection at my house is always at the top of my to-do list. And it should be near the top of your to-do list, too.

To assist you in fighting back the wrath of Thor, I suggest that you visit pertinent Web sites that deal with lightning. Three Web sites provide excellent resources in this regard.

- National Lightning Safety Institute (<http://www.lightningsafety.com/>) is a non-profit, non-product advocate of lightning safety for both people and structures with a Web site containing a huge amount of relevant information.
- National Weather Service Lightning Safety (<http://www.lightningsafety.noaa.gov/>) Web page has handouts, indoor and outdoor safety tips, medical facts, history, survivor stories, photos, teacher tools, and much more on the topic.
- ARRLWeb: Lightning Protection (<http://www.arrl.org/tis/info/lightning.html>) Web page, as you would expect, concentrates on the Amateur Radio aspect of lightning with some excellent germane resources. --ARRL

## **ARRL REQUESTS RULE CHANGE TO EASE SPREAD SPECTRUM OPERATION**

The ARRL has asked the FCC to modify one of its rules governing spread spectrum (SS) operation on Amateur Radio frequencies. The League has petitioned the Commission to drop all but the first sentence of §97.311(d), which now requires the use of automatic power control (APC) for SS stations running more than 1 W. The ARRL request would retain the 100 W overall power limitation for SS.

"The effect of the rule change would be to eliminate an automatic power control provision that has proven over time to be impractical" in terms of compliance, the League said in its Petition for Rule Making filed March 13 <http://www.arrl.org/announce/regulatory/SS-Rulemaking-Petition.pdf>. It also conceded that the provision--one the League had proposed and supported more than 10 years ago--was unnecessary to protect the operations of other licensees and had "unfortunately served as an unintended but effective deterrent to spread spectrum experimentation" on ham radio.

Since the FCC first approved the use of spread spectrum techniques for Amateur Radio in 1985 on bands above 225 MHz and at power levels up to 100 W, there's been limited--but never widespread--experimental amateur operation. More recently, the FCC has made the SS rules less restrictive in response to League showings that the rules were hampering SS experimentation and that interference has not proven to be an issue.

The ARRL says it now agrees with those who opposed the automatic power control provision in

WT Docket 97-12, concluded in 1999. Those changes not only relaxed rules governing the use of spread spectrum techniques by radio amateurs but opened the door to the possibility of international spread spectrum communication.

"Now seven years later, it is apparent to ARRL that the rules requiring APC indeed have proven to be difficult to implement, unnecessary and something of a barrier to SS experimentation," the ARRL said in its latest rule making petition. "Section 97.311(d) can be greatly simplified without increasing the risk of intra-service or inter-service harmful interference."

The ARRL said keeping the maximum power at 100 W limits the power spectral density of an SS emission, contributing to compatibility between Amateur Radio SS and narrowband modes in the same allocations. The rules already in place make spread spectrum "essentially secondary to any amateur narrowband emission modes," the League pointed out, and make the APC requirement unnecessary to avoid interference to other users of the same spectrum.

In any event, the League concluded, radio amateurs employing SS modes would remain obliged to comply with the rule requiring use of "the minimum transmitter power necessary to carry out the desired communication." That was a primary reason the ARRL asked for the APC provision in the first place.

The FCC has not yet assigned a rule making (RM) petition number to the ARRL's petition nor invited comments.

In its Notice of Proposed Rule Making (NPRM) WT Docket 04-140, the FCC, in response to another ARRL petition, proposed extending the bands available for spread spectrum to include 222-225 MHz. On its own initiative, the Commission also recommended permitting SS operation on 6 and 2 meters, a move the ARRL opposes. In its comments, the League cited concerns about raising the noise floor on 6 meters and the fact that both bands already support substantial narrowband and weak-signal work, meaning "fewer opportunities for frequency reuse in those allocations."

The Commission is expected to conclude WT Docket 04-140 this year. The FCC suggested that restrictions on spread spectrum already in place should be sufficient to prevent any adverse impact of SS operation to other users of 6 and 2 meters. --ARRL Letter

## **DAYTON HAMVENTION® ANNOUNCES 2006 AWARD WINNERS**

Dayton Hamvention has announced the winners of its 2006 Amateur of the Year, Special Achievement and Technical Excellence awards. Being honored for their contributions to the Amateur Radio Service are Gordon West, WB6NOA -- Amateur of the Year; Riley Hollingsworth, K4ZDH -- Special Achievement Award, and Dick Illman, AH6EZ -- Technical Excellence Award.

West, of Costa Mesa, California, was named Amateur of the Year for his efforts in recruiting and training many new amateurs, in addition to his nearly lifelong involvement in ham radio. A Radio Club of America fellow and a recipient of the ARRL Instructor of the Year Award, West volunteers with the American Red Cross communications team in Orange County and regularly offers free kids classes and classes for cities to support their Community Emergency Response Teams (CERT).

"It's my give-back to a hobby that gives me the satisfaction of offering free classes for kids and emergency responders," West said "and I thank all the ham operators who support our training program, and the ARRL for their continued support with the emergency communication Web-based classes."

Hollingsworth, who's Special Counsel in the FCC Enforcement Bureau at the Commission's

Gettysburg, Pennsylvania, office, will receive Hamvention's Special Achievement Award. Hamvention is recognizing Hollingsworth's efforts, begun in 1998, to resurrect the FCC's Amateur Radio enforcement program. Radio amateurs across the US have credited Hollingsworth with reducing malicious interference and other problem behavior on the air.

First licensed in 1960 in his home state of South Carolina, Hollingsworth is a member ARRL, QCWA and F.I.S.T.S.

Illman, who lives in St Charles, Illinois, was picked to receive the 2006 Technical Excellence Award. The honor recognizes his work as principal staff engineer at Motorola in developing the company's patent-pending Powerline LV broadband over power line (BPL) system, which essentially eliminates HF interference.

Motorola and the ARRL have cooperated in deploying a test stand Powerline LV system between ARRL Headquarters and W1AW. Preliminary test results have shown the Powerline LV system to be Amateur Radio-friendly. Illman's idea to include a set of hardware notch filters to protect Amateur Radio beyond the traditional technique of turning off specific carriers is an industry first.

Hamvention Chairman Jim Nies, WX8F, praised the winners on behalf of the Dayton Amateur Radio Association and Hamvention. "Please join me in recognizing each of these gentlemen for their outstanding contributions to Amateur Radio and their many years of devotion to the Amateur Radio Service," he said.

Held this year from May 19 until May 21, Dayton Hamvention, the world's largest Amateur Radio gathering, annually attracts more than 25,000 people to the greater Dayton area. The event includes exhibits, a flea market, forums and educational sessions. More information is on the Hamvention Web site <http://www.hamvention.org>. -ARRL Letter

## **AMATEUR RADIO POISED TO STAY WITHIN FCC WIRELESS TELECOMMUNICATIONS BUREAU**

The FCC approved a proposal March 17 to create a new Public Safety and Homeland Security Bureau (PS&HSB) that would assume some functions now under the umbrella of the Wireless Telecommunications Bureau (WTB). But it appears that the Amateur Radio Service--now within the WTB's Public Safety and Critical Infrastructure Division, headed by Michael J. Wilhelm, WS6BR--will remain within the WTB, according to Anthony Dale, Acting Director of the FCC's Office of Managing Director (OMD).

"The Critical Infrastructure piece -- that's things like taxi cabs, Amateur Radio, chemical plants, all that type of thing -- those are not public safety-specific functions," Dale said in response to a reporter's question following the FCC open meeting. "The plan is to keep those in the Wireless Bureau."

Mika Savir, an attorney advisor within the FCC's OMD, presented the proposal to the Commission. "By this action, the Commission would take an important step to better address public safety, homeland security, national security, emergency management and preparedness and disaster management," she said. "As you know, the Commission has a statutory mandate to assist in promoting the safety of life and property, as well as the national defense, through the use of communications."

An official document spelling out just which functions and services will end up where has not yet been made public, and even Dale did not appear to be entirely clear on specifics. He and others stressed that some PS&HSB functions may overlap those of other bureaus.

The last changes affecting the functions of the WTB occurred in 2003. This reorganization has been several months in the planning. Some observers had speculated that Amateur Radio would be shifted to the PS&HSB, thus removing it from the WTB's market-based approach to regulation. Moving some of the WTB's current responsibilities to the new bureau, however, could speed up the process of moving Amateur Radio-related proceedings through the Commission. –ARRL Letter

## **FCC CLARIFIES RENEWAL PROCEDURES FOR VANITY CALL SIGN HOLDERS**

With the renewal window about to open for the first Amateur Radio licenses assigned vanity call signs in 1996, the FCC's Wireless Telecommunications Bureau (WTB) has attempted to clarify filing procedures. The WTB says vanity call sign holders whose licenses expire on or after June 4, 2006, must file electronically or on paper via the Universal Licensing System (ULS) <http://wireless.fcc.gov/uls/> to renew their licenses. Amateur Radio renewal applications may only be filed within 90 days of the license expiration date.

"Licensees of stations assigned vanity call signs have the option of keeping the vanity call sign or requesting that it be changed to a sequentially assigned call sign," the WTB points out. Those opting to keep their vanity call signs for the new 10-year license term must pay the current regulatory fee, now \$21.90, when renewing (the vanity call sign regulatory fee may change in August or September). If the licensee no longer wants to keep a vanity call sign, no fee is required, and the applicant should request a sequentially assigned call sign instead.

Amateur Radio licensees holding vanity call signs granted prior to 1996 do not have to pay a regulatory fee when renewing. This is because Congress did not begin requiring the FCC to annually recover its regulatory costs until 1993. Additionally, such licensees are not specifically tagged as vanity call sign holders in the ULS.

To renew electronically via the ULS, licensees should log into ULS License Manager <http://wireless.fcc.gov/uls/> Online Filing (click on "Log In") using their FCC Registration Number (FRN) and Commission Registration System (CORES) password. Anyone doing business with the FCC must supply an FRN on any application.

To keep a vanity call sign, licensees should select "Renew" under the "Work on this License" option. Fees for electronically filed applications may be paid online or mailed to Federal Communications Commission, Regulatory Fees, PO Box 358835, Pittsburgh, PA 15251-5835.

Online filers choosing not to renew a vanity call sign should select the "Systematic Call Sign Change" option from the "Work on this License" list. To obtain a new call sign, licensees should answer "No" to the question "Your license is eligible for renewal. Renew call sign (vanity call sign)?" Doing this will result in the issuance of a renewed license bearing a sequentially assigned call sign.

Licensees filing on paper must use FCC Form 605 (main form), and--if a fee is required--Form 159 (remittance advice). Licensees wishing to keep their vanity call signs should enter "Renew" under "Purpose" on Form 605 and enter the present call sign in item 5. Manual filers choosing not to renew their vanity call signs must file Form 605 (main form) Schedule D in order to obtain a new systematic call sign. The "Purpose" on the main form must be "Renewal/Modification," and the "Systematic Call Sign Change" question on Schedule D must be answered "Yes."

If no FRN is provided on the main form, an FCC Form 160 (registration) is also required for manual filing. All forms are available via the FCC Forms page <http://www.fcc.gov/formpage.html>.

For more information on how to renew an Amateur Radio vanity call sign, visit the FCC Help & Support page <http://esupport.fcc.gov/index.htm> or call the ULS Customer Support Hotline, 877-480-3201 (TTY 717-338-2824).

The ARRL handles routine non-vanity renewals for members free of charge. At this time, it does not process renewal applications for post-1995 vanity call sign holders, but ARRL plans to add that capability in the near future. –ARRL Letter

## SHORTS

**NASA HONORS TV JOURNALIST, ANCHOR WALTER CRONKITE, KB2GSD:** NASA has honored legendary CBS TV news anchor Walter Cronkite, KB2GSD, for his coverage of the US space program. Cronkite, who has narrated two ARRL Amateur Radio videos, received the Ambassador of Exploration Award February 28. "His marathon, live coverage of the first moon landing brought the excitement and impact of the historic event into the homes of millions of Americans and observers around the world," NASA said in announcing the award. NASA is presenting the Ambassador of Exploration Award to the 38 astronauts and other key individuals who participated in the Mercury, Gemini, and Apollo space programs for realizing America's vision of space exploration from 1961 to 1972. Cronkite is the first non-astronaut and only NASA outsider to receive the award, which consists of a small, encased sample of lunar material mounted for public display. Cronkite is the best-remembered journalist for his commentary and enthusiastic coverage of the historic progression of missions from the early Mercury launches, through the ground-breaking Gemini missions, to the Apollo 11 and subsequent moon landings. –ARRL Letter

**NOMINATIONS INVITED FOR 2006 YOUNG HAM OF THE YEAR AWARD:** Nominations are now being accepted for the 2006 Amateur Radio Newline Young Ham of the Year (YHOTY) Award. The award honors a licensee 18 years old or younger who has used ham radio to significantly contribute to the benefit of the Amateur Radio Service, to the state of the communications art, to the community or the nation. This year, nominations are being accepted for Amateur Radio operators living in the US and in the 10 Canadian provinces. Nominations and supporting materials must be submitted before May 30, 2006, on an official application. To obtain a nomination form, send a self-addressed, stamped envelope to 2006 Young Ham of the Year Award, c/o Newline, 28197 Robin Ave, Santa Clarita, CA 91350, or download the form from the Internet [http://www.yhoty.org/YHOTY\\_2006\\_Nomination\\_Form.pdf](http://www.yhoty.org/YHOTY_2006_Nomination_Form.pdf). Nominations may be made online using a Web form <<http://www.yhoty.org/2006.htm>>, but supporting materials must be submitted separately. Presentation of the 2006 YHOTY Award will take place in August at the Huntsville Hamfest in Alabama. There's more information on the YHOTY Web site <http://www.yhoty.org/>. –ARRL Letter

**MARYLAND UTILITY ENDS LIMITED BPL PILOT:** The Southern Maryland Electric Cooperative (SMECO) has ended a limited broadband over power line (BPL) pilot project, concluding that the technology is not yet ready for prime time in its service area. "At this time, SMECO believes that BPL technology needs to advance further before it can meet the needs of our customers," the utility said in its March customer newsletter, Cooperative Review <http://www.smeco.com/pdfs/coopreview/currentissue.pdf>. "BPL signal speeds and bandwidth are not competitive with other technologies currently available." The ARRL is unaware of any radio frequency interference complaints related to the SMECO BPL test, which ran from April through December 2005 and used Current Technologies equipment, which has shown to have comparatively less potential to interfere with Amateur Radio. The utility also cited safety concerns, the impact of BPL on the co-op's current construction practices and "the lack of a proven method for delivering BPL signals via underground power lines," which make up 60 percent of SMECO's power grid. The utility further noted that currently available BPL hardware is not remotely



programmable, something it would need to offer such services as pay-per-view programming, and that should the power grid get knocked out, BPL service would go down with it. A member-owned electric co-op, SMECO serves more than 130,000 customers in four Southern Maryland counties. --ARRL Letter

**AMSAT NAMES DIRECTOR OF EDUCATION:** AMSAT-NA has named H. Paul Shuch, N6TX, as its Director of Education. An AMSAT Board of Directors member, Shuch received his doctorate from the University of California-Berkeley and has an extensive background in teaching, curriculum development, communications, and engineering. AMSAT says Shuch's highest priority will be integrated curriculum development at all educational levels, with an emphasis on using satellites in the classroom, to enhance the teaching of science, math, geography, social studies, technology, and the social sciences. "I will invite all teachers within AMSAT to share with me their current, past, or planned use of satellites in the classroom, their instructional materials, and their desires in terms of future curricular development," Shuch said. AMSAT already participates in the Amateur Radio on the International Space Station (ARISS) program, which helps to educate about human spaceflight and offers youngsters a chance to speak with the ISS crew via ham radio. Shuch says he'll seek ways to encourage ARISS schools and teachers "to take the next step, with programs to leverage that enthusiasm into an ongoing interest in math, science and Amateur Radio." Among other initiatives, he also wants to bring satellite builders and satellite users together in an educational setting and get satellite developers "fired up about supporting the classroom use of their creations." --ARRL Letter

**ALTA VISTA SEARCH ENGINE CO-INVENTOR PAUL FLAHERTY, N9FZX, SK** -- Paul A. Flaherty, N9FZX, of Belmont, California, died unexpectedly March 16. He had turned 42 just two days earlier. A co-inventor of the Alta Vista <http://www.altavista.com/> search engine, Flaherty, who was born in Milwaukee, developed his lifelong interest in computers and radio after his family moved to Minnesota. A *summa cum laude* graduate of Marquette University with degrees in electrical engineering and mathematics, Flaherty went on to earn master's and doctoral degrees at Stanford. In 1995, while working as a research scientist for Digital Equipment Corp, Flaherty was part of the team that developed the Alta Vista search engine, which became the most popular of the early Internet indexing utilities. Its Babel Fish <http://babelfish.altavista.com/> translation site remains popular.) In addition to Amateur Radio, Flaherty had an abiding interest in railfanning -- train chasing -- and had earned a reputation as a railroad photographer <http://www.goatlick.com/chasing/index.htm>. Survivors include his wife Natasha, N6YBV, his parents and four brothers.--ARRL, *the San Francisco Chronicle*

---

THE *RCA ARC MONTHLY NEWSLETTER* IS COMPILED AND EDITED BY JIM RINEHART, AND JIM KEETH. ALL MATERIAL CONTAINED HEREIN IS OBTAINED FROM THE SOURCES CREDITED AND EDITED FOR THIS NEWSLETTER. THE RCAARC INFORMATION PHONE NUMBER IS (317) 587-3059. EMAIL TO [w9rca@thomson.net](mailto:w9rca@thomson.net). Check our web site at <http://www.w9rca.org>