RCA AMATEUR RADIO CLUB

SEPTEMBER, 2006 **MONTHLY NEWSLETTER** INDIANAPOLIS, IN

THE NEXT MEETING OF THE **RCA AMATEUR RADIO CLUB** WILL BE
TUESDAY, SEPTEMBER 5th, AT 6:30 PM AT DOOKZ SPORTS GRILL,
3800 E. 96th STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE AUGUST MEETING – K9RU reported in the last couple of days before Field Day this year, he had several calls from people wanting to participate. Too bad they didn't speak up sooner. The conclusion was that the Club should do Field Day next year. The W9RCA Club license needs to be renewed this fall. K9RU will handle it. The club station and antennas have been removed from Thomson headquarters. K9RU reported that the repeater building had been broken into and a thousand foot reel of coax was stolen along with a few tools. Whether or not the Club should sell junk at the Greenfield Hamfest on Sept. 24 was discussed. This will be decided at the Sept. meeting. Thanks again to Jon Powell, for the use of his trailer for the Indy Hamfest. Unfortunately, Jon has since sold the trailer so we'll have to make other plans for next year.

PRESIDENT'S RAMBLINGS

W9RCA Repeater Problems -- The computer used to control the '88 repeater system had a hard drive failure after the move from Thomson headquarters. The computer had been running continuously for about 10 years before the move. It was checked out the day of the move at the new location and started up normally. But, a couple of weeks later when AF9A and K9RU tried to reconnect the computer and repeater the computer failed to come up.

K9RU has taken the computer home, but no luck so far. It does not sound like the Hard Drive is running. The computer runs DOS with a third party IO card controlling the repeater. KF9UH wrote the software to work with our custom repeater interface.

Currently, the repeater is running in the local or “Koss Mode” using a simple controller, which was used when the repeater
Anyone interested in helping out, let us know.

Club Elections – According to our constitution we are to have nominations or set up a nominating committee at the September meeting with elections at the October meeting. Anyone interested in running for office?

Contest Session Starts -- Fall brings the start of football and the contest session. In September there is the ARRL VHF contest and the WAE. October is the CQ World Wide Phone contest. November is ARRL SS CW and Phone. December brings the ARRL 10 meter contest. The fall typically offers some of the best HF band condition and the CQ WW Phone is the biggest DX contest of the year.

K9RU and N9KZJ will operate the ARRL VHF contest from W9VW. Look for NE9O, he is usually operating as a rover. –K9RU

HAMFESTS; EVENTS

Sept. 24	Hancock County 4-H Fairgrounds, Greenfield, IN
Oct. 8	Lake County Fairgrounds, Crown Point, IN
Nov. 18-19	Allen County War Memorial Coliseum, Fort Wayne, IN
Nov. 25	Vanderburgh Co. 4-H Auditorium, Evansville, IN

INDIANA, AUSTRALIAN YOUNGSTERS STEP UP TO THE MICROPHONE TO SPACE

Pupils at Robinson Elementary School in Anderson, Indiana, and at Teven-Tintenbar Public School in New South Wales, Australia, learned more about life in space when they spoke via ham radio earlier this month with ISS crew member Jeff Williams, KD5TVQ. The Amateur Radio on the International Space Station (ARISS) program arranged both direct VHF contacts. During the August 2 QSO between W9VCF at Robinson Elementary and NA1SS in space, one youngster offered a new twist on the typical "food question." He wanted to know how the space station crew was able to eat without their meals floating away.

"Well, it does float if you let it go," Williams allowed. "Wet food, if you fish it out of the container with a spoon, will stick to the spoon. Sometimes dry food you can let float and catch it in your mouth." He said moist food is easier to consume because it will stick to a utensil or the container. "We are well supplied with food," he said in reply to another pupil's question.

Williams told the youngsters he enjoys being an astronaut because "we do some pretty cool things, and that's what my passion is." He said he became an astronaut because he believes in space exploration that eventually will take human beings outside of Earth orbit and on to the planets.

Responding to another question, he told the youngsters that all three space travelers now onboard the ISS get along very well. There are three crew members on the ISS: Williams, ISS Expedition 13 Commander Pavel Vinogradov, RV3BS, of Russia, and Thomas Reiter, DF4TR, of Germany.

"We have a whole bunch of experiments that we're doing that will help us understand what it takes to counter the weightless environment for people in long-durations in space," Williams explained, "primarily in preparation for going back to the moon and staying there and on to Mars, because it takes a long time to get to Mars, do the mission and come back."

Williams said he misses his family most of all during his space mission. "I also miss the smells of Earth," he continued, "the smells of nature -- flowers, the wind. I miss quietness."

ARISS http://www.rac.ca/ariss is an international educational outreach, with US participation by ARRL, AMSAT and NASA. --ARRL Letter

"RADIATION BELT REMEDIATION" PLAN COULD AFFECT HF PROPAGATION, STUDY SUGGESTS

A New Zealand university research group believes a US Defense Advanced Research Projects Agency (DARPA) "Radiation Belt Remediation" (RBR) plan could cause major worldwide disruptions to HF radio communication and GPS navigation. DARPA reportedly envisions RBR as a way to protect low-Earth orbiting (LEO) satellites from damage caused by severe solar storms or even from high-altitude nuclear detonations. The New Zealand-based research group suggests, however, that policymakers need to carefully consider the implications of the project. Headed by Craig Rodger of the University of Otago Physics Department, the research group says RBR could significantly affect radio propagation from several days to a week or longer.

"We've calculated that Earth's upper atmosphere would be dramatically affected by such a system, causing unusually intense HF blackouts around most of the world," Rodger said. "Airplane pilots and ships would lose radio contact, and some Pacific Island nations could be isolated for as long as six to seven days, depending on the system's design and how it was operated." GPS would likely also be disrupted on a large scale, he added.

System tests would employ extremely high-intensity, very low frequency (VLF) radio waves to "flush" particles from radiation belts and dump them into the upper atmosphere. The disruptions would result from the deluge of dumped charged particles temporarily changing the ionosphere from a "mirror" that bounces HF radio waves around the planet to a "sponge" that soaks them up, Rodger explains.

The group's paper, "The atmospheric implications of radiation belt remediation" http://www.physics.otago.ac.nz/research/space/ag-24-2025.pdf, appears in the August edition of the international journal Annales Geophysicae. University of Otago researchers collaborated with UK and Finnish scientists in its preparation.

ARRL Propagation Report Editor Tad Cook, K7RA, contacted Rodger to learn more about the RBR proposal. Rodger told him that RBR "is a serious project, that 'money is starting to appear to investigate it in more detail,' and 'US scientists with military connections are treating it seriously'," Cook said.

Unclassified US Department of Defense budget documents from earlier this year have proposed using Alaska's High Frequency Active Auroral Research Project (HAARP) "to exploit emerging ionosphere and radio science technologies related to advanced defense applications." HAARP is jointly operated by the US Air Force and the US Navy. The project appears to be included under a program called "Sleight of HAND" (SoH).

"The effects of High Altitude Nuclear Detonations (HAND) are catastrophic to satellites," the budget report explains. "HAND-generated charged particles are trapped for very long periods of time, oscillating between the earth's north and south magnetic poles. This enhanced radiation environment would immediately degrade low-earth orbiting (LEO) spacecraft capability and result in their destruction in a short period of time."

The military budget documents refer to the SoH program as "a proof of concept demonstration" of technology and techniques to mitigate the HAND-enhanced trapped radiation, with the goal of accelerating "the rate of decay of trapped radiation from the LEO environment by a factor of 10 over the natural rate of decay." --ARRL Letter

REPORTED "FIREDRAGON" JAMMER/INTRUDER SHIFTS FREQUENCY

A Chinese-language "intruder" signal first spotted earlier this summer on 14.260 MHz this week shifted frequencies. International Amateur Radio Union Region 1 Monitoring System (IARUMS) Vice coordinator Uli Bihlmayer, DJ9KR, says the powerful jammer -- dubbed "Firedragon" -- had been transmitting solely Chinese music on 14.260 MHz since August 5.

"This offender is active day and night -- all day, every day -- and causing very harmful interference to the Amateur Radio Service," Bihlmayer informed ARRL Monitoring System/Intruder Watch Liaison Chuck Skolaut, K0BOG, and IARU Region 2 Monitoring System Coordinator Bill Zellers, WA4FKI, on August 15. In an August 17 update, however, Bihlmayer said the music jammer had moved to 14.050 MHz. That part of the 20-meter band is allocated to the Amateur Radio Service on an exclusive basis throughout the world.

Prior to August 5, Skolaut said, reports indicated that the transmission contained both talk and music and was more intermittent, but "now it's pretty continuous and entirely music."

According to Bihlmayer, German telecom authorities pinpointed the transmitter's location as Hainan Island in Hainan Sheng Province, Peoples' Republic of China (PRC), located south of the mainland in the Gulf of Tonkin. Hainan Island also was the apparent source of an over-the-horizon radar signal heard on 75 meters in Region 3. Bihlmayer said.

Citing complaints from members, Skolaut has reported the intruder to the FCC, although as he and Zellers point out, the Commission has no authority to make intruder stations outside the US stop transmitting on Amateur Radio frequencies. Such situations typically are dealt with through diplomatic channels.

Skolaut says he was able to hear the jammer for himself this week -- on its new frequency -- from W1AW. Until earlier this week, the same jammer also was appearing on 18.160 MHz. In July, Bihlmayer alerted telecom authorities in Germany and Hong Kong, as well as IARU Region 3 and the PRC embassy in Berlin to the situation. The 17-meter band also is a worldwide exclusive Amateur Radio allocation.

According to reports filed this month with DX Listening Digest <http://www.worldofradio.com/index.html>, the 14.260 MHz Firedragon signal was an effort by the PRC to jam the clandestine "Sound of Hope" transmission beamed to the Chinese mainland from Taiwan, with Amateur Radio operators being caught in the crossfire. The "parallel" signal on 18.160 MHz apparently disappeared earlier this week, and the jammer now has been appearing on 17.330 MHz. The signal also has been heard on 7.130 MHz, which is allocated to broadcasters in much of the world outside of Region 2 (the Americas).

Short wave listeners said the AM carrier, heard earlier this summer on various 20-meter phone band frequencies, would occasionally drop out at the top of the hour, apparently for a monitoring check, then reappear five minutes later.

Skolaut says he's received reports about the music jammer from all over the US. "I have one ham reporting it regularly from New Zealand," he said. –ARRL Letter

VANITY CALL SIGN FEE TO DROP SEPTEMBER 6

The regulatory fee to obtain or renew an Amateur Radio vanity call sign will drop slightly starting with applications received by the FCC on or afterWednesday, September 6, the FCC's Wireless Telecommunications Bureau (WTB) said this week. The new fee will be $20.80 for the 10-year license term. This year promises to be a big one for vanity call sign renewals, since the initial round of vanity grants under the current system occurred in 1996. Licensees who want to retain vanity call signs issued under the curren (post-1995) system must pay the regulatory fee when renewing.

"Consistent with our established practice, we plan to collect these regulatory fees in the August-September 2006 time frame in order to collect the required amount by the end of the fiscal year," the FCC explained in a July 17 Report and Order (R&O), "Assessment and Collection of Regulatory Fees for Fiscal Year 2006," in MD Docket 06-68. The FY 2006 vanity fee is a bit higher than the $20.10 for the license term that the Commission had proposed in a Notice of Proposed Rule Making last March. The current vanity call sign fee of $21.90 remains in effect for applications received by the FCC before September 6.

Amateur Radio licensees may file renewal applications no sooner than 90 days of their license expiration date. While the regulatory fee payment is required from licensees wishing to keep their current vanity call signs after renewal, vanity holders can opt to get a sequential call sign and avoid paying any fee when they renew.

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.

The ARRL VEC will process license renewals for vanity call sign holders for a modest fee. The service is available to ARRL members and nonmembers, although League members pay less. Routine, non-vanity renewals continue to be free for ARRL members. Trustees of club stations with vanity call signs may renew either via the ULS or through a Club Station Call Sign Administrator, such as ARRL VEC.

Somma says the ARRL's new license renewal/modification Web pages http://www.arrl.org/fcc/memberlicenseinstructions.html contain complete information on license-filing procedures, including step-by-step instructions on how to renew or update a license using the ULS http://wireless.fcc.gov/uls/. Also see QST Magazine for September, 2006 page 44. --ARRL Letter

ISS CREW, ARISS TEAM TROUBLESHOOTING SLOW-SCAN TV SYSTEM

The Amateur Radio on the International Space Station (ARISS) http://www.rac.ca/ariss team is coordinating with Expedition 13 Commander Pavel Vinogradov, RV3BS, and ARISS-Russia's Sergei Samburov, RV3DR, to troubleshoot the slow-scan television (SSTV) system onboard the ISS. The SSTV system remains off the air.

"Photos of the current SSTV configuration that were downlinked to Earth showed several unanticipated results from the initial tests," ISS Ham Radio Project Engineer Kenneth Ransom, N5VHO, told ARRL. "More extensive troubleshooting is being developed and could further delay permanent activation of the radio." He pointed out that Vinogradov is only able to work on the system in his free time; he's also due to return to Earth in September.

During the early stages of SSTV testing in late July, Vinogradov thrilled Earth station operators by manually transmitting several pictures on 2 meters (the system has been using 144.490 and 145.800 MHz) using the RS0ISS call sign. Ransom says initial tests were run over Moscow, and then the system was left on for a few orbits.

Plans call for Vinogradov to continue checking out the SSTV software, configure and optimize the radio and perform integration checks necessary. So far, the SSTV system has been unable to function properly in the autonomous "slide show" mode, Ransom said.

Miles Mann, WF1F, who developed the SSTV system as an ARISS project, explains that slide-show mode will permit the crew to preload a directory of images that then will automatically be transmitted to Earth. "The crew will not need to keep pushing a button to send images," he said in a recent news release. "In theory, the system can run for weeks at a time without crew involvement."

The SSTV system is not yet configured to receive SSTV transmissions from Earth stations, and no uplink frequency will be made public until testing is done. Earthbound radio amateurs are advised not to attempt to transmit SSTV images to the ISS. Mann has posted detailed information about the SSTV project on his MAREX-NA Web site http://www.marexmg.org./. –ARRL Letter

LONG-SILENT SUITSAT-1 KEEPS GOING AND GOING

When SuitSat-1 -- the novel satellite built in a surplus Russian Orlan spacesuit -- was launched during a spacewalk from the International Space Station last February 3, those familiar with orbital mechanics predicted it would stay in orbit for 120 days at best. As of August 25, some 203 days (nearly seven months) later -- largely forgotten and its ham radio voice long since silent -- SuitSat-1 has defied the odds and remains in orbit some 155 miles above Earth.

A project of the Amateur Radio on the International Space Station (ARISS) program, SuitSat-1, identifying as RS0RS, transmitted its voice greetings on 2 meters plus an SSTV picture thousands of times. Although its signal was far weaker than it was supposed to be for reasons never determined with any certainty, SuitSat-1 remained operational for more than two weeks.

ARISS International Chairman Frank Bauer, KA3HDO, had credited ARISS-Russia's Sergei Samburov, RV3DR, and his colleagues with coming up with the SuitSat concept, called Radioskaf or Radio Sputnik in Russian.

The SuitSat-1 mission proved to be an Amateur Radio public relations bonanza. In addition to prompting dozens of news items on Web sites and in journals around the world, Reader's Digest judged SuitSat-1 "Best Empty Suit" in its "America's 100 Best: The 2006 List" Popular Science ran an article about SuitSat-1 in its June issue called "Tossed in Space."

To keep the SuitSat-1 momentum going a bit longer ARISS and AMSAT in May announced a "Chicken Little Contest" http://www.amsat.org/amsatnew/ariss/suitsatContest.php, in which participants pick the date on which they believe SuitSat-1 will drop out of orbit and burn up in Earth's atmosphere. Entrants are only allowed one guess, and the winner will be the individual who picks the date closest to SuitSat-1's actual demise. Those who have not already entered may do so by filling out the online entry form on the AMSAT Web site. The odds could be in their favor.

Certificates will go to winners in each of three age groups. Winners not only earn bragging rights, but the fame and notoriety associated with successful satellite re-entry prognostication. --ARRL Letter

CLIFFORD BUTTSCHARDT K7RR, SK

Cliff Buttschardt, K7RR (formerly W6HDO) became a silent key July 30, 2006 at 9:47 PM PDT. He was a lifetime member of both AMSAT and the ARRL, and an original member of Project OSCAR. He died quietly in his home in Morro Bay after battling inoperable cancer of the esophagus for many months.

Cliff was born in 1931 in Brooklyn, NY and later lived in Garden City on Long Island. Cliff finished school in San Jose and went on to graduate from San Jose State with a degree in electrical engineering. After graduation Cliff joined the Navy where he worked as a radioman. He later worked at Raytheon in Santa Barbara and SRI International in Palo Alto.

While at SRI he became a member of the original Project OSCAR Radio club and supported the construction of OSCAR-I. Over his lifetime Cliff supported many of the amateur satellites that were launched from Vandenberg AFB. In 2001 Cliff while teaching at Cuesta College in San Luis Obisop, Cliff, along with Ed English W6WYQ, began work on the CubeSat project. Cliff then moved over to California Polytechnic State University (Cal Poly) where he and Ed continued to mentor students who were just starting up the initial CubeSat designs.

In March of 2006 the Project OSCAR Board of Directors voted unanimously to award Cliff its highest honor, the Lifetime Achievement Award, for his contributions to amateur satellites, amateur radio and the CubeSat program. The award was presented during the CubeSat Launch Party at Cal Poly on 26 July 2006, and to Cliff personally at his home on the same day. –AMSAT News Service

SHORTS

TWO RADIO AMATEURS TO BE ABOARD SHUTTLE ATLANTIS: Mission Specialist Heide Stefanyshyn-Piper, KD5TVR, and Dan Burbank, KC5ZSX, will be the only US Amateur Radio licensees aboard the shuttle Atlantis, scheduled to head for the International Space Station the week of August 27, weather permitting. The only woman on Mission STS-115, Stefanyshyn-Piper will be making first trip into space since becoming an astronaut 10 years ago. Burbank previously flew on Mission STS-106. In addition to Stefanyshyn-Piper and Burbank, the STS-115 crew consists of Commander Brent Jett, Pilot Chris Ferguson and mission specialists Joe Tanner and Steve MacLean, who represents the Canadian Space Agency. This mission will mark the first time in nearly four years that a space station component will be added to the orbiting outpost, which is home to NA1SS. During three spacewalks, Atlantis crew members will install a second set of solar arrays on the space station -- doubling the station's ability to generate power from sunlight -- and the P3/P4 truss to support the arrays. No Amateur Radio operation from Atlantis is planned. The ISS recently did an orbital "reboost" to place the station at the correct altitude to support the rendezvous with Atlantis as well as September's Soyuz launch of the Expedition 14 crew. –ARRL Letter

VAN ALLEN, AN ORIGINAL SPACE EXPLORER, SK - Physicist James A. Van Allen, a leader in space exploration who discovered the radiation belts surrounding the Earth that now bear his name, has passed away. In a career that stretched over more than a half-century, Van Allen designed scientific instruments for dozens of research flights, first with small rockets and balloons, and eventually with space probes that traveled to distant planets and beyond. Van Allen gained global attention in the late 1950s when instruments he designed and placed aboard the first U.S. satellite, Explorer I, discovered the bands of intense radiation that surround the earth, now known as the Van Allen Belts. –AMSAT News Service

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