RCA AMATEUR RADIO CLUB

MAY, 2011 **MONTHLY NEWSLETTER** INDIANAPOLIS, IN

THE NEXT MEETING OF THE **RCA AMATEUR RADIO CLUB** WILL BE
TUESDAY, MAY 10TH, 6:30 PM AT G.T. SOUTH'S,
5711 E. 71st STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE APRIL MEETING -- Our Club's participation in the Indy Hamfest (July 9) was discussed. We have quite a large quantity of small parts to be sold "by the bag." We will purchase seven tables this year. Jon Powell will use two of them. K9RU reported on the state of the business owned by Mike Koss and the future (or lack of) for our repeater. Several possible new repeater sites are being mentioned, but there is no decision or even a shut down date for the present site. Our Club sent flowers to Mike Koss' funeral. Field Day (June 25-26) will again be at the Sheriff's building at the Marion County Fair Grounds. Quite a good site for FD. There was a good deal of discussion on the good HF band conditions we've been enjoying lately.

INDIANA QSO PARTY IS COMING UP -- Don't forget the Indiana QSO Party starting at 1600 Z on Saturday May 7, lasting for 12 hours. Website is http://www.hdxcc.org/inqp/ New for 2011 is a Multi-operator, multi-transmitter class... perfect for clubs to try out their Field Day setup with all the signals they can muster.

Also.... mobiles, portables and rovers .... the County Hunter contest has moved to a different weekend this year... so why not operate in Indiana on May 7? Post plans for your counties now!!! There are only 92 Indiana counties so don't delay. Stations planning to operate from Indiana can post plans on the INQP reflector (sign up from the website) or send them to KJ9C@arrl.net. --Mel KJ9C

RCA ARC PLANS FOR THE DAYTON HAMVENTION -- Here are the plans for this year at the Hamvention... We will use 144.430 MHz simplex. Meet as usual in the northwest corner of the arena with the permanent seats at noon on Friday and again Saturday. Grab something to eat for lunch and join us there. We plan to meet for dinner at Old Hickory, 4029 North Main Street, (Rte 48) after the hamfest Friday evening only. Join us for a great steak at a reasonable price.

HAMFESTS, OPERATING EVENTS & TESTING

May 7 – 8	Indiana QSO Party
May 20 – 21	Dayton Hamvention
Jun 11	South Bend Hamfest, South Bend, IN http://w9ab.org
June 25 - 26	Field Day
July 9	Indy Hamfest, Camp Sertoma, Indianapolis http://www.indyhamfest.com

All dates, unless otherwise stated, are UTC. See the ARRL Contest Branch page, http://www.arrl.org/contest-update-issues, the WA7BNM Contest Calendar, http://www.hornucopia.com/contestcal/ and the ARRL Special Event Stations page, http://www.arrl.org/special-event-stations for more info. See ARRL training page for test sessions: http://www.arrl.org/exam_sessions/search

THE ARRL HAM AID FUND NEEDS YOUR HELP TO SUPPORT RADIO COMMUNICATIONS IN ALABAMA

ARRL's Ham Aid Fund has been tapped to aid Amateur Radio operations in Alabama, following the **wake of destructive killer tornadoes that ravaged the state last week**. According to ARRL Chief Development Officer Mary Hobart, K1MMH, hams in Alabama have requested radios and antennas, since cell tower sites and repeaters have been damaged and are not yet back up. "The ARRL has already shipped five cases to the state, full of 2 meter, 440 MHz and HF radios, as well as two cases of handheld transceivers with batteries," she said. "We anticipate the demand for equipment may continue from Alabama and possibly from neighboring states."

Hobart said that she knows that not every ham can be in Alabama to help out, but every ham can support the effort -- by contributing to the ARRL's Ham Aid Fund: "First created in response to Hurricane Katrina in 2005, the Ham Aid Fund has enabled ARRL to provide vital communication equipment to devastated areas along the Gulf Coast. Now the fund is purchasing equipment and funding shipping costs to meet the needs of hams in Alabama, as well as our served agencies such as the Southern Baptist Men's Kitchen and the American Red Cross."

How can you help? Hobart said that the best way is to make a contribution of $25, $10 or $5 -- or whatever you can afford. The ARRL will use your contribution to respond to the calls for assistance from Amateur Radio operators where repeaters, antennas and radios have been damaged or destroyed. "And this event may be just the beginning," she explained. "As hurricane season is on the horizon, we need to be prepared for those situations when all else fails. The easiest way to make your donation is on the **ARRL website**. Use the simple form and designate your contribution to the ARRL Ham Aid Fund. We'll put your gift to work right away in the affected area. On behalf of the ham community in Alabama, thank you!" --ARRL Letter

ARRL SCORES PARTIAL VICTORY IN RECONROBOTICS PROCEEDING

The FCC has given radio amateurs a partial victory in response to the ARRL's challenge, in a *Petition for Reconsideration*, of a rules waiver that permits the certification and licensing of the Recon Scout -- a remote-controlled, maneuverable surveillance robot operating in the 430-448 MHz band. The device is marketed to public safety agencies and certain security personnel by ReconRobotics Inc.

In an *Order on Reconsideration* released on April 15, the FCC granted the ARRL's request for changes in the labeling and instruction manual requirements to ensure that users of the device are aware of its limitations, with regard to interference. Noting that no applications for individual licenses to operate the Recon Scout had been granted, the FCC's Wireless Telecommunications Bureau, the Public Safety and Homeland Security Bureau, and the Office of Engineering and Technology deferred to the Commission's Enforcement Bureau with regard to complaints that ReconRobotics has been marketing uncertified devices and that the devices have been operating without authorization.

The FCC Order also acknowledged that the ARRL was correct in arguing that the waiver was insufficient in that it did not waive applicable provisions of Section 2.106 of the Commission's Rules, which contains the Table of Allocations of frequency bands to the various radio services. The Commission's solution was to "…retroactively waive the Table of Allocations to the extent necessary to permit use of the Recon Scout."

ReconRobotics did not object to the changes in labeling and instruction manual language sought by the ARRL. Recon Scout transmitters delivered after April 15, 2011 must carry the following label: "This device may not interfere with Federal or non-federal stations operating in the 420-450 MHz band and

must accept any interference received." The instruction manual must also include the following: "Although this transmitter has been approved by the Federal Communications Commission, it must accept any interference received from Federal or non-federal stations, including interference that may cause undesired operation." The 430-448 MHz band is allocated to the amateur service on a secondary basis and to Federal users in the radiolocation service on a primary basis; non-federal radiolocation stations are secondary to both federal radiolocation stations and amateur stations.

In other respects the ARRL *Petition for Reconsideration* was denied, as were petitions filed by individuals. While the FCC agreed that "there were possible inconsistencies between particular readings in the test data" submitted by ReconRobotics, the Commission found that the data "nonetheless demonstrated the particular suitability of the 420-450 MHz band" relative to higher-frequency bands. With regard to concerns that the devices will incur interference from amateur operations, the Commission continues to adhere to the view that "the possibility of the device incurring interference in some instances did not present a compelling reason to prohibit its use in all instances…. ReconRobotics has accepted that it may receive interference from amateur operations, and the Order specifies that the Recon Scout must accept interference from licensed users." –ARRL Letter

FCC LAUNCHES COMPLETE OVERHAUL OF WEBSITE

The Federal Communications Commission announced today that it has launched a complete overhaul of its website. According to an April 6 press release from the FCC, the new website is "architected with a more intuitive user experience and the addition of Web 2.0 technologies, the new site improves and simplifies the FCC.gov experience for consumers, government, public safety agencies and the business community." This is the first major update to the Commission's website in 10 years.

Even before Julius Genachowski became FCC Chairman in June 2009, he stressed his desire to improve and modernize the way the public interacts with the Commission and the federal government. Since then, the FCC has utilized Web 2.0 technologies on official agency blogs, multimedia and social media outlets, as well as opening the agency's processes via online participation platforms. According to the FCC, The Commission's New Media Team will continue to update the new website with the help of public input through the public engagement and participation features in the new **FCC.gov**, as well as the agency's social media outlets.

"This FCC is empowering consumers and businesses to get the most out of technology," Genachowski explained. "The launch of the new **FCC.gov** keeps us at the forefront of innovation, and delivers on our promise to move at the speed of high-tech change."

The press release explained that the new FCC website is built using web services -- a series of standards employed across many of the Web's most popular sites -- which empowers citizen developers to build off the new FCC site in innovative ways: "By building the new site using an open source, cloud-hosted and scalable architecture, the FCC has leveraged modern tools as a long-term cost-saving strategy, lowering the barriers to future development and innovation among other public and private sector websites." -- *Thanks to the FCC for the information, ARRL Letter*

MOVING PACKETS WITH DDP

Danny Knaggs, 2E0DPK, is designing and developing a new free, open source ham radio protocol called "DDP" -- for "Danny's Digital Packet" -- that provides a modern alternative to the existing packet radio protocol. Transmitted and received packets are "in plain text so they can be seen by eye (on the waterfall, console, etc.) and for ease of use and implementation."

Like any other communications protocol, DDP requires "modulation" to move its packets. **fldigi** http://www.w1hkj.com/Fldigi.html and RS-232 provide the back end for DDP to move its packets. By

default, DDP uses PSK500R, but it can run on any other PSK mode, too. And using RS-232, you can build your own modems suitable for the application. Knaggs has designed and built two different DDP-suitable modems: an 1800-baud AFSK modem and a 9600-baud GMSK modem.

Danny used ***Python*** to write DDP, so it should run on any operating system that supports the *Python* executable without modification including, but not limited to *FreeBSD*, *Linux* and *Windows*.

DDP already includes some applications including:

BBS server and client apps just like the old bulletin boards
EmComm sends and forwards messages to other organizations during emergencies
File transfer app to send and receive files with other users
HTTP proxy server and client app to browse the Internet via RF
IM chat app to send and receive "instant" messages with other users
Repeater app that transparently repeats packets for cross-banding or plain-vanilla repeating

Visit the DDP website, http://code.google.com/p/ddp/,for more information and downloading. -- *Stan Horzepa, WA1LOU,* ARRL

SUCCESSFUL ARISS HAM RADIO CONTACT WITH MACCIONI SCHOOL

Friday, 29 April, 2011 at 15:46 UTC, 'Maccioni' middle school, Nuoro, Italy, established an ARISS (Amateur Radio on the International Space Station) contact with Italian astronaut **Paolo Nespoli, IZ0JPA** on board the International Space Station. Astronaut Nespoli operated with the special Italian callsign **IR0ISS** that he will use during his mission.

This was a telebridge contact by ARISS ground station IK1SLD located in Piemonte, North Italy.

The secondary school "M.A. Maccioni" located on the outskirts of the Nuoro, is attended by about 500 students. The school has a big theatre, a gym, four media rooms and three classroom with multiple blackboards. Students and teachers are very interested in scientific and especially astronomy topics. During the Spring Festival, in collaboration with the school, the Astronomical Association of Nuoro organized a day devoted to sun observation. In this context, the ARISS School Contact is an excellent opportunity for the students to extend the activities previously undertaken by the teachers and the members of the association for the study of astronomy and space conquest.

ARISS mentor Francesco De Paolis, IK0WGF proposed a telebridge contact to Mr. Tommaso Settanni ISØMRA , coordinator for this ARISS event. The questions were read by the students at school with an audience of more than 200 officers students, teachers, visitors and media. The signal from the ISS was loud and clear all along the contact.

At 15:46 UTC contact with IRØISS was established by station IK1SLD. Astronaut Paolo Nespoli answered 17 questions and greetings exchanged in closing of the contact. The ARISS contact was announced by web story on ESA Portal - National News: http://www.esa.int/esaCP/SEMDH2ZGRMG_Italy_0.html --Southgate ARC *Francesco De Paolis, IK0WGF*

FROM THE HEARTS: PROVIDING A WAY FOR OTHERS TO COMMUNICATE WITH THE ISS

In America and around the world, students use Amateur Radio to talk to astronauts on the International Space Station, orbiting high above the Earth -- and it's the students at an all-girls school in Honolulu, Hawaii who help make the connection.

Sacred Hearts Academy is a telebridge station for the Amateur Radio on the International Space Station program (ARISS). ARISS is a NASA-sponsored education activity where astronauts and cosmonauts use Amateur Radio equipment aboard the ISS to talk with students around the world. Telebridge stations, like the one at Sacred Hearts, connect schools, museums and others without their own Amateur Radio equipment to astronauts in space.

Sacred Hearts became involved in ARISS by first being a telebridge station for the Space Amateur Radio Experiment. SAREX used Amateur Radio equipment aboard the ISS to connect astronauts in space with students on the ground. Sacred Hearts built its Amateur Radio ground station with help from local radio amateurs and private industry. The project was funded by the school, along with a generous corporate grant, in 1993. The school had its first radio contact with the ISS in the summer of 1994.

"On the morning of July 10, 1994, you could feel the excitement in the air as hundreds of students packed the academy's auditorium to witness their classmates in grades 3, 5, 7, 9 and 12 ask questions and receive answers from astronaut Bob Cabana about life on board the space shuttle and the experiments that were being performed on STS-65," recalled retired Sacred Hearts teacher Nancy Rocheleau, WH6PN. "They watched spellbound as the path of the shuttle was projected on a wall-size map via computer simulation. On the news that night, one student remarked how amazing it was that she, a tiny speck on the Earth, was able to talk to an astronaut flying hundreds of miles overhead traveling at 17,500 miles per hour."

After that first contact, Rocheleau, who was then chairperson of the academy's science department, said the academy offered a course called "Space: A Technological Approach to Integrating Math and Science," in which 20 girls learned Amateur Radio theory and earned their Amateur Radio licenses. Sacred Hearts then established an Amateur Radio club for girls in grades 7-12. The club initially supported SAREX and then, in 2000, began supporting ARISS. Rocheleau explained that club members prepare the school's Amateur Radio station for telebridge contacts so students around the world can have the same exhilarating experience talking to astronauts as the academy students did.

Prior to a contact, students prepare the station by checking the antenna steering and radio operation and loading the most recent orbital elements into the computer. They then run a satellite-tracking program to generate a table of times versus spacecraft position, so the antenna can be steered manually in the event of a computer problem during the contact. Once the equipment is checked out and ready, a call is made to the conferencing center. The center links the participating school students, the ARISS moderator and the Sacred Hearts Academy Amateur Radio station team.

Since 1993, the Sacred Hearts station has run more than 70 contacts, giving students from all corners of the globe a chance to ask questions to astronauts aboard the shuttle and ISS. Every contact is memorable to the students involved, Rocheleau said, but several of the school's most memorable experiences were contacts with astronaut Eileen Collins, KD5EDS, the first female commander of the space shuttle; Dennis Tito, KG6FZX, the first spaceflight participant; Bill Shepherd, KD5GSL, the first commander of the ISS, and astronaut Sunita Williams, KD5PLB, in a 2007 telebridge with a school in New Delhi, India.

Dick Flagg, AH6NM, handles the technical aspects of the station. Flagg said the school's location is a major factor in its success as a telebridge station for the ARISS program: "There's less potential for interference out here in the middle of the ocean than there is on the mainland, and I think that's one of the advantages that we have. The schools on the mainland might want to have a radio contact during the day at some convenient time. That turns out to be like 3 AM for us here. So very frequently, we're

running these contacts sometime between midnight and dawn, when most of the other ham radio operators are asleep and there's very little chance of interference. We've had a very good success record of making contacts."

"Although many contacts occur between midnight and dawn, there are often several students and their parents eagerly monitoring the contact," Rocheleau added.

In addition to involvement with ARISS, radio club members served as beta testers for NASA's Radio JOVE project. This is an educational outreach activity run by NASA's Goddard Space Flight Center in Greenbelt, Maryland. The project allows students, teachers and the public to learn about radio astronomy by building their own radio telescope from an inexpensive kit or by using remote radio telescopes via the Internet. Sacred Hearts students also participate in For Inspiration and Recognition of Science and Technology (FIRST) robotics programs and VEX Robotics.

"We've been very fortunate in having the opportunity to let the students participate in this kind of activity," Flagg said, "Many of the girls have gotten a lot out of it, and it's hopefully been instrumental in their future careers and life paths." -- *Thanks to the NASA Educational Technology Services Office for this story*

SHORTS

***SILENT KEY*: JAMES MCLAUGHLIN, WA2EWE/T6AF, KILLED BY AFGHAN PILOT** -- James McLaughlin, WA2EWE/T6AF, was killed in Kabul, Afghanistan on Wednesday, April 27. News sources say that eight American troops and a US contractor died Wednesday after an Afghan military pilot opened fire during a meeting in an operations room of the Afghan Air Corps at the Kabul airport -- the deadliest episode to date of an Afghan turning against his coalition partners, officials with the NATO-led International Security Assistance Force (ISF) in Afghanistan said. McLaughlin -- a retired US Army Lieutenant Colonel -- was a contractor serving as a flight instructor for Afghan pilots.—ARRL Letter

WORLD RADIO LABS FOUNDER LEO MEYERSON, W0GFQ (SK) -- Leo Meyerson, W0GFQ, of Omaha, Nebraska, passed away on April 13. He was 100. In 1935, Meyerson, an ARRL Life Member, founded Wholesale Radio Laboratories -- the forerunner to World Radio Labs -- in Council Bluffs, Iowa. For his contributions to Amateur Radio, Meyerson was named the 1997 Ham of the Year at the Dayton Hamvention. Read more here. –ARRL Letter

SPACE WEATHER PREDICTION CENTER TO DISCONTINUE BROADCASTS ON WWV AND WWVH -- Beginning Tuesday, September 6, the Space Weather Prediction Center (SWPC) will cease broadcasting its geophysical alert message on WWV and WWVH. These messages inform listeners of the solar flux, the mid-latitude A and K indices and space weather storms, both current and predicted. Currently, the message is heard on minute 18 from WWV and minute 45 from WWVH. The information will still be available on the SWPC website. If you care to comment on this, or if you have any questions, the SPWC -- part of the National Weather Service (NWS) -- would like to hear from you. –ARRL Letter

***ON THE AIR*: FIND AN ARRL FIELD DAY STATION NEAR YOU --** First introduced in 2008, the ARRL's Field Day Station Locator Service has proved a popular addition to the Field Day toolbox. This service -- an interactive map that helps amateurs or those interested in Amateur Radio find a Field Day site near them -- is free to clubs or individuals who will be operating public Field Day stations. Stations can also be listed by state or province. So far, hams in all 50 states and Puerto Rico have listed Field Day sites on the Field Day Locator. If your group would like to be a part of the Station Locator Service, it's easy to get started -- just go to the Field Day Station Locator website and follow the instructions. ARRL Field Day is the most popular on-the-air operating event in Amateur Radio. On

June 25-26, join tens of thousands of Amateur Radio operators as they gather for a public demonstration of the Amateur Radio Service. –ARRL Letter

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