

# RCA AMATEUR RADIO CLUB

MAY, 2007      MONTHLY NEWSLETTER      INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, MAY 1st, AT 6:30 PM AT DOOKZ SPORTS GRILL,  
3800 E. 96<sup>th</sup> STREET, INDIANAPOLIS, IN

## RCA ARC NEWS

**SUMMARY OF THE APRIL MEETING** – Barry George, K9BG, announced the Club mailing address has been changed so that Club mail will no longer come to Thomson. Yearly dues have been paid to the Indiana Radio Club Council. Dick Davis, W9ZB, has requested World Radio subscriptions to use as some of the prizes for the Indy Hamfest. Security enhancements for the Club repeater shack were discussed and purchasing an attic fan to replace the muffin fans used to cool the building. Jim Rinehart, K9RU and Dave Jarvis, N9KZJ will follow up. K9RU discussed the first round of bidding for the FT2600 2M radio.

Field Day was discussed and we decided to go ahead with plans for this year. The site will probably be at the ComCenter at Mike Koss'. We will operate the station under emergency power using a generator. At least two members had generators we could use. We will be in the "E" class and it will be made setup easy. We did talk over operating from a tent, but the bugs at Mike's at sunset are usually bad. We plan to cookout Saturday evening. The Indianapolis Radio Club is looking into operating Field Day this year and I invited them to join us as a joint effort.

Dave Jarvis gave some details on the upcoming Indianapolis Radio Club Hill Topping contest and the USS Indianapolis Museum Ships weekend event. More will follow.

**BIDDING FOR THE RCA ARC YAESU FT2500M 2 METER RADIO** – Randy Clayburn had the winning bid for the FT2500M.

**RCA ARC AT THE DAYTON HAMVENTION** – Once again this year, the Club will have informal get-togethers at the Hamvention. At 1200 EDT both Friday and Saturday, in the permanent seats behind the Cushcraft Antenna display, the northwest corner of the hockey arena, grab some food and join us for lunch.

On Friday evening, at about 5:30 PM, join us for dinner at the New Peking Chinese Restaurant, 5611 North Dixie Drive. Dixie is just west of I-75. The restaurant is just south of Needmore Road on the west side of Dixie.

On Saturday evening, following the close of the Hamvention, a get-together is planned at Old Hickory Bar-B-Que, 4029 N. Main St. in Dayton. As you head east from Hara Arena towards I-75 on Turner Rd., you will cross Main St. about half way between the arena and I-75. It runs diagonally northwest to southeast. If you're driving east on Turner, turn right (southeast) on Main St. The restaurant is less than a mile south of Turner on the west side of the street.

The Club 2 meter frequency will be **144.430** MHz simplex. –K9RU

**PLAN YOUR DAYTON WEEKEND NOW!** -- The Hamvention web site has posted the schedule of activities for the weekend. Links to the activities can be found at:

<http://www.hamvention.org/>  
<http://www.hamvention.org/forums.htm>  
<http://www.hamvention.org/alternate.htm>  
<http://www.hamvention.org/parking.htm>

**RIDE THE IRC DAYTON HAMVENTION BUS, HAVE FUN AND SAVE MONEY --** Looking for a ride to the Dayton Hamvention on Saturday May 19<sup>th</sup>? The Indianapolis Radio Club has chartered a bus again this year. Seating is available to all Indianapolis area hams, you don't have to be a member of the Indianapolis Radio Club.

Cost per person is \$25.00 per person, roundtrip, no refunds and the bus goes rain or shine. First come, first served. Pickup will be at the designated locations in the Indianapolis area and the bus will drop you off at the door of Hara Arena.

It will return to Hara at noon for those who have items to secure or store for the return trip. At 4PM the bus will return to pick up everyone for the return trip and should arrive back in Indy at about 7 PM. The bus will stop on the trip to Dayton for a quick breakfast and on the return trip for a quick dinner.

Departure pickup will be at 6:30 AM at Southern Plaza just north of I-465 & South US31 exit, or on the east side at 7:00 AM, just East of I-465 & US40 (East Washington street), at Franklin Rd. Indy talk-in or lost navigation will be on the 146.67 repeater.

To sign up for the bus trip contact IRC Treasurer, Judy, AA9GW. E-mail: [AA9GW](mailto:AA9GW) or tickets can be purchased at the April IRC monthly meeting. <http://www.indyradioclub.org/bustripdayton07.htm>

**RCA ARC SHIRTS ARE AVILABLE --** We have several of the new RCA ARC shirts in L and XLT (extra large-tall) sizes. The shirt color is tan. Your first shirt is \$15. Additional shirts are \$20 each. Contact Jim Keeth at [af9a at arrl.net](mailto:af9a@arrl.net).

## **HAMFESTS; EVENTS**

18-20 May     Dayton Hamvention  
8-10 June     Museum Ships Weekend  
23-24 June     Field Day  
7 July Indy Hamfest, Camp Sertoma

## **CENTRAL INDIANA SKYWARN REPEATER SYSTEM**

The two repeaters in the Indianapolis area that have the Central Indiana Skywarn nets, 146.97 and 442.65 recently were diagnosed to require some fairly costly repairs.

Dale Schieman, WB9YCZ with the Indianapolis Carmel Experimenters (ICE), reported that the final amplifier tube in the 442.65 quit late last week. The group had a tube in stock that they had purchased for around \$475.00. A replacement runs in the neighborhood of \$700.00.

ICE group discovered that the output tubes in the 146.97 repeater are in the process of going out and the repeater is currently operating at about half power. They have the tubes in stock to replace these as well, and will once they can schedule access to the repeater site.

With the storm season is just getting started, it is important for us, as the Amateur Radio community, to make sure we have an infrastructure in place that we can depend on when it's needed. If you would like to make a donation to the ICE group, you can mail it to: Indianapolis Carmel Experimenters, 3940 N. Hartman, Indianapolis, IN 46226. Or you can go to their web site at <http://w9ice.com/> and follow the link on the main page marked "donation information".

## USS INDIANPOLIS MUSEUM SHIP OTA EVENT

For the second time, the USS Indianapolis will be participating as an official Museum Ship. The amateur radio over the air operation (OTA) will be from the Indiana University Education & Research Building; South Lobby, 700 N Senate Ave., Indianapolis, IN. Parking is available north of the building. This is near the USS Indianapolis Memorial on the Canal on the near north side of Indianapolis, IN. Visitors are welcome!

Operating hours will be June 09 at 0000UTC (Friday evening 8PM EDT) until Sunday June 10, at 2359 UTC. USS Indianapolis approx. frequencies: ( +/-10Khz)  
SSB..3.860; 7.260; 14.260; 18.160; 21.360; 28.360 Mhz  
CW..3.539, 7.039, 10.109, 14.039, 18.079, 21.039, 28.039 Mhz  
PSK..10.142-500; & 14.070-500. (during good band conditions)  
Hams wishing to operate during this event should contact Chuck Crist, W9IH for specific times. Email W9IH

Three HF stations, with all modes, will be available for this event. We can use lots of CW and AM operators! It seems that a lot of the old Museum Ships still have working CW & AM transceive capabilities. Join in the fun of working some history!

Other participating ships frequencies are 3885 kHz, 3600 & 3625 (in the UK), 3705 (W. Europe), 7290 kHz and 14,286 kHz in the AM mode.  
Suggested frequencies for other event ships on the air:  
SSB..3,860; 7,260; 14,260; 18,160; 21,360; 24,960; 28,360 & 50,160 khz  
CW..3,539, 7,039, 10,109, 14,039, 18,079, 21,039, 21,039, 24,899, 28,039 & 50,109 Khz

USS Indianapolis OTA Sponsors: Indiana University, REI Management, Ihets, RCA Amateur Radio Club, Indianapolis Radio Club, Maxium Crane . Indianapolis Radio League, and FireHouse Photo Labs.

For a special USS Indianapolis QSL card, QSL to Either W9IND or W9IH . See QRZ.com for address or via the bureau for overseas contacts. Please include SASE or postage.

The 2007 Museum Ships event is sponsored by the USS New Jersey radio club. For more info [click here](#). – IRC

## FCC POISED TO CUT VANITY CALL SIGN FEE BY MORE THAN 40 PERCENT

The FCC has proposed reducing the regulatory fee to obtain or retain an Amateur Radio vanity call sign by more than 40 percent starting later this year. In a Notice of Proposed Rule Making (NPRM), "Assessment and Collection of Regulatory Fees for Fiscal Year 2007" in MD Docket 07-81 released April 18, the Commission is proposing to cut the fee from its current \$20.80 to \$11.70. If ultimately adopted, that would mark the lowest fee in the history of the current

vanity call sign program. The FCC proposed to collect nearly \$290.3 million in FY 2007 regulatory fees.

"These fees are mandated by Congress and are collected to recover the regulatory costs associated with the Commission's enforcement, policy and rulemaking, user information, and international activities," the FCC said. "Consistent with our established practice, we intend to collect these regulatory fees in the August-September 2007 time frame in order to collect the required amount by the end of the fiscal year." Comments on MD Docket 07-81 are due May 3. Reply comments are due May 11.

The vanity call sign fee has fluctuated over the 11 years of the current vanity call sign program -- from a low of \$12 to a high of \$50. The FCC says it anticipates some 14,700 Amateur Radio vanity call sign "payment units" or applications during the next fiscal year.

The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign but upon renewing a vanity call sign for a new term. The first vanity call sign licenses issued under the current Amateur Radio vanity call sign program that began in 1996 came up for renewal last year.

Those holding vanity call signs issued prior to 1996 are exempt from having to pay the vanity call sign regulatory fee at renewal, however. That's because Congress did not authorize the FCC to collect regulatory fees until 1993. Such "heritage" vanity call sign holders do not appear as vanity licensees in the FCC Amateur Radio database.

Amateur Radio licensees may file for renewal only within 90 days of their license expiration date. 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.

League members should visit the "ARRL Member Instructions for License Renewals or Changes" page <http://www.arrl.org/fcc/memberlicenseinstructions.html>, while the "Instructions for License Renewals or Changes" page <http://www.arrl.org/fcc/licenseinstructions.html> covers general renewal procedures for nonmembers. There's additional information on the ARRL VEC's "FCC License Renewals and ARRL License Expiration Notices" page <http://www.arrl.org/arrlvec/renewals.html>.

License application and renewal information and links to the required forms are available on the ARRL Amateur Application Filing FAQ Web page <http://www.arrl.org/FandES/field/regulations/application-filing-faq.html>.

The FCC's forms page <http://www.fcc.gov/formpage.html> also offers the required forms. -- ARRL Letter

## **ARRL AIDING EFFORT TO MITIGATE REPEATER INTERFERENCE TO MILITARY RADARS**

The ARRL has been working with the US Department of Defense to develop a plan to mitigate alleged interference from 70 cm ham radio repeaters to military radar systems on both coasts. Amateur Radio is secondary to government users from 420 to 450 MHz and must not interfere with primary users. Citing an increasing number of interference complaints, the US Air Force has asked the FCC to order dozens of repeater systems to either mitigate interference to the "PAVE PAWS" radars or shut down. The Commission has not yet responded. The situation

affects 15 repeaters in the vicinity of Otis Air Force Base on Cape Cod, Massachusetts, and more than 100 repeaters within some 140 miles of Beale Air Force Base near Sacramento, California. ARRL Regulatory Information Specialist Dan Henderson, N1ND, stresses that the Defense Department acknowledges Amateur Radio's value in disasters and emergencies and is being extremely cooperative — and a wholesale shutdown of US 70 cm Amateur Radio activity is not in the offing.

"The ARRL Lab is working up calculations on each repeater system the Air Force has identified to determine where interference-mitigation techniques offer a reasonable chance of keeping the repeater on the air," Henderson says. "In order for the amateur community as a whole to succeed in this venture, it is going to require the cooperation of all affected repeater owners."

A US Air Force contractor identified the problematic repeater systems last summer, but the situation didn't become critical until the Air Force contacted the FCC a month ago. ARRL officials met with Defense Department representatives in late March to discuss alleged interference to the PAVE PAWS radar sites. This week Henderson contacted Amateur Radio frequency coordinating organizations in both affected areas — the Northern Amateur Relay Council of California (NARCC) and the New England Spectrum Management Council (NESMC).

PAVE PAWS is a missile and satellite detection and tracking system, and its name is a half-acronym. "PAVE" is simply an Air Force program name. "PAWS" stands for "Phased Array Warning System." Although PAVE PAWS has been in existence since the late 1970s, the Cape Cod and Sacramento sites are the only remaining operational facilities in the US.

PAVE PAWS facilities occupy essentially the entire 70 cm band -- one factor that makes mitigation difficult. Feeding upward of 1800 active antenna elements, the broadband radar transmitters emit an average power output of more than 145 kW.

As a "first step" to mitigate the interference, the ARRL is recommending that all affected repeater owners reduce power -- possibly to as little as 5 W effective radiated power (ERP). "We understand the difficulty this may cause to owners and users," Henderson said, "but the alternative to operating with a smaller coverage area may be not operating at all." Amateur Radio stations already must abide by a maximum 50 W PEP power limitation in the areas around both Air Force facilities.

Henderson says the League is still seeking further information on the problem. "Until the Defense Department accepts a mitigation plan, repeater owners should exercise patience," he cautioned. "Once the ARRL Lab has completed its propagation calculations, we will be in a better position to provide advice for specific repeaters on a case-by-case basis."

Contact Dan Henderson, N1ND <mailto:n1nd@arrl.org> or 860-594-0236, with specific questions or issues associated with this situation. --ARRL Letter

## **HAM RADIO LETS ISS CREW MEMBERS CONNECT WITH SCHOOLS AROUND THE WORLD**

The Amateur Radio on the International Space Station (ARISS) program is having a very busy and successful April. So far this month, Amateur Radio has made it possible for youngsters at nine schools in the US, the Netherlands, Australia, Hungary and Russia to speak with the astronauts and cosmonauts aboard the ISS as well as with a civilian guest. On April 12 alone, students at three schools got the chance to talk with those aboard the ISS. Two ARISS school

contacts April 17 brought the total to 286 since the first ISS crew came aboard in November 2000. ARISS International Secretary Rosalie White, K1STO, notes that civilian space traveler Charles Simonyi, KE7KDP/HA5SIK, has been spending some of his precious time in space on the air.

"Charles Simonyi is making hams happy by getting on the air at various times from the ISS," she said. "Over his homeland of Hungary, he made QSOs with over 20 ham stations using his Hungarian call sign." Simonyi, who paid the Russian space agency some \$25 million for his 10-day space adventure, handled four ARISS school contacts during his stay. He'll return to Earth at week's end. Still ahead in April are ARISS school contacts in Italy, Germany, Illinois and Virginia.

The space station's orbital pattern this month enabled ARISS Earth stations in Australia to serve as a conduit for four of the question-and-answer sessions with ISS crew members, including direct contacts with two schools down under. Verizon Conferencing provided two-way teleconferencing links between the stations and the schools for five so-called "telebridge" contacts.

On April 2, youngsters at St Michaels Primary School in New South Wales, Australia, had 17 questions asked and answered by Expedition 14 Commander Mike Lopez-Alegria, KE5GTK, as some 240 people looked on. The event also attracted a TV crew and reporters from two regional newspapers.

Expedition 14/15 astronaut Suni Williams, KD5PLB, told youngsters at Glenden State School in Queensland, Australia, April 4 that human habitation of the ISS is part of a larger effort to understand what happens to the human body in long-term space flight.

"You guys will be the ones who will be venturing off to other planets," she told the students. She noted that ham radio is "always a fallback plan" if other communication systems go down. The contact culminated some nine months of planning at the school.

On April 10, Lopez-Alegria took the helm at NAISS to answer questions for youngsters at Delta Researchers School, a human spaceflight project for primary schools in the Netherlands, aimed at using human spaceflight as a theme to integrate science and technology into the curriculum.

ARISS was even able this month to put the space program within the reach of 22 youngsters attending the tiny, remote Salt Creek Primary School in South Australia. Williams answered more than a dozen youngsters' questions on April 12. One wanted to know if she'd ever seen a "black hole" in space.

"Thank God we haven't," Williams quipped. "I don't think we'd see it for very long at all."

On April 16, Patriots Day in her native Massachusetts, Williams became the first human to run the 26-mile Boston Marathon in space. She finished the race on a specially designed treadmill in 4 hours, 23 minutes, 10 seconds.

Simonyi handled the other two April 12 contacts, speaking with students at Fairborn High School in Ohio and at Puskás Tivadar Távközlési Technikum in Budapest, Hungary. "Fantastic PR both for Charles and for ham radio!" Chris Hildebrand, HG5XA, reported afterward. "I could not meet anyone today who had not heard of Charles and Amateur Radio."

Following the contact, Fairborn teacher Barb Skusa commented on the level of excitement at the school. "It was truly a thrill to be part of this once-in-a-lifetime opportunity," she told ARISS Mentor Charlie Sufana, AJ9N. "I actually had tears in my eyes."

On April 16 Simonyi spoke via ham radio with students at Redmond High School in Redmond, Washington, the home of Microsoft where he once developed software.

"I think that space is one of the best things that humanity does," he told the high schoolers. "And to participate in it -- just even in a very small way -- I think it's a privilege, and getting young people like you involved in science, that's just a bonus."

The following day, a youngster at Cedar Point Elementary School in Bristow, Virginia, quizzed Simonyi about his job assignment in space. "Well, I'm a tourist, actually, so I don't need to have a job," Simonyi responded, "but I signed up for a number of interesting science experiments to help. For example, measuring the radiation in space."

Also on April 17, Expedition 15 Commander Fyodor Yurchikhin, RN3FI, spoke in Russian with students attending Kursk State Technical University in Russia. Yurchikhin formally assumed command of the ISS that same day. The ISS occupants have managed to work around a busy schedule of crew handover activities to accommodate the ARISS school contacts. Simonyi will accompany Expedition 14's Lopez-Alegria and Russian cosmonaut Mikhail Tyurin, RZ3FT, when they return to Earth April 21 aboard a Soyuz transporter.

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

## **FCC INVITES "OPPOSITIONS" ON TWO "MORSE PROCEEDING" RECONSIDERATION PETITIONS**

The FCC has invited opposition comments ("oppositions") to two petitions for reconsideration filed in the wake of the Commission's Report & Order (R&O) in WT Docket 05-235. That R&O altogether eliminated any Morse code examination element to obtain an Amateur Radio license. One petition calls on the FCC to reinstate the 5 WPM Morse code requirement for Amateur Extra class applicants. The second cites problems with the FCC Electronic Comment Filing System (ECFS) and seeks to have the Commission reopen the proceeding for an additional round of comments. Oppositions are due April 27 (comments in support of either petition are not welcome). Replies to oppositions - ie, comments on the opposition comments - are due 10 days later. Petitioner Anthony R. Gordon, KG6EQM, of West Covina, California, contends that "significant national security implications" require that the Commission take another look at the issue.

"As a federal government agency during the ongoing War on Terrorism, it is hedge against unanticipated national security events and for emergency communication requirements, even if the consensus view or technological trend is in the opposite direction at the present time," Gordon said in his petition, filed February 23. He characterized Morse code proficiency as a "core competency" of the Amateur Radio Service.

In its R&O last December 15, the FCC cast aside arguments that Morse ability was advantageous in emergency communication situations. "The Commission previously addressed the essence of this argument and concluded that most emergency communication today is performed using voice, data, or video techniques," the FCC said. Gordon asked the FCC to restore the Element 1 Morse code examination element for Amateur Extra class applicants.

In a second petition the FCC put on public notice earlier this month, Russell D. Ward, W4NI, of Nashville, Tennessee, argued that the FCC "improperly deleted and suppressed comments received by the e-mail system of the FCC, ECFS." Ward said the FCC was "arbitrarily deleting and suppressing public comments" on the basis of the sender's e-mail address - especially if it

contained an Amateur Radio call sign - and charged that the Commission "is discriminating against radio amateurs."

As a result, he contends, the process of commenting on the FCC Notice of Proposed Rule Making (NPRM) in WT Docket 05-235 "was flawed," in part because the Commission did not have the advantage of all comments members of the public may have attempted in vain to post.

Ward's petition, filed February 12, asks the FCC to do one of four things: Stay WT Docket 05-235, fix the "flawed ECFS," reopen the proceeding for comment or reconsider the "after a valid comment period." The FCC received more than 3500 public comments in the Morse code proceeding.

Neither Gordon nor Ward addressed the issue of how the FCC should deal with licensees who qualified for Amateur Extra under the new "no-code" rules that became effective on February 23.

Both petitions are on the FCC Web site: Gordon's is at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518808553](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518808553). Ward's is at [http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native\\_or\\_pdf=pdf&id\\_document=6518808784](http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6518808784).

Interested parties may file oppositions and replies on these petitions for reconsideration via the Electronic Comment Filing System (ECFS) <http://www.fcc.gov/cgb/ecfs/> and by serving a hard copy on the petitioner at his current mailing address. Comments supporting one petition or another are not welcome, however.

Instructions for filing electronic comments are on the ECFS page. Under "ECFS Main Links," click on "Submit a Filing" and type "05-235" (without the quotation marks) in the "Proceeding" field, being sure to include the hyphen.

All statements must be specific to one or more arguments in the reconsideration petition with which the person filing disagrees. They should not simply say, "I oppose this petition." Only individuals who have filed oppositions may file replies to oppositions. --ARRL Letter

## DEADLINE LOOMS FOR MCGAN AWARD NOMINATIONS

The deadline is drawing near to nominate candidates for the prestigious Philip J. McGan Memorial Silver Antenna Award for excellence in Amateur Radio public relations. Throughout the year ARRL Public Information Coordinators, Public Information Officers and other public relations volunteers strive to keep Amateur Radio visible in their communities by publicizing special events, activities and accomplishments.

The 2007 McGan award will go to a radio amateur who's achieved demonstrable success in Amateur Radio public relations and who best exemplifies the volunteer spirit of the late Philip McGan, WA2MBQ, the first chairman of the ARRL Public Relations Committee.

The McGan Award recognizes public relations activities specifically directed at bringing Amateur Radio to the public's attention -- and most often the media's -- in a positive light. This may include preparing news releases, hosting a radio show or being an active public speaker.

If you know of a ham who has gone "above and beyond" to promote Amateur Radio to the public, consider nominating that person for the 2007 award. Nominations are due by Friday, May 25. Full information is on the ARRL Web site <http://www.arrl.org/pio/mcgan/>. --ARRL



Letter

## SHORTS

**SWAINS ISLAND N8S OPERATION TOPS 100,000 CONTACTS!** The Swains Island N8S DXpedition team made 117,205 QSOs, The Daily DX reports. That's the fourth highest all-time DXpedition contact total. After shutting down April 15, the crew made it back to American Samoa late the following day. The N8S online logs are available [http://logsearch.de/index.php?option=com\\_wrapper&Itemid=73](http://logsearch.de/index.php?option=com_wrapper&Itemid=73), and the DXpedition is expected to upload its log data to Logbook of the World (LoTW). The first N8S QSL cards will be available in about a month. YT1AD will handle cards for N8S. -- The Daily DX

**CUBESATS LAUNCH SUCCESSFULLY!** Four CubeSats containing payloads operating on Amateur Radio frequencies were among several spacecraft launched successfully April 17 at 0645 UTC from Baikonur Cosmodrome, Kazakhstan. A Dnepr rocket deployed seven CubeSats plus seven other satellites from Egypt, Saudi Arabia and Ukraine into Earth orbit, and signals from at least two of the four CubeSats have been copied on Earth. Among the spacecraft was Colombia's first satellite. The CubeSats are: CalPoly's PolySats CP3 and CP4, 436.845 MHz and 437.325 MHz respectively, 1200 bps FM AFSK, AX.25, 1 W, operating under an FCC Part-5 Experimental license; University of Louisiana CAPE-1 435.245 MHz, 9600 bps FM FSK AX.25 and CW telemetry during opposing 30-second intervals, 1 W, call sign K5USL (e-mail telemetry reports <mailto:jd.harrist@gmail.com>); Universidad Sergio Arboleda, Colombia, Libertad-1, 437.405 MHz, 1200 bps FM AFSK AX.25, 400 mW, call sign 5K3L. CP4 will transmit a "sensor snapshot" every 2 minutes on 437.325 MHz at 1200bps FSK, AX.25. FSK will require using SSB mode for reception. A 6-second CW preamble precedes this transmission. Keplerian elements for the new ham radio birds and additional information will be posted on Cal Poly's CubeSat Web page <http://www.cubesat.org/>. CalPoly offers a CubeSat "Satellite Contact Form" to report telemetry data received from any satellite <http://cubesat.atl.calpoly.edu/pages/missions/dnepr-launch-2/data-packet-form.php>. -- AMSAT

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