



RCA AMATEUR RADIO CLUB

DECEMBER, 2010 MONTHLY NEWSLETTER INDIANAPOLIS, IN

Merry Christmas and Happy Holidays

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, DECEMBER 14th, 6:30 PM AT [G.T. SOUTH'S](#),
5711 E. 71st STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE NOVEMBER MEETING – At the 9-November meeting plans for the Ft Wayne hamfest were discussed. Several indicated they plan to attend. K9RU mentioned that the Club owned antenna rotor, which was used at the Club station at Thomson, is still there, on the roof. Greg, WR3K, announced he will be moving to California to take a new job. Good luck, Greg! The remainder of the “free parts” which we were giving away through the Club web site, were picked up by Harold, KE6TI, and will be distributed as he sees fit among the QRP community. Leroy, WA4OTD, announced he has a 10 m CW beacon on the air on 28.278 MHz. Thanks to everyone who attended!

<p>SNOW? Meeting? If we're having snow on the Tuesday afternoon before the scheduled Club meeting, check your email to make sure the meeting has not been cancelled. We'll try and make that decision by mid afternoon and send an email. –K9RU</p>
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HAMFESTS, OPERATING EVENTS & TESTING

Dec 11-12	ARRL 10 Meter Contest
Dec 19	ARRL Rookie Roundup
Jan 1	ARRL Straight Key Night
Jan 8-9	RTTY Roundup
Jan 22-24	January VHF Sweepstakes
Mar 5	Dugger Hamfest, Dugger IN.
July 9	Indy Hamfest, Camp Sertoma, Indianapolis.

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.

THE ARRL 10 METER CONTEST

The highest of the HF bands will be the central operating focus of many amateurs in the [ARRL 10 Meter Contest](#), December 11-12. During the event, many propagation modes will be available: Sporadic-E will help you work stateside stations, a touch of meteor scatter in the morning will give you split-second chances to work stations -- you'd better be quick, though! -- and DX stations could find their way into the log, thanks to some recent signs of life from the F-layer.

“Ten meters was open from the United States to Africa, Europe and South America during the CQ World Wide DX CW contest on the weekend of November 27,” said ARRL Contest Branch Manager Sean Kutzko, KX9X. “Let’s see if those conditions remain for the second weekend in December.”

Single Operator entrants can use CW only, SSB only -- or a mixture of both. They can choose between High Power, Low Power (150 W or less) or QRP (5 W or less). Want to share the fun with your friends? Invite them over and enter in the Multioperator category.

US Novice and Technician class operators can get in on the fun, too. Both classes are permitted SSB operation between 28.3-28.5 MHz with 150 W. No antenna for 10 meters? A dipole for 28.4 MHz is about 16.5 feet long -- build it and get it up in the air as high as you possibly can. Kutzko said that it’s an easy construction project and you *will* work stations!

This year also introduces a new element to the contest: The addition of 32 Mexican states as multipliers. For a list of the Mexican states, download a free map provided by Grupo DXXE [here](#). “This will no doubt add a new excitement to this long-standing ARRL contest,” Kutzko said.

The ARRL 10 Meter Contest runs from 0000 UTC Saturday, December 11 through 2359 UTC Sunday, December 12. Logs must be [e-mailed](#) or postmarked no later than 0000 UTC Wednesday, January 12, 2011. Paper logs should be sent to ARRL 10 Meter Contest, 225 Main St, Newington, CT 06111. – ARRL Letter

ARISS AIMING TO RAISE ITS EDUCATIONAL PROFILE

NASA, the US space agency, will assume more direct sponsorship of the Amateur Radio on the International Space Station ([ARISS](#)) program as an educational project. Among its activities, ARISS oversees the project that enables schoolchildren to speak via ham radio with astronauts aboard the International Space Station. NASA also will embrace [ARISSat](#) as an educational project for the ISS National Lab. A reconfigured, yet-to-be-named education planning group will pick up the mission of the ARISS Communications Council (ACC). These changes were among the outcomes of a meeting of NASA and ARISS-International officials, who gathered November 12-13 at ARRL Headquarters.

“Going forward this new group will provide oversight of educational objectives for the US [ARISS] program,” said ARRL Education Services Manager Debra Johnson, K1DMJ, who hosted the NASA-sponsored meeting, held at [WIAW](#). She said the new education group would, among other goals, develop a new process for reviewing applications to the ARISS program from US schools and organizations.

Changes under consideration are a school QSO application process that includes a specific application window, development of a rubric to evaluate the applicant’s proposed educational plan, and — once an application is accepted — a scheduling commitment for the contact to occur within a specific time frame. An educational plan is a required part of all proposals.

“These changes are being crafted to provide more focus on educational activities planned to accompany an ARISS contact,” Johnson said. She says that in anticipation of the wider audience resulting from NASA’s promotion of ARISS under the revised regime, ARRL and AMSAT will be recruiting additional local volunteers in the Amateur Radio community to support station setup for direct ham radio contacts with International Space Station crew members.

The new arrangements will broaden ARISS’s emphasis on education. Those attending this month’s meeting also talked about possible synergies between the ETP and other League programs with NASA

programs. “This may provide ways for us to distribute wireless technology literacy education more efficiently to a wider audience of schools and teachers,” Johnson added.

ARISS will continue to be an international educational initiative with ARRL, AMSAT and NASA as cooperating partners.

Cynthia McArthur, the wife of ISS veteran astronaut Bill McArthur, KC5ACR, will become the new head of the NASA Johnson Space Center Teaching from Space Office, which oversees ARISS. She has been program manager for the Teaching from Space Office. –ARRL Letter

ARRL STRENGTHENS THE CASE FOR MANDATORY BPL NOTCHING

On November 30, the ARRL filed an ex parte submission with the FCC, providing additional support for its position that the FCC should require mandatory notching of the amateur bands by Broadband over Power Line (BPL). The ARRL’s filing stated such devices can cause harmful interference to Amateur Radio operators, and requested that the FCC “establish rules that are appropriate for unlicensed BPL systems and which minimize the interference potential.”

After the FCC released its Request for Further Comment and Further Notice of Proposed Rule Making (Further Notice) in July 2009, the ARRL filed comments and reply comments and made oral and written ex parte filings, urging the adoption of Part 15 Rules which reflect both the capabilities and practices of the bulk of the BPL industry, and which are sufficient to protect licensed radio services in the HF and VHF bands.

“It has been painfully apparent that the present rules permit the deployment of BPL in configurations which cause severe, ongoing harmful interference if operated on radio spectrum that is in use locally,” the ARRL asserted in its filing. The ARRL, in its numerous filings on this issue has “strenuously urged” the FCC to require full time, mandatory notching of all amateur allocations to at least 35 dB notch depths. “This level of notching is both achievable by present BPL systems and is typically, but not universally, implemented by the BPL industry.”

The ARRL maintains that mandatory, full time 35 dB notch depth requirements can be implemented in the FCC’s BPL rules without adverse impact on the BPL industry. Most BPL systems are already notched at this level: “Although that conclusion is unrebutted in the record in this proceeding, it may be useful to provide documentation of this de facto industry standard. This ex parte filing contains that documentation.”

Even though there are tens of millions of broadband lines available in the US, BPL has only captured 0.011 percent of that market; each time the FCC releases an updated broadband report, the numbers get even smaller. The ARRL pointed out that BPL is only mentioned in the National Broadband Plan on page 337 as “an information service,” and that the interference potential of BPL is an issue that “most assuredly is and has been one of the major handicaps to the deployment of the technology.”

The ARRL noted that “reduction of the interference potential of BPL to licensed radio services to manageable levels cannot but help salvage whatever potential BPL may have in the future for broadband access, or for Smart Grid applications.” If there are Smart Grid applications for BPL, the ARRL insisted that the interference potential must be addressed soon, “so as to avoid the fundamental incompatibility between BPL and the Amateur Radio Service that exists as the result of the present BPL rules.”

The ARRL pointed out that it has been 18 months since the FCC released its Further Notice, more than two and a half years since the Court of Appeals remanded the case to the Commission for further proceedings, and more than six years since the Commission first adopted the inadequate and insufficient Part 15 Rules governing BPL systems: “There is no reason why the BPL rules should not be amended immediately to impose a mandatory, full-time, 35 dB notching requirement for all BPL equipment in all Amateur allocations. If that is done, the fundamental incompatibility is effectively eliminated, and BPL can, going forward, avoid the stigma of the Amateur Radio spectrum polluter that it has been shown to be in deployments throughout the United States and elsewhere in the world.” In May 2008, the US Court of Appeals for the District of Columbia Circuit found that the FCC violated the Administrative Procedure Act and failed to provide a reasoned explanation for its choice of the extrapolation factor. –ARRL Letter

HAMS INVITED TO LISTEN FOR NEW SATELLITES

Five research satellites were carried to orbit Friday evening aboard a Minotaur V rocket from Kodiak Island, Alaska. All the satellites use Amateur Radio frequencies and hams have been invited to participate in their missions by monitoring and collecting data.

The FASTRACs are two relatively small “nanosatellites” built by students at the University of Texas-Austin. They enter orbit as a single spacecraft, but then separate into FASTRAC 1, known as “Sara Lily,” and FASTRAC 2, referred to as “Emma.” Both satellites use 1200 or 9600 baud AX.25 digital communication and transmit at 1 W output, so they should be receivable with omnidirectional VHF or UHF antennas and decodable by ordinary packet radio hardware and software.

	FASTRAC 1	FASTRAC 2
Downlink(1200/9600 Baud)	437.345 MHz	145.825 MHz
Beacon (1200 Baud)	437.345 MHz	145.825 MHz
Uplink (1200 Baud)	145.980 MHz	435.025 MHz
Uplink (9600 Baud)	145.825 MHz	437.345 MHz
Satellite Call Sign	FAST1	FAST2

After their scientific missions are complete, the satellites will be reconfigured to function as digipeater relays for Amateur Radio use as part of the Automatic Packet Reporting System (APRS). Hams are invited to create a free account at the FASTRAC Web page and begin uploading telemetry data. Mission status information is also available via the FASTRAC Facebook page.

The third satellite in the group is the University of Michigan's Radio Aurora Explorer (RAX) CubeSat. RAX was designed and built by University of Michigan students and faculty in cooperation with SRI International. The primary objective of the mission is to use an onboard radar receiver in conjunction with a powerful radar station in Alaska to study the formation of a plasma anomaly known for causing the scintillation of radio signals in the UHF and higher bands. RAX carries a 9600 baud UHF digital transceiver. Using the call sign RAX-1, the satellite will send telemetry at 437.505 MHz. Amateurs are invited to download the free telemetry decoding software (for Windows, Mac OS X, or Linux) and submit reports at the mission Web site.

The Organism/Organic Exposure to Orbital Stresses satellite, better known as O/OREOS is a nanosatellite designed to study the growth, activity, health and ability of microorganisms to adapt to the stresses of space. It will also monitor changes in four classes of organic molecules as they are exposed to space conditions. O/OREOS transmits digital telemetry 437.305 MHz and hams are invited to submit raw telemetry data at the O/OREOS Web site.

NanoSail-D2 is a solar sail experiment with an expected lifetime of about 100 days. It carries a data beacon transmitting at 437.275 MHz. Amateurs are asked to submit reports at the NanoSail-D2 Web

site. Although NanoSail-D2 was developed by NASA, mission control for this satellite, as well as O/ORES, is being handled by students at Santa Clara University. --ARRL Letter

SHORTS

NEW AMATEUR RADIO DIGITAL MODE -- V4 is a new data mode optimized for amateur radio keyboard contacts using Viterbi FEC and 4FSK modulation. It is designed to provide good copy even in weak signal or poor propagation conditions. V4 can be implemented on most computers using standard PC sound cards with radio interfaces. An Alpha version of the software can be downloaded from the files section of the V4 Protocol Yahoo Group. <http://groups.yahoo.com/group/V4Protocol/> V4 Protocol and V4 Chat document http://www.winlink.org/webfm_send/169 --SouthGate ARC

WINMORE - A NEW HF DIGITAL PROTOCOL FOR WINLINK 2000 -- WINMORE stands for Winlink Message Over Radio and is a new HF radio transmission protocol by Rick Muething, KN6KB, of the Winlink Development Team. WINMOR was introduced at the 2008 ARRL / TAPR Digital Communications Conference in Chicago on September 26-28, 2008. Unlike PACTOR, only a simple computer soundcard-to-radio interface is required, and it runs as a "virtual TNC" (the WINMOR TNC application) together with host software. The protocol (not the software) is fully documented as an API and is without restrictions or license issues preventing anyone from implementing the protocol in other software.

Users may employ either WINMOR or Pactor to transfer mail in the WL2K system, depending on their equipment. While WINMOR may not equal P2 and P3 in total performance, it provides a cost-effective means of using the system, and is more robust and faster than P1. WINMOR is attractive to EmComm users who have trouble justifying the high cost and low utilization of a P2 and P3 modem.

See the User Software page to download the RMS Express client software, which includes the virtual WINMOR TNC software, and additionally supports Pactor 1-3, AX.25 packet and Telnet protocols using a wide variety of TNCs and multimode controllers. <http://www.winlink.org/WINMOR>

LONG-DELAY RADIO ECHOES -- During the geomagnetic storm of Nov. 27th, a brief but intense G2-class event, amateur radio operator Peter Brogl of Fürth, Germany, experienced a strange phenomenon. Forty-six seconds after he transmitted his call sign at 7 MHz, he received an echo of his own transmission. "At first, I thought someone was playing tricks on me," says Brogl, "but I changed frequency, re-keyed my call sign (DK6NP), and got another echo." This went on for more than an hour, enough time for Brogl to make several recordings. First reported in 1927 by Norwegian civil engineer Jørgen Hals, long-delay radio echoes are rare and poorly understood. Unusual propagation conditions linked to solar storms is one of many possible explanations. Radio operators, if you experienced any similar phenomena on Nov. 27th between 1800 UT and 19:30 UT, please report your observations to Peter Brogl for correlation.

SUNSPOTS NUMBERS CONTINUE TO RISE - The average daily sunspot numbers for November 25 through December 1 were up 1.3 points to 25.9, compared to the prior seven day period. The three-month moving average of daily sunspot numbers changed from 28.9 to 33 and 35.6 for the periods centered on August, September and October (ending in September, October and November). This shows a continued slow upward trend in sunspot activity. Look for more information -- including some news on Long Delayed Echoes (LDE) -- on the ARRL Web site on Friday, December 3. For more information concerning radio propagation, visit the ARRL Technical Information Service Propagation page --ARRL Letter

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