

RCA AMATEUR RADIO CLUB

FEBRUARY, 2011

MONTHLY NEWSLETTER

INDIANAPOLIS, IN

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, FEBRUARY 8TH, 6:30 PM AT [G.T. SOUTH'S](#),
5711 E. 71ST STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE JANUARY MEETING – There was no meeting in January.

<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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CONGRATULATIONS TO GREG, KC9TNR – Greg Holbrook is the latest of the RCA/Thomson present and ex-employees to become licensed. Greg took his test in January in Frankfort, IN and passed the General. Greg used study guides found at <http://kb6nu.com/> and then used practice test from <http://hamexam.org/>. He highly recommends both if you know someone who is looking to get their license.

Greg reports he is involved in caving with the Cave Research Foundation. He is in the Eastern Operations group which primarily focuses on mapping out Mammoth Cave and discovering the yet to be discovered areas.

Here is a bit of information Greg provided relative to caving and amateur radio... There are two areas where wireless cave to surface communications could be useful. The first is in an emergency when trying to get someone out of the cave. The current "state of the art" is to have a comm team that runs phone wire all the way back to where the injured person is and then slowly bring it back out as the patient is moved out. The second is for more general communication. One of the things we do is have a "sign in" time. If we are not back by a certain time they send someone out looking for you. If you were delayed or just found an area that you don't want to stop in the communications could allow you to call back in and change your sign in time. This type of communications would also be what would be used to report an emergency from underground when there has not yet been established a rescue team (since nobody knows one is needed).

For these two there would be substantially different criteria for the equipment. In the case of a known emergency the equipment would simply have to be lighter with the same reliability has hauling in miles of phone line. For general communications of course the equipment would have to be light enough to carry on an every trip basis. Reliability would be a little bit less of a concern since if you could not get it to work you would be no worse off than if you hadn't taken it.

My research indicates that many cavers have used the 75m ham band for ground to surface communications. For their antenna in the cave they carried a coil of speaker wire 75 meters long that they uncoiled when they wanted to talk. Range from underground to the surface of 300 to 500 feet has been reported using this depending on the conductivity of the rock between locations. The problem of course is that it does not give you much horizontal range. It could work for a rescue where the team above tracks the movements down below but for general communications in a cave the size of Mammoth would not be useful. We may travel several miles in a trip into the cave.

I have also read about some people using 160 - 189 kHz and using ground conduction to get longer horizontal range. There is also much discussion since you are radiating into the ground as to whether you need to keep the power under 1W or just the power going into the air under 1W.

Anyway as you have figured out I have much to learn in trying to see if I can make this work. And of course becoming a Ham would greatly aid me in this quest as well as talking with Ham's in with so much to learn.

443.75 REPEATER FREQUENCY BACK ON THE AIR -- As a memorial to Paul, W9DUU, the 443.75 is back on the air. It is running under the Central Indiana Repeater Assoc. call of K9LPW. It is now located at Dist 52 ISP post at I-70 and I-465, connected to the upper receiving antenna previously used on the ATV system at approx 300 ft. The equipment is not the original from when it was on the Channel 8 TV tower platform at 750 ft. There were a number of issues with the original RF gear, so the system is a Yeasu repeater and amplifier running about 30 watts. It seems to have a very nice pattern for handhelds in the area.

Mike, WA9FDO, put it all together and did a fine job. It is running well, no PL tone required at this time. In the future, if tone is required, it is set up for 100 Hz. Give it a try when you have a chance. -- K9YDO

HAMFESTS, OPERATING EVENTS & TESTING

Feb 5	Amateur Radio Testing – IRC, 9AM, Indianapolis Training Center, 2820 N Meridian St, Indianapolis, IN 46208, Contact: Rhonda Curtis, e-mail: WS9H@comcast.net
Feb 19 – 20	ARRL International DX CW Contest
Mar 5	Amateur Radio Testing – IRC, 9AM, Indianapolis Training Center, 2820 N Meridian St, Indianapolis, IN 46208, Contact: Rhonda Curtis, e-mail: WS9H@comcast.net
Mar 5 – 6	ARRL International DX SSB Contest
Mar 5	Dugger Hamfest, Dugger IN.
Mar 26	Columbus Hamfest, Columbus, IN http://www.qsl.net/carc
Mar 26 – 27	CQ WW WPX SSB Contest
Apr 16	North Central Indiana Hamfest, Peru, IN http://www.nci-hamfest.net
May 7 – 8	Indiana QSO Party
May 20 – 21	Dayton Hamvention
Jun 11	South Bend Hamfest, South Bend, IN http://w9ab.org
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. See ARRL training page for test sessions: http://www.arrl.org/exam_sessions/search

NEW AMATEUR RADIO BILL INTRODUCED IN CONGRESS

The *Amateur Radio Emergency Communications Enhancement Act*, which died at the end of the 111th Congress, has been reintroduced in the 112th Congress as [HR 81](#). The sponsor is Representative Sheila Jackson Lee (D-TX-18). The new bill -- which was introduced on January 5 -- has been referred to the House Committee on Energy and Commerce. "We are hopeful that this early start will lead to success in the new Congress," commented ARRL Chief Executive Officer David Sumner, K1ZZ.

Rep Jackson Lee first introduced the bill -- [HR 2160](#) -- in the 111th Congress [in April 2009](#). It gained an additional 41 cosponsors but did not progress out of the committee of jurisdiction. A similar bill introduced in the Senate -- [S 1755](#) -- made it all the way through that body in December 2009, but likewise was not taken up by the House. The objective of the bill -- which is supported by the ARRL -- is for the Secretary of Homeland Security to study the uses and capabilities of Amateur Radio communications in emergencies and disaster relief and to identify and make recommendations regarding impediments to Amateur Radio communications, such as the effects of private land use regulations on residential antenna installations. –ARRL Letter

ARISSAT-1 ARRIVES AT THE INTERNATIONAL SPACE STATION

On January 28 at 0132 UTC, a Soyuz rocket lifted off from Kazakhstan carrying the Russian Progress M-09M cargo vehicle to orbit headed for the International Space Station (ISS).

While the primary cargo of the Progress vehicle is fuel, oxygen, food and other supplies, the Progress also contains AMSAT's ARISSat-1 Amateur Radio satellite.

Progress docked with the space station just two days after launch, on January 30 at 0239 UTC.

Currently ARISSat-1 is planned to be manually deployed from the ISS by Russian cosmonauts Dmitry Kondratyev and Oleg Skripochka during a spacewalk on February 16. ARISSat-1/RadioSkaf V will have simultaneous 2m FM, CW, BPSK and transponder transmissions. These multiple transmissions are created by a new software defined transponder (SDX) board. Features provided by the SDX include:

- * The FM transmissions will cycle between a voice ID, select telemetry values, 24 international greeting messages in 15 languages and live SSTV images.

- * The CW transmissions will be callsign ID, select telemetry, and callsigns of people actively involved with the ARISS program.

- * The BPSK transmissions will feature a new 1kBPSK protocol developed by Phil Karn, KA9Q to be readable in low signal level conditions. The BPSK data will alternate between telemetry and Kursk experiment data. Free ground station soundcard demodulator and display software will be available before deployment for multiple platforms.

- * There also is a 16kHz wide amateur radio U/V transponder between the BPSK and FM signals.

- * The Kursk experiment will be sampling the amount of vacuum each day for 90 minutes and sending down data to map the vacuum change as the satellite slowly spirals into the atmosphere.

Check the AMSAT Web Page <http://www.amsat.org> for the latest ARISSat-1 information, a copy of the Symposium Slides, and a color guide showing the transponder band plan. – WA4SXM, AMSAT

ARRL OUTGOING QSL SERVICE ANNOUNCES NEW RATE STRUCTURE

Effective January 17, 2011, a new pricing structure went into effect for the [ARRL Outgoing QSL Service](#). With the new rate structure, amateurs will no longer need to count outgoing cards and then guess as to what to pay based upon a half-pound rate; a simple weighing of the cards is all that is necessary to determine what amount to send to the Bureau. This new structure also accommodates a small rate increase in response to recent postage, shipping and handling costs.

The last rate revision for the Outgoing QSL Service was in January 2007. Even though international shipping costs have remained flat over the last 4 years, domestic shipping costs have risen more than 16 percent since 2007, while material and handling costs continue to climb 1 to 2 percent each year.

The new rate will be:

\$2 for 10 or fewer cards in one envelope.

\$3 for 11-20 cards in one envelope, or

75 cents per ounce, for packages with 21 or more cards. For example, a package containing 1.5 pounds -- 24 ounces, or about 225 cards -- of cards will cost \$18.

If you have any questions concerning the ARRL Outgoing QSL Service or the rates to use the service, please send them via e-mail to buro@arrl.org.

NANOSAIL-D EJECTS; HAMS HEAR IT; NOW, TRY TO PHOTOGRAPH IT

When a NASA nanosatellite -- [NanoSail-D](#) -- ejected unexpectedly on January 17 from the Fast Affordable Scientific and Technology Satellite ([FASTSAT](#)), the agency called upon Amateur Radio operators to help track it. [NASA asked radio amateurs to listen](#) on 437.270 MHz for the signal and verify that NanoSail-D was operating. NASA received almost 470 telemetry packets from 11 countries.

Once the NanoSail-D team received confirmation that the nanosatellite did indeed eject, NanoSail-D principal investigator Dean Alhorn quickly enlisted Alan Sieg, WB5RMG, and Stan Sims, N4PMF, to try to pick up NanoSail-D's radio beacon. Both hams work at the Marshall Space Flight Center in Huntsville, Alabama.

"The timing could not have been better," Sieg said. "NanoSail-D was going to track right over Huntsville, and the chance to be the first ones to hear and decode the signal was irresistible." Right before 2300 UTC on January 17, they heard a faint signal. As the spacecraft soared overhead, the signal grew stronger and the operators were able to decode the first packet: NanoSail-D was alive and well. "You could have scraped Dean off the ceiling. He was bouncing around like a new father," Sieg recalled.

According to NASA, the nanosatellite was last heard at 1354 UTC on January 21. Telemetry indicates that the sail deployed on schedule and the satellite is now believed to be out of power, which NASA said was to be expected.

In a posting on <http://www.nanosail.org/> Spaceweather.com and NASA announce they are joining forces to encourage photography of Nano- Sail-D, the first solar sail to circle Earth in low orbit.

Amateur and professional astronomers and even casual sky watchers can participate. The solar sail will occasionally be visible to the naked eye when sunlight glints off the spacecraft's 10 m² sail, producing a spectacular flash akin to an Iridium Flare. Universe Today predicts NanoSail-D could be five to 10 times as bright as the planet Venus, especially later in the mission when the sail descends to lower orbits.

Even novice photographers can capture such a bright event. Advanced astrophotographers, meanwhile, will want to try to image the sail through backyard telescopes. It will be a challenge (the sail is only 1 arc second across), but even fuzzy pictures could help NASA monitor the condition of the spacecraft. Cash prizes will be awarded to the first (\$500), second (\$200), and third (\$100) place photos, judged by a NASA-appointed panel on the basis of beauty and technical merit.

The contest begins now and ends when NanoSail-D reenters the atmosphere in April or May 2011.

These sites provide viewing predictions:

<http://spaceweather.com/flybys/>, <http://www.heavens-above.com>

NASA's Science News web site has additional NanoSail-D news and a link to audio from the satellite recorded by Henk, PA3GUO:<http://tinyurl.com/4s7nj4r> (nasa.gov) – AMSAT, ARRL SpaceWeather.com UniverseToday.com

ARRL FILES PETITION FOR PARTIAL RECONSIDERATION WITH FCC REGARDING VANITY, CLUB CALL SIGNS

In October 2010, the FCC released a *Report and Order (R&O)*, detailing rules changes to the vanity call sign system and call signs for Amateur Radio clubs. These new rules are scheduled to go into effect on February 14. The ARRL found that most changes made by the R&O are “reasonable codifications and clarifications of existing policies.” But several amended Sections of Part 97 -- including §§97.5 and 97.19 -- are unclear. As such, the ARRL filed a *Petition for Partial Reconsideration*, urging the FCC to reconsider and modify these portions “in order to reflect the intent of the Report and Order.”

In the *R&O*, the FCC took into consideration some of the ARRL’s comments, but not all. The ARRL found it “disappointing” that the Commission refused to consider in this proceeding “a series of reasonable proposals aimed at increasing the available pools of Group A call signs.” The ARRL, in its comments, asked the FCC to consider [several changes that could be made](#) “that would increase the number of desirable call signs available for assignment, both sequentially and in the vanity call sign program, and which would provide greater flexibility in the temporary assignment of special-event call signs in the Amateur Service.”

While the ARRL did not seek reconsideration of this refusal, it noted that the Commission’s “tersely stated dismissal of these proposals” should, however, be reevaluated in the near term in a separate proceeding. As such, the ARRL urged the FCC to remain open to “future, near-term proposals to address improvements to the sequential, vanity and special event call sign systems; to preclude abuses of the vanity call sign assignment system; and to remedy the serious shortage of available Group A call sign permutations.”

Limits on Club Station Licenses -- In the *Notice of Proposed Rule Making (NPRM)* on this matter, released in November 2009, on this matter, the ARRL found the FCC’s positions “relatively straightforward” and supported most of them; however, with respect to the *NPRM*’s proposal to impose limits on club station licenses and call signs, the ARRL offered a counterproposal. In the *NPRM*, the FCC proposed to limit each amateur club to one license grant and one club call sign (of any type); clubs now holding more than one would be allowed to keep those already assigned to them. The proposal was a per-club limit rather than a per-trustee limit. The ARRL’s *Petition*, if adopted, would close a loop hole that would have allowed a club with multiple trustees to obtain more than one vanity call sign.

“The principal abuse that the *NPRM* sought to prevent was (and is) the situation, often encountered, in which a trustee holds a number (sometimes a large number) of preferred vanity call signs (typically Group A call signs, principally those in a 1×2 or 2×1 format), whether or not the call signs are in the name of the same club,” the ARRL noted in its *Petition*. “There are numerous examples of individual trustees ‘hoarding’ large numbers of desirable call sign combinations.”

The ARRL agreed with the FCC that there were “more than a few instances of flagrant abuse of the Commission’s procedures by individual club trustees,” and noted that it is well aware of the acute shortage of Group A call sign combinations. In its comments, the ARRL proposed a number of

solutions to the readily apparent, acute shortage of call signs in preferred formats, principally Group A call signs, but the *R&O* did not adopt any of them.

The ARRL was critical, however, of the proposed remedy in the *NPRM*: “The problem with a blanket limitation on club licenses and call signs was that many clubs have, for example, more than one station (such as a club that operates numerous repeaters). Those clubs have a legitimate need for more than one call sign. Furthermore, the Notice-proposed limit would not be sufficient to stem instances of ‘hoarding’ desirable call signs through multiple club licenses, because a trustee could bypass this rule simply by creating multiple clubs involving the same persons. There is no limit on the number of clubs that a group of four persons or more can form.”

In its comments, the ARRL argued that, since the premise for the limits proposed in the *NPRM* was that there is a shortage of preferred format call signs, “the rules should provide a means of inhibiting the perceived problem of an individual obtaining multiple vanity call signs in those formats in his or her role as the trustee of a club.” As such, the ARRL offered a counterproposal, asking that the FCC prohibit clubs from applying for new Group A call signs, with the exception of *in memoriam* call signs. Existing Group A call signs held by clubs could be grandfathered. It was the ARRL’s position that this was “significantly less burdensome on amateur clubs than the *NPRM* proposal would have been, and it dealt directly with the fundamental problem sought to be addressed.”

Not only did the FCC refuse to adopt the ARRL’s counterproposal, it also refused to adopt the proposal offered in the *NPRM* to limit club stations to one call sign, but not to limit the number of clubs for which a licensee may serve as a trustee. Instead, as outlined in the *R&O*, the FCC decided to adopt the following provisions:

A limit of one vanity call sign per club.

No limit on the number of sequential call signs that a club can have, thus permitting one club to have multiple licenses as needed.

To limit each trustee to one club station license (thus to prevent trustees from bypassing the “one vanity call sign per club” rule by allowing a single trustee to form multiple clubs).

The real problem, the ARRL maintains, is not the FCC’s decision to limit vanity call signs to one per club going forward, or even to limit an individual to service as a trustee for only one club station license grant. The problem instead is the way the Commission has chosen to implement these limitations in Section 97.19(a) as amended, which does not preclude the abuses that the *R&O* intended to preclude.

Under the new rules -- which go into effect on February 14 -- a licensee can be a trustee for only one club license and a club can obtain only one vanity call sign; however, there are several methods by which the rule implementing this new policy can be avoided. The ARRL pointed out a number of them in its *Petition* and offered new wording to these portions of the rules that would prevent “gaming” the club station vanity call sign assignment system “to close as many of these loopholes as possible relative to aggregating vanity call signs while still permitting multiple club licenses.”

Group A Call Sign Permutations and Administration of Group A Call Signs -- Even though the ARRL does not seek reconsideration of the FCC’s refusal to address what it called “the critical shortage of Group A call signs,” it did suggest that the FCC “failed in this proceeding to address the underlying premise for the *NPRM* proposals, and the rule changes adopted in this proceeding: the shortage of Amateur Radio call signs in the *preferred formats*.”

The ARRL pointed out that the FCC, even after issuance of this *R&O*, “still allows abuses in the assignment of the most desirable blocks of call signs through the vanity call sign assignment system.” Saying that there is “intense competition among radio amateurs for these call signs,” the ARRL noted that the matter was an important issue within the amateur community. As such, the ARRL said that it hoped that “as a necessary subsequent adjunct to the rule clarifications and modifications adopted in

the *R&O*, the Commission will in a near-term, separate proceeding address *obvious* issues of fairness in the administration of Group A call signs and consider reasonable proposals to expand the pool of available Group A call signs (and as well sequential and special event call signs)."

While there are indeed large numbers of call signs available in other than 1×2 or 2×1 formats, the ARRL stated that there is a critical shortage of available Group A call signs: "These opportunities deserve a fair hearing and serious consideration, though the *R&O* in this proceeding does not indicate that one was provided."

The ARRL maintained that the FCC, with this *R&O*, has "missed an opportunity to make available new call signs in preferred formats; to preclude abuses in the assignment of Group A call signs, and to address the root problem which gave rise to some of the rule changes accomplished by the *R&O*, which is the scarcity of such preferred call sign formats."

As such, the ARRL asks that the FCC take "the timely opportunity to comprehensively update the call sign assignment system for the Amateur Service and thereby provide for the continued, steady growth of the Service. Without substantial administrative burden, such an updating will help to enhance the pride and satisfaction of licensees in their personal achievements in the radio art and their dedication to public service." --ARRL Letter

FCC SENDS LICENSE RENEWAL FOR K1MAN TO ADMINISTRATIVE LAW JUDGE

The FCC has issued a [Hearing Designation Order](#) to determine, among other things, if the Amateur Radio license of Glenn A. Baxter, K1MAN, of Belgrade Lakes, Maine, should be renewed. According to the *Order*, "Baxter has apparently willfully and repeatedly engaged in unlawful Commission-related activities, including causing interference to ongoing communications of other amateur stations, transmitting communications in which he had a pecuniary interest, failing to file requested information pursuant to an Enforcement Bureau (Bureau) directive, engaging in broadcasting without communicating with any particular station and failing to exercise control of his station."

Baxter, whose amateur license expired in 2005, filed a timely renewal on July 22, 2005; his license expired on October 17. Because of the timely renewal, Baxter's license remained in effect past the expiration date. The FCC said it "believe[s] that Baxter's apparent continuing course of misconduct raises a substantial and material question of fact as to whether he possesses the requisite character qualifications to be and remain a Commission licensee."

SHORTS

THE INAUGURAL ISSUE OF THE ARRL LEGISLATIVE UPDATE -- an HTML newsletter focusing on the ARRL's legislative and advocacy efforts at the national level -- will launch the week of January 31. According to ARRL Regulatory Information Manager Dan Henderson, N1ND, this is not a monthly newsletter, but rather a timely newsletter with the goal to convey important information to the ARRL family. "The legislative process is a fickle thing, Henderson said. "Sometimes it moves as slow as molasses in a New England winter, while at other points, time is of the essence. Developing a newsletter designed to be e-mailed to interested ARRL members is a good way to provide important news and calls for action expediently." The *ARRL Legislative Update* is an "opt-in" newsletter available to ARRL members. To receive it, go to your [Member Profile on the ARRL website](#) and select the tab for "Edit Email Subscriptions." To receive the *ARRL Legislative Update*, simply check the appropriate box on that page then click "Save" at the bottom. To unsubscribe, follow the same process, but uncheck the box for this newsletter.

HAM RADIO TECHNOLOGY: A BIG LEAP FOR CODEC 2 -- Codec 2 may not be ready for prime time, but its getting close. Take a listen by downloading the MP3 version of this weeks Newsline at www.arnewsline.org. This is just a snippet of a long conversation between Bruce Robertson, VE9QRP, in Sackville, New Brunswick, Canada holding forth with Paul Saville, ZL3IN, in Christchurch, New Zealand using Codec2. For those unaware, Codec 2 is an open source alternative to both D-Star and P25 that's being developed by a group of volunteers all around the world.

The idea behind Codec 2 is to provide a single, free, software-based digital voice encode and decode system that would not require any proprietary firmware as is found in most other current digital voice systems.

And as you can hear, even in this Internet-only QSO being held by two hams half a world apart, the quality is quite extraordinary. Likely on a par with all the systems available to hams today. Listen as ZL3IN describes his current career to VE9QRP. More about Codec 2 is on-line at Codec2 dot org. The complete QSO between VE9QRP and ZL3IN is at <http://tinyurl.com/codec2video> --ARNewsline, Southgate ARC

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