RCA AMATEUR RADIO CLUB

Legacy Amateur Radio Club

AFFILIATED CLUB

INDIANAPOLIS, INDIANA

JANUARY, 2017 MONTHLY NEWSLETTER

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

RCA ARC NEWS

SUMMARY OF THE DECEMBER MEETING – Thanks to all who attended the final meeting for 2016. Club's Liability Insurance for 2017 was paid. This is one of our biggest expenses each year. Repeater related problems were discussed. There have been final power amplifier and power supply problems recently. Work on that is still on-going. There is also a noise/interference problem with the "local" receiver at the repeater site. This problem has been moved to the "back burner" as we try and sort out the amplifier problems. When the dust settles, we want to combine the new Yeasu repeater into the same equipment rack as our old (standby) system. To facilitate the change-over to the new Yeasu repeater last year, the new repeater was installed temporarily in it's own rack. The recent ARRL 10M and 160M contests were discussed. Strangely enough much of the activity during the 10M contest was on CW. The 10 meter contest is both CW and SSB and usually favors SSB. Renewing our membership in the Indiana Repeater Council was discussed and it was tabled till the next meeting. Dave, N9KZJ, reported the WW9IND station was operating four days around the 75th anniversary date of Pearl Harbor.

CONGRATULATION BOB BEGEMAN, W9KVK, ON HIS 200th ARRL VE TEST SESSION – The test session at the last RCA ARC was the 200th ARRL test session Bob has help administer as a VE. Bob earned his Extra at a RCA VE test session back in the 90s and has worked at the Red Cross, Greenfield, the Bedford Hamfest, W9IMS, Indianapolis Radio Club and RCA ARC test sessions.

LOOK FOR GREG HOLBROOK ON THE AIR WITH HIS NEW CALL, K0GAH – Greg, KC9TNK upgraded to Extra at an exam session at the last RCA ARC meeting and applied for the vanity call sign K0GAH. Congratulations!

NEXT RCA / IRC AMATEUR RADIO LICENSE TEST SESSION

Time: Saturday, January 14th. Exams start at 12:00 noon. Walk ins allowed.
Location: Salvation Army EDS Training Facility,
4020 Georgetown Rd,
Indianapolis, IN 46254
Contact: Rhonda Curtis, Jim Rinehart k9ru@arrl.net 317 218-7304

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Jan 7	Kids Day
Jan 7-8	RTTY Roundup
Jan 14-16	Purdue Outing Club Adventure Race (POCAR

Jan 21-23	January VHF Contest
Jan 27-29	CQ 160M CW Contest
Feb 13-17	School Club Roundup
Feb 18	Brownsburg Hamfest, http://www.hcars.org
Feb 18-19	ARRL International DX Contest – CW
Feb 24-26	CQ 160M SSB Contest
Mar 4-5	ARRL International DX Contest – SSB
Mar 25	Sam Costa Run, Hamilton County

Opportunities for public service: http://indyhams.org/events

NATIONAL PARKS ON THE AIR CONTACT TALLY TOPS 1 MILLION!

Participants in ARRL's National Parks on the Air (NPOTA) program have completed more than 1 million contacts! Activators operating from National Park Service units across the US and Chasers around the world pushed the contact tally over its goal this week. ARRL sponsored NPOTA to help the National Park Service celebrate its centennial.

"National Parks on the Air has become one of the most popular events in the history of the League," NPOTA Administrator Sean Kutzko, KX9X, said. "It's been fun seeing so many hams take part."\

Kutzko said the NPOTA Facebook group really helped drive participation, especially in the last 3 months, when it became clear that the 1 million-QSO goal was within reach. "Some 25,000 NPOTA contacts were uploaded to Logbook of The World (LoTW) every week since October," he noted. "The entire group came together and simply willed the 1 million-contact mark to be broken. It was incredible to watch!" He said some real friendships developed among those who frequented the NPOTA Facebook page.

Those taking part in NPOTA made nearly 20,000 visits to 460 of the 489 NPS units eligible for NPOTA credit, including portions of the National Trails System and the National Wild and Scenic Rivers System. Nearly 150 Chasers completed contacts with more than 400 of the 489 NPOTA units this year, while one Activator transmitted from more than 250 different NPS units in 2016. Kutzko said the activations effectively transported those National Park Service units via radio to all 50 states and more than 100 countries during 2016.

Kutzko said NPOTA garnered interest from hams at all proficiency levels, but he was especially gratified to see how it encouraged less-experienced hams to acquire new skills, such as operating a portable station on battery power, learning CW, or discovering digital modes. "Pileups from some activations rivaled those during a major DXpedition -- if only for a few hours at a time," he added.

NPOTA ends on December 31 at 2359 UTC! --ARRL Letter

FCC CHAIRMAN TOM WHEELER TO STEP DOWN IN JANUARY

FCC Chairman Tom Wheeler has announced that he will step down in January, when President Barack Obama's term ends. An Obama appointee, Wheeler has headed the Commission for 3 years.

"Sitting in this chair has been the greatest privilege of my professional career," Wheeler said on December 15, during his final FCC monthly open meeting. "I'm grateful to President Obama for the opportunity to serve and for the confidence he placed in me....It has been a privilege to work with my fellow Commissioners to help protect consumers, strengthen public safety and cybersecurity, and ensure fast, fair, and open networks for all Americans."

Wheeler was a staunch proponent of the FCC's net neutrality policy, which has been opposed by conservatives as government overreach.

When Wheeler departs on January 20, the FCC will be left with two Republicans -- Ajit Pai and Michael O'Rielly -- and one Democrat -- Mignon Clyburn, whose term ends in mid-2017. Democratic commissioner Jessica Rosenworcel failed to gain confirmation for another term before Congress adjourned and is expected to depart by year's end. The FCC's five commissioners are appointed by the president, the political balance favoring the party holding the White House. --ARRL Letter

AMATEUR RADIO PARITY ACT BILL UNABLE TO OVERCOME FLORIDA SENATOR'S OBJECTIONS

The Amateur Radio Parity Act, H.R. 1301, suffered an unbefitting demise on December 9 as the 114th Congress drew to a close. After passing the House of Representatives on a unanimous vote earlier this fall, the bill stalled in the Senate due to the intervention of only one member, Sen. Bill Nelson (D-FL). The measure would have directed the FCC to extend its rules relating to reasonable accommodation of Amateur Service communications to private land-use restrictions, such as covenants, conditions, and restrictions (CC&Rs) imposed by homeowners associations.

"[During 2016] Nelson received thousands of e-mails, letters, and phone calls from concerned constituents asking for his support of H.R. 1301. Numerous meetings were held with his senior staff in an effort to move the legislation forward," ARRL said in a news release. "Negotiations, which led to an agreement with the Community Associations Institute (CAI), the national association of homeowner's associations and publicly supported by CAI and ARRL, were brushed aside by Sen. Nelson as irrelevant."

In a final meeting with Nelson's staff as the 114th Congress neared adjournment, it became clear that no matter what was said or done, the Senator would oppose the bill and refuse to allow it to move forward. Because the measure had not been put on the floor schedule, the only way it could have passed the Senate would have been through a process called "unanimous consent." A Senate member may request unanimous consent on the floor to set aside rules and expedite proceedings. If any single Senator objects, though, the request is rejected.

The unhappy ending followed nearly 2 years of intense effort on the part of ARRL and thousands of its members, who contacted their Congressional representatives to urge their support of the measure on Capitol Hill. The ARRL Board of Directors is expected to discuss the future of the initiative at its January meeting. --ARRL Letter

GERMAN RADIO AMATEURS GAIN ACCESS TO 60-METER BAND

On December 21, Amateur Radio operators in Germany gained access to the band 5.351.5 to 5.366.5 MHz with 15 W EIRP, and a maximum bandwidth of 2.7 kHz. Access applies to Class A licensees. Amateur Radio is secondary on 60 meters.

The Deutscher Amateur Radio Club (DARC) called users' attention to the IARU Region 1 band plan for 60 meters, which recommends CW and digital modes, maximum bandwidth of 200 Hz, from 5.351.5 to 5.354.0 MHz; all modes, maximum bandwidth of 2. 7 kHz (use USB for SSB), from 5.354.0 to 5.366.0 MHz, and all modes, maximum bandwidth of 20 Hz "with the least power," from 5.366.0 to 5.366.5 MHz.

"Because a lot of radio amateurs must share this narrow 15 kHz band, everyone should keep transmissions short and avoid lengthy ragchews," the DARC advised in announcing access to the new allocation.

Other countries are expected to grant access to the new, 15 kHz 60-meter band when the Final Acts of World Radiocommunication Conference 2015, which made the allocation available to Amateur Radio, go into effect on January 1, but the US will not be among them; the FCC has yet to allow Amateur Radio access to 60 meters beyond the five discrete channels already available. --ARRL Letter

CHINESE OVER-THE-HORIZON RADAR QRMING LOW END OF 40 METERS

The IARU Region 1 (IARU-R1) Monitoring System newsletter reports that one of China's HF Over-the-Horizon radars (OTH-R) has been transmitting on 6.999 MHz, impinging on the very low end of the 40-meter band.

As the newsletter reported: "A jumping Chinese OTH radar covered the CW DX-edge of our exclusive 7 MHz band on November 17 at about 1500 UTC and later (long lasting)." The signal was 67 sweeps per second with a 10 kHz bandwidth.

Elsewhere on 40 meters, military ALE transmissions have been heard from Kyrgyzstan on 7050.0 kHz. IARUMS also reports that the Australian Jindalee Operational Radar Network (JORN) has been heard on 10.131 MHz in the amateur 30-meter band; Amateur Radio is secondary on 30 meters.

Radio Eritrea appeared in November on 7180 kHz together with white noise from Ethiopia. The frequencies 7146.5, 7175, and 7185 kHz were reported to be still in use as well.

Reports of Amateur Radio band intruders may be logged on the IARU Region 1 Monitoring System logger. --ARRL Letter

THE DIGITAL EDITION OF JANUARY QST NOW AVAILABLE ON NEW PAGESUITE PLATFORM

The digital edition of the January 2017 issue of *QST* is now available on the new *PageSuite* platform. The new viewing platform brings a number of changes, so members are advised to download and read the QST PageSuite Manual.

If you view the digital edition of *QST* on an Apple smartphone or tablet, ***update*** your current *QST* app. In the App Store app, tap the Updates icon in the menu along the bottom, scroll until you see the *QST* app, and then tap UPDATE. This will overwrite the older app with the new *PageSuite* version.

If you are an Android user, you will also need to update your current *QST* app. For both Apple and Android devices, updating to the new *PageSuite* app will clear your device of all previously downloaded *QST* issues.

Finally, Kindle Fire users will be pleased to learn that there is a now a *QST* app for their device. Search for the *QST* app in the Kindle Fire app store.

Important note: If prompted to enter an e-mail address upon signing into either the desktop version of *Digital QST* or the app, ***enter your ARRL website username instead***.

FCC DENIES EXPERT LINEARS' REQUEST FOR WAIVER OF 15 DB RULE, PETITION PENDING

The FCC has denied a request by Expert Linears America LLC to waive §97.317(a)(2) of the Amateur Service rules limiting amplifier gain. Expert, of Magnolia, Texas, distributes linears manufactured by SPE in Italy. Its waiver request, filed in June, would have allowed Expert to import an amplifier capable of exceeding the current 15 dB gain limitation as it awaits FCC action on its April petition (RM-11767) to revise the same Amateur Service rules. That petition remains pending. Expert has asserted that there should be no gain limitation on amplifiers sold or used in the Amateur Service. Most commenters supported Expert's waiver request, but a couple of commenters — including FlexRadio — demurred.

"In light of the conflicting comments regarding the desirability of eliminating the 15 dB limitation, we conclude that waiving the limitation at this stage of the rulemaking proceeding would

prejudice the rulemaking proceeding and prematurely dispose of commenters' concerns," the FCC said in denying the waiver. "Moreover, we agree with FlexRadio that granting Expert's waiver request while the rulemaking petition remains pending would provide an unfair market advantage for one equipment model over other manufacturers' RF power amplifiers that would still be limited by [the existing rules]."

The FCC said it would rather give full consideration to "the pending issues" and apply the result of the rulemaking proceeding to all Amateur Radio Service equipment. The Commission said rule waivers "generally" are not warranted "merely to accommodate technical parameters that are based solely on harmonization with the manufacturer's products available abroad."

The FCC said a minority of those commenting on the waiver request expressed concern that eliminating the 15 dB limitation would lead to an overall increase in power levels, "including transmissions that intentionally or unintentionally exceed the maximum power limit."

In its April rulemaking petition, Expert maintained that the 15 dB gain limitation is an unneeded holdover from the days when amplifiers were less efficient and the FCC was attempting to rein in the use of Amateur Service amplifiers by Citizens Band operators.
Although the FCC had proposed in 2004 to delete the requirement that amplifiers be designed to use a *minimum* of 50 W of drive power — and subsequently did so — it did not further discuss the 15 dB limit in the subsequent Report and Order in that proceeding.
Expert has pointed to its Model 1.3K FA amplifier as an example of a linear "inherently capable of considerably more than 15 dB of amplification," which would make it a suitable match for low-power transceivers now on the market. --ARRL Letter

TECHNICAL

WSJT Development Group Releases *WSJT-X* Version 1.7.0:

[Editor's note: The User Guide mentioned in the article below contains a rather detailed description of all of the modes along with some of the technical information on how these modes of communication work.]

The WSJT Development Group has released WSJT-X version 1.7.0. The *WSJT-X* software suite is designed to facilitate basic Amateur Radio communication using very weak signals (WSJT stands for Weak Signal communication by K1JT). Joe Taylor, K1JT, recommends reading the extensively updated *WSJT-X* version 1.7 User Guide, which describes new features and capabilities (relative to version 1.6). *WSJT-X* version 1.7.0 includes new modes ISCAT, MSK144, and QRA64; newly implemented submodes JT65B-C and JT9B-H; a new Franke-Taylor decoder to replace the Koetter-Vardy decoder previously used for JT65; improvements to the *JT4*, *JT9*, and *JT65* decoders; multi-pass decoding for JT65 and WSPR, and improved convenience features for EME Doppler tracking. --ARRL Letter

Software Defined Radio Academy on YouTube: At the International Amateur Radio Exhibition in Friedrichshafen, Germany this past summer, a Software Defined Radio Academy was one of the technical sessions. Recently dozens of videos of the various sessions have appeared on YouTube. This is really interesting technical stuff for those interested in SDR. For those of us who use the HPSDR PowerSDR software, the session on "Advanced Algorithms for Noise Blanking and Noise Reduction" describes wideband noise-blankders and LMS noise-reductions algorithms which are included in the latest versions of this software. Take a look! --AF9A

China Plans Lunar-Orbiting Amateur Radio Satellites: China's Harbin Institute of Technology is developing a pair of lunar-orbiting satellites -- DSLWP-A1 and A2. According to Mingchuan Wei, BG2BHC, DSLWP is "a lunar formation-flying mission for low-frequency radio astronomy, Amateur Radio, and education," consisting of two microsatellites. Launch is planned in June 2018, to place the pair into a 200 × 9,000 kilometer (approximately 124 × 5,580 mile) lunar orbit. The Amateur Radio payload on DSLWP-A1 will provide telecommand uplink and telemetry and a digital image downlink. Open telecommand is also designed to allow radio amateurs to send

commands to take and download images. The satellites are 50 × 50 × 40 centimeters, with a mass of about 45 kilograms and are three-axis stabilized, with two linear polarization antennas. The team has proposed downlinks for DSLWP-A1 on 435.425 MHz and 436.425 MHz, and downlinks for DSLWP-A2 on 435.400 MHz and 436.400 MHz, using GMSK with concatenated codes or JT65B. Harbin Institute of Technology also developed the *Lilac* series of CubeSats.

SHORTS

KH6LC Planning Multi-Multi Kids Day on Saturday, January 7: Lloyd Cabral, KH6LC, reports he plans to have his station on the air for Kids Day as a multi-multi on 20, 15, and -- if it opens -- 10 meters. He is anticipating a half-dozen young visitors to his Keaau, Hawaii, home. Kids Day begins on Saturday, January 7, at 1800 UTC and concludes at 2359 UTC. "We'll be spotting ourselves on DX Summit," Cabral said. "I'm not sure who has more fun, the kids operating or the adults 'coaching' them. We must be on to something good because everyone wants to come back year after year. Please consider inviting some young people in to operate." Sponsored by the Boring (Oregon) Amateur Radio Club, this event has a simple exchange, suitable for younger operators: first name, age, location, and favorite color. Details are on the ARRL website. --ARRL Letter

New Amateur Radio FM Transponder CubeSat Now in Space – The BY70-1 CubeSat launched on December 28 from the Taiyuan Space Launch Center in China, but in a lower orbit than intended. The satellite carries an Amateur Radio FM transponder.

BY70-1 was intended to go into a 530-kilometer (approximately 329-mile) circular Sun-synchronous orbit, but it appears the orbit is 524 × 212 kilometers, which will give the spacecraft an orbital lifetime of just a month or two.

Paul Stoetzer, N8HM, reported working Wyatt Dirks, AC0RA, through the FM transponder during the 1709 UTC pass on December 28. “Uplink requires precise frequency adjustment, and there’s a delay on the downlink, but the signal is strong,” Stoetzer said.

BY70-1 is a 2U CubeSat project for education and Amateur Radio. It features 3-axis stabilization and deployable solar panels. In addition to the FM transponder, BY70-1 has a camera, and plans call for downloading images and telemetry via a 9600 bps BPSK downlink. The IARU Amateur Satellite Frequency Coordination pages list an uplink of 145.920 MHz, and a downlink of 436.200 MHz.

AMSAT-UK has more information.

Radio Australia Shortwave Broadcasts to End on January 31: Another prominent shortwave broadcaster is going dark, "The SWLing Post" blog reports. Radio Australia has announced that it will cease its shortwave transmissions on January 31. The station, popular with SWLs, broadcasts in the 31-, 25-, 19-, and 16-meter bands. "The move is in line with the national broadcaster's commitment to dispense with outdated technology and to expand its digital content offerings, including DAB+ digital radio, online and mobile services, together with FM services for international audiences," the Australian Broadcast Corporation (ABC) said in a news release. The ABC said it would put the money saved from ending shortwave broadcasting into other program distribution technology. --ARRL Letter

ISS Packet Digipeater is Now on 70 Centimeters: The Amateur Radio on the International Space Station (ARISS) packet digipeater aboard the ISS now is active on 437.550 MHz. The UHF frequency means users will have to make adjustments for Doppler on both uplink and downlink. The change to 70 centimeters comes in the wake of a problem that has sidelined the Ericsson VHF transceiver, so the UHF model has been put into service. The digipeater operates just as it did when it was on its former 145.825 MHz frequency. AMSAT suggests that users

program a group of five memory pairs to permit an operating range that will compensate for Doppler, with transmit frequencies from 437.560 to 437.540 MHz, and receive frequencies from 437.540 to 437.560 MHz, in 5 kHz increments (i.e., the transceiver would be in simplex for 437.555 MHz). More information is available from the AMSAT website. Scheduled ARISS contacts and APRS operations will also utilize the Ericsson UHF transceiver in the *Columbia* module. -- *Thanks to AMSAT News Service*

Special Call Sign Prefixes Available to Celebrate Canada's Sesquicentennial — Radio Amateurs of Canada (RAC) has secured permission for all Canadian radio amateurs to use special call sign prefixes to celebrate the 150th anniversary of Canada's Confederation during 2017.

Starting on January 1, radio amateurs and clubs with VA-prefix call signs may use CF instead, and those with VE-prefix call signs may use CG instead. Amateurs and clubs with VO-prefix call signs may substitute CH instead, while those holding VY-prefix call signs may substitute CI. Use of the special prefixes is optional, and Canadian radio amateurs may choose if and when to use the special prefix at any time during the year.

VY1AAA, the Yukon Canam Contest Club, will mark the sesquicentennial with special call sign XK150YUKON from January 1 until March 1. The rest of 2017, VY1AAA will operate using either CI1AAA or VY1AAA. --ARRL Letter

Winter Field Day is Just Ahead - Field Day is not just for summertime anymore. Winter Field Day, sponsored by the Winter Field Day Association (WFDA), will take place over the January 28-29 weekend, and it can be a terrific time to prep for ARRL Field Day in June. The annual event's stated purpose is to encourage emergency operating preparedness in the winter, but it's also an excuse to get out of the house and enjoy the great outdoors. According to the WFDA, getting ready for emergency communication in a winter environment is just as important as the preparations and practice that take place each June during ARRL Field Day, and — let's face it — it's not cold and snowy everywhere during the winter months. Your local climate could be quite the opposite.

"Don't let those winter doldrums keep you locked up in the house," the WFDA says. "Get out and play some radio!" The WFDA said it believes that maintaining operating skills should not be limited to fair-weather scenarios.

The event, which got its start in 2007, is not restricted to North America. All Amateur Radio operators around the world are invited to participate, and there are three entry categories — indoor, outdoor, and home. The rules are similar to those for ARRL Field Day. Operation will take place on all HF bands except 12, 17, 30, and 60 meters, as well as on VHF, UHF, and satellite. The event runs 24 hours. US and Canadian stations exchange call sign, operating category, and ARRL or RAC section.

The WFDA encourages both group and solo operation, and if you're not up for an outdoor winter adventure involving Amateur Radio, you can operate from the comfort of your shack. As the WFDA says on its Facebook page, "The object is winter fun!" --ARRL Letter

MFJ in partnership with InnovAntennas and G0KSC - MFJ Enterprises a manufacturer of a broad range of products for the amateur radio industry specializing in station accessories, antennas and antenna tuner units and InnovAntennas Limited a designer and builder of modern computer optimized directional antenna systems, today announced a partnership which will increase the availability of InnovAntennas smaller antennas in addition to providing a new and up to date range of computer optimized directional antennas for Hy-Gain and Cushcraft, two of the legacy brands of MFJ Enterprises.

Justin Johnson G0KSC, owner of InnovAntennas Limited (a member of the International Ham Store Group) who is also a contributor to the ARRL Antenna Book 2016 provided the following statement.

"This is really exciting news for both companies. InnovAntennas have not been able to fully service the US market due to an inability to meet global demand.

The MFJ facility in Starkville, MS will be building some of the smaller antennas we produce under the InnovAntennas label and I have already visited the factory last year to established production methods using MFJ/Hy-Gain and Cushcraft tooling."

Justin continued by saying "most of our popular models will be covered by MFJ, including the LFA (Loop Fed Array) Yagi and OWL (Optimized Wideband Low impedance).

Additionally, new computer optimized and yet unreleased HF and VHF mono and multiband Yagis will be released through the Hy-Gain and Cushcraft brands, neither of which have released new Yagis in quite some time".

Justin Johnson G0KSC has become well-known for his innovative variants of the common Yagi which boast direct 50Ω feed points and low-noise patterns and feed arrangements. Dubbed the 'urban antenna' the LFA is well suited to city lots where noise prevents the hobby being as enjoyable as it once was. More recently, G0KSC has transitioned into HF multiband and monoband designs where he has embraced the compact 'trap-less' concept with the InnovAntennas CP-6 being an excellent example, providing 6 bands with a single feed in a package just 12' by 28'.

It is expected that the first in this new line of antennas will be available by the spring of 2017 on a direct and distributor supply basis and it is advised that interest is placed with MFJ Enterprises as soon as possible.

THANKS FOR READING!

THE RCA ARC MONTHLY NEWSLETTER IS COMPILED AND EDITED BY JIM RINEHART, K9RU AND JIM KEETH, AF9A. ALL MATERIAL CONTAINED HEREIN IS OBTAINED FROM THE SOURCES CREDITED AND EDITED FOR THIS NEWSLETTER. EMAIL TO mailto:WebMaster@w9rca.org.
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