



Legacy Amateur Radio Club

# RCA AMATEUR RADIO CLUB



AFFILIATED CLUB

INDIANAPOLIS, INDIANA

AUGUST 2018

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE  
TUESDAY, AUGUST 14th, 6:30 PM AT  
[SQUEALERS](#), 5899 E. 86th STREET, INDIANAPOLIS, IN

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## RCA ARC NEWS

**SUMMARY OF THE JULY MEETING** – Thanks to all who attended the July meeting. The Field Day results were discussed. All in all, it was very successful. Everyone seemed to like the new location at the Victor Conservation Club and we have reserved it for next year. As usual, there were some computer problems. The satellite station suffered some problems but was able to make some contacts and generate the extra 100+ points. The number of folks visiting the site was greater than expected since we were south of Mooresville. Brian Smith, W9IND, did a tremendous job of organizing. Volunteers are needed to help with the Indy Hamfest. Loading and hauling stuff Friday morning and manning the tables Friday and Saturday. The repeater problems which have surfaced off and on during the last months apparently was the result of an improperly installed connector. Since the cable was replaced, there have been no known “failure to transmit” problems.

**THE INDY HAMFEST** – Another Indianapolis Hamfest is history. The weather was great, but hot and the crowds were good. Unfortunately, the air conditioning in the building did not work well making it very hot.

The Club did well despite the fact we are down to the last of the \$1 a bag parts. We did have RG8 type coax cable (Belden 89913) that was donated to the club by Jon Powell and stuff from members. BTW, we still have plenty of the coax if anyone wants some.

Special thanks to AF9A, W9KVK, K9RU and N9KZJ for all the help manning the tables and loading and moving the stuff to and from the hamfest. Also for the help from Jon Powell and Bill Mengel who shared the RCA ARC tables with us.

The Indy Hamfest, as a whole, did well and finished in the black for the first time in several years.

### AMATEUR RADIO LICENSE TEST SESSION –

**Time:** Saturday, August 11, 2018, 12:00 pm (Walk-ins allowed)

**Location:** Salvation Army EDS Training Facility, 4020 Georgetown Rd, Indianapolis, IN

**Contact:** Jim Rinehart, [k9ru@arrl.net](mailto:k9ru@arrl.net), 317 721-1458

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Aug 12-13      Perseids meteor shower  
Aug 18            North American QSO Party  
Sept 3-9        W9IMS Brickyard 400 Special Event Operation  
Sept 8-9        Worked All Europe SSB DX Contest  
Sept 8-9        ARRL September VHF Contest  
Sept 22        Bloomington Hamfest <http://www.bloomingtonradio.org/>  
Oct 6            Indianapolis Half Marathon, Lawrence, IN <mailto:NN7C@comcast.net>  
Oct 6            Hoosier Hills Hamfest <http://www.w9gyq.org/>  
Oct 6-7        Hilly Hundred, Ellettsville, IN <mailto:N9FEB@comcast.net>  
For More Contests Information: <http://www.contestcalendar.com/>  
Opportunities for public service: <http://indyhams.org/event>

## ARRL BOARD ADOPTS VOLUNTEER MONITORING PROGRAM; OFFICIAL OBSERVER PROGRAM TO BE RETIRED

The ARRL Board of Directors has adopted the recommendations of the Official Observer Program Study Committee, which would retire the venerable Official Observer (OO) Program and institute the Volunteer Monitoring (VM) Program. The Board took the action at its July 20 - 21 meeting in Windsor, Connecticut, instructing that the transition "be implemented as soon as practicable." Under the terms of the new program, current Official Observers will be invited to apply for appointment as Volunteer Monitors. The Board expressed its appreciation for the OOs and their dedicated volunteer service over the years.

The Board said the action is expected to re-energize enforcement efforts in the Amateur Radio bands and was undertaken at the request of the FCC in the wake of several FCC regional office closures and a reduction in field staff. Coordination of cases and evidence gathering would become the responsibility of ARRL Headquarters staff, while the FCC will retain the responsibility for final decisions regarding action in specific cases.

The study committee report spelled out the additional steps necessary to launch the Volunteer Monitoring Program. Among them would be the appointment of a dedicated Headquarters staff member or an independent contractor working under the direction of ARRL Headquarters to administer the new program and interface with its participants. The Volunteer Monitoring Program administrator would, among other duties, create a vetting and accreditation process for prospective Volunteer Monitors. The authority to accredit, appoint, and dismiss Volunteer Monitors would be assigned to ARRL Headquarters staff. Section Managers will continue to be a part of the vetting process for VMs, although they will not have appointment or dismissal authority.

Volunteer Monitor accreditation would be limited to a 3-year term, renewable by satisfying requirements necessary to ensure competency. A new *Volunteer Monitoring Training Manual* is in the final stages of development.

The administrator will create a target for the number of geographically distributed Volunteer Monitors. Preliminary plans would include up to five Volunteer Monitors per ARRL Section and up to 250 Volunteer Monitors overall.

The administrator would also "develop a rubric or other aid for program participants to highlight offenses and other criteria that the FCC considers a priority," the motion said. The administrator also would be charged with organizing periodic webinars, highlighting technologies, techniques, and other continuing education topics that would assist, motivate, and better enable Volunteer Monitors. The FCC will be actively involved in the development and presentation of these training opportunities.

The new Volunteer Monitor Program would continue to send notices recognizing good on-the-air operating practice. Under the new program, positive or negative operator notices eventually

would be sent from ARRL Headquarters, not by individual Volunteer Monitors, in part to maintain their anonymity.

The action further authorized ARRL President Rick Roderick, K5UR, to terminate the standing *Amended Agreement* between ARRL and the FCC Field Bureau regarding the use of amateur volunteers and execute a new *Memorandum of Understanding (MOU)* between ARRL and the FCC Enforcement Bureau. The *MOU* is under final review.

## PARITY ACT OPTIONS OPEN DESPITE REMOVAL FROM DEFENSE AUTHORIZATION ACT CONFERENCE REPORT

ARRL Hudson Division Director and ad hoc Legislative Advocacy Committee Chair Mike Lisenco, N2YBB, said this week's removal of [Amateur Radio Parity Act](#) (HR 555) language from the National Defense Authorization Act (NDAA) [Conference Report](#) was unfortunate, but does not kill the initiative. The Parity Act would ask the FCC to grant radio amateurs living in deed-restricted communities the right to install effective outdoor antennas. Lisenco said that while the language was removed from the final NDAA *Conference Report*, other viable options remain to see the Parity Act succeed.

"We were disappointed the Parity language didn't survive the conference process, but we do have other House-passed legislative vehicles that contain the language, including the Financial Services & General Government Appropriations bill, which funds the FCC," Lisenco said.

"We have always known that getting this legislation across the finish line was going to take a lot of effort," Lisenco said. "The legislative process is sometimes frustrating for ARRL members, but there is a way that our membership can be directly involved," Lisenco explained. "By contacting your Representative and Senators and telling them you want their support for the Amateur Radio Parity Act, you can help lend thousands of voices to echo the work of the ad hoc Legislative Advocacy Committee on Capitol Hill."

"It's not unusual for legislation to stall in Congress. To remove the logjam, we need our elected representatives in both chambers to know how much of a priority this bill is for our avocation," Lisenco explained. "The continued active support of ARRL members is critical in order to do that."

Lisenco said it was important to keep the legislative efforts in context. "A decade ago, our bill was being introduced every 2 years and gathering less than 2 dozen cosponsors before being forgotten and tossed in the heap. Since we've created the ad hoc Legislative Advocacy Committee, we have seen the bill pass the House of Representatives four times in less than 2 years and come within a hair of the President's desk," Lisenco continued. "Momentum is clearly on our side, and the wind is at our backs. We need our membership's active engagement to provide that final push to propel the Parity Act across the finish line." --ARRL Letter

## FCC CITES BAOFENG IMPORTER FOR ILLEGALLY MARKETING UNAUTHORIZED RF DEVICES

The FCC has issued a *Citation and Order (Citation)* to [Amcrest Industries, LLC](#) (formerly Foscam Digital Technologies, LLC), an importer and marketer of popular and inexpensive Baofeng handheld transceivers, alleging that the company violated FCC rules and the Communications Act by illegally marketing unauthorized RF devices. The FCC asserts that Amcrest marketed Baofeng model UV-5R-series FM handheld radios capable of transmitting on "restricted frequencies." The Baofeng models UV-5R and UV-5R V2+ were granted an FCC [equipment authorization](#) in 2012 to operate under Part 90 Private Land Mobile Radio Service (Land Mobile) rules.

"Under § 2.803 of the Commission's rules, an entity may not market a device that is capable of operating outside the scope of its equipment authorization," the FCC *Citation* said. "RF devices that have been authorized under Part 90 rules, such as the model as issue, must operate within the technical parameters established in those rules." The FCC also maintained that the UV-5R 2+ is capable of operating at 1 W or 4 W, while the Part 90 Equipment Authorization limits the power output to 1.78 W.

Amcrest conceded that the units were capable of operating on restricted frequencies but told the FCC that, per discussions with the manufacturer, were "only capable of operating at 1 W, the FCC said. The company instructed the manufacturer to fix the problem and later confirmed with the manufacturer that all Amcrest inventory on order and in the future would operate only on 145 - 155 MHz and 400 - 520 MHz.

While the *Citation* does not mention Amateur Radio, the UV-5R series radios can be programmed in a channelized configuration to function on 2 meters and 70 centimeters. According to the *Citation*, Amcrest had added a warning in its user manuals and marketing and sales materials implying that the UV-5R V2+ could operate on unauthorized and restricted frequencies, including Part 87 Aviation Services frequencies, Part 80 Maritime Services frequencies, and frequencies reserved for federal government use.

Amcrest told the FCC that it had ceased marketing four models in the Baofeng UV-5R series "a few years ago," but it did not remove them from its website until last February. Numerous online retailers continue selling UV-5R series radios for less than \$25, with some ads indicating that these are "ham" equipment. Read [more](#)

## WRTC 2018: AMAZING CONTACT TOTALS, SCORES DESPITE POOR CONDITIONS

A crack team of testers from Lithuania won the gold medal in World Radiosport Team Championship 2018 ([WRTC 2018](#)), held over the weekend in Germany. Operating as Y81N, Gedas Lucinskas, LY9A, and Mindis Jukna, LY4L, topped the real-time scoreboard for much of the event, which is held as a competition within a contest, in conjunction with the [IARU HF Championship](#). Lucinskas and Jukna had ended up in sixth place during WRTC 2014, held in New England. In WRTC 2018 they posted a final score of 5,690,685 points, logging 5,139 contacts, with a heavy emphasis on CW. [Final results](#) for all competing teams have been posted on the WRTC 2018 website.

Despite conditions during the weekend that were no better than mediocre, the 63 competing teams logged a total of 262,746 contacts during the 24-hour competition.

Taking second place to the pleasure of the German sponsors was the Y81A team of Manfred Wolf, DJ5MW, and Stefan von Baltz, DL1IAO, with 5,273,488 points, with 4,936 contacts, a majority on CW. They placed third in a nail-biting finale for the bronze at WRTC 2014. The mostly German audience gave Wolf and Baltz a huge ovation at the WRTC 2018 awards ceremony.

In the third spot this time around was the WRTC 2014 defending champion team of Dan Craig, N6MJ, and Chris Hurlbut, KL9A, who operated as Y82V, and racked up a final tally of 4,891,710 points, heavily weighted toward CW.

The WRTC 2014 second-place team of Rastislav Hrnko, OM3BH, and Jozef Lang, OM3GI, from the Slovak Republic landed in 10th place at WRTC 2018.

This year's first-place team scored nearly 1.5 million fewer points but 567 more contacts than the WRTC 2014 first-place team of N6MJ and KL9A.

The WRTC 2018 [Live Scoreboard](#) transformed the event from an isolated radio competition into a sporting event that could be followed online around the world. Although Live Scoreboard

viewers knew where things stood among the 63 teams, the competitors had no clue until the event concluded.

Determining the final results of WRTC 2018 involved an extensive log-checking process, based in part on comparisons between IARU HF Contest logs submitted to WRTC 2018 for that purpose. Randy Thompson, K5ZD, reported at the July 16 closing ceremony that the evaluation committee received 3,500 logs within 16 hours of the event's end for auditing competitors' logs.

The father-son Y87B team of Jeff Briggs, K1ZM, and Patrick Briggs, KK6ZM, won the SSB Leader Award. The CW leaders, operating as Y83O, were Tonno Vahk, ES5TV, and Toivo Hallikivi, ES2RR, of Estonia. Vahk and Hallikivi also were the WRTC 2018 multiplier leaders.

Claiming the award for the most accurate log -- which was said to be very close -- was the Y86V team of Leo Slavov, OR2F, and Pascal Lierman, ON5RA, of Belgium. They made 39 logging errors out of 3,052 contacts (1.28%).

Youth Team Award winners were Alexandru Mancas, YO8TTT, and Leo Kharchenko, UT5GW, who landed in 14th place overall. There were three youth teams for competitors aged 25 or younger. The youngest WRTC 2018 competitor was 14-year-old Bryant Rascoll, KG5HVO, who paired with 22-year-old Y83Z Team Leader Mathias Acevedo, CE2LR.

Jannsen said he's looking forward to WRTC 2022, which will take place in Bologna, Italy, as announced at the closing ceremony. --ARRL Letter

## BIRDS-2 CONSTELLATION CUBESATS TRANSPORTED TO ISS FOR AUGUST DEPLOYMENT

The second generation of CubeSats in the BIRDS constellation now is on board the International Space Station (ISS) and set for deployment in early August using the Japan Aerospace Exploration Agency (JAXA) module's remote manipulator arm. The June 29 SpaceX Falcon 9 launch carried the [BIRDS-2](#) CubeSats -- MAYA-1, BHUTAN-1, and UiTMSAT-1, built by students from Malaysia, Bhutan, and the Philippines at the hosting Kyushu Institute of Technology in Japan. All CubeSats have identical designs and utilize the same frequencies. While independently made, operation and control of the three CubeSats will be shared by three teams after the spacecraft are released into space. All three CubeSats will transmit a CW beacon on 437.375 MHz. They will be operational for 6 months.

"The three will form a constellation, orbiting the Earth from different places. This will provide the countries more opportunities to make measurements and run experiments than just with using one CubeSat," explained Joel Joseph Marciano, Jr., manager of the PHL-Microsat program in the Philippines. The primary mission of BIRDS-2 CubeSat constellation is to provide digital message relay service to the Amateur Radio community by means of an onboard APRS digipeater on a frequency of 145.825 MHz.

Another mission of the BIRDS-2 CubeSat constellation is to demonstrate a store-and-forward system, investigating technical challenges through experiments on appropriate data format, multiple access scheme, and file-handling protocol while complying with limited operational time and power constraints.

The BIRDS-2 CubeSat store-and-forward system will collect data from remote ground sensors, store it on board, and download it to the BIRDS-2 ground station network, begun last year during the BIRDS-1 CubeSat constellation project.

The CubeSats will carry two identical cameras with different lenses to capture images with varying resolution. The cameras will also be used to capture a minimum-resolution video from space for experimental purpose.

The CubeSats will also carry magnetic field sensors to measure the magnetic field in space and compare it with that measured on ground.

Additional experiments will use the BIRDS-2 CubeSat constellation to enhance research and experiment in single latch-up event detection, magnetic field measurements, and flight testing of a newly designed GPS chip to demonstrate its low-power operation capabilities in space. Students will also explore a passive attitude stabilization mechanism. All measurements and image data will be made available on the BIRDS-2 project website. -- *Thanks to AMSAT News Service*

## ARRL COMMENTS IN “STRONG OPPOSITION” TO PART 15 MODIFICATION PETITION AFFECTING 5 GHZ

ARRL has [commented](#) in “strong opposition” to a [Petition for Rulemaking](#) by RADWIN Ltd. that seeks to amend certain Part 15 rules to permit point-to-multipoint (P2MP) communication services in portions of the 5 GHz band, at power levels now permitted only for point-to-point unlicensed systems. ARRL has focused its concern on proposed high-power P2MP operation in the band 5.725 – 5.850 GHz, but points out that the entire 5.650 – 5.925 GHz allocation has been “subjected to a continuing series of overlays domestically” for more than 2 decades. Amateur Radio is secondary to military radars on the band.

ARRL said the Amateur Radio national “weak-signal” calling frequency of 5.760.1 GHz already has experienced a “very substantial” rise in ambient noise in many areas that has significantly affected Amateur Radio operation in the 200 kHz centered on that frequency, where extremely weak received signal levels are typical. Only low-density usage and the low-power levels permitted for unlicensed national information infrastructure (U-NII) devices have sustained “a good deal of compatibility” between Amateur Radio and U-NII devices at 5 GHz, ARRL said.

“It is quite obvious that RADWIN’s proposal for simultaneous point-to-multipoint transmission, with higher input power and [effective isotropic radiated power (EIRP)], using an electronic steerable antenna system, presents an exceptionally high interference potential to ongoing, weak-signal Amateur Radio Service communications,” ARRL said in its comments filed on July 30. With users located “at all points of the compass from the distribution point,” ARRL said, the potential for interference to Amateur Radio “is *much* greater.” Greater yet, ARRL noted, is the potential of interference to users of RADWIN’s system.

ARRL said the FCC “has no idea at all” about aggregate noise levels in the 5 GHz band in general, while Amateur Radio and Amateur Satellite users have reported increased ambient noise levels in the band, especially near 5.760 GHz. “Both the *Petition* and the technical statement accompanying the *Petition* are silent on potential interaction between P2MP simultaneous transmission systems operating at high power, and any Amateur Radio facility,” ARRL said. “As a result, the petition is fatally flawed and should be dismissed, relative to the 5.725 – 5.850 GHz band.”

ARRL asserted that the FCC lacks jurisdiction to authorize Part 15 device operation by rule, “absent a specific finding that the device will not predictably cause interference.” Unlicensed, very low-power Part 15 devices may not cause interference to licensed services and must accept any interference caused by a licensed station and must shut down if notified by the FCC that the device is causing harmful interference.

ARRL said RADWIN’s *Petition* not only is flawed, but fails to address the issue of compatibility between the proposed high-power P2MP Part 15 operation and individual stations in incumbent primary and secondary services.

“It is long past time that petitioners such as RADWIN provide in their rulemaking petitions dealing with Part 15 rules enough data to allow the Commission to make an evaluation that

fulfills its obligation under the Communications Act,” ARRL concluded. “RADWIN’s *Petition* must be dismissed as one which fails to provide an adequate justification for the relief requested.”  
--ARRL

## SIGNIFICANT CHANGES IN STORE FOR FT8 AND MSK144 WITH WSJT-X VERSION 2.0

WSJT-X co-developer Joe Taylor, K1JT, has announced that major changes are coming to the FT8 and MSK144 digital protocols when *WSJT-X* version 2.0 arrives in a few months. Taylor said version 2.0 should be ready for prime time by January.

“Much of the necessary programming is finished,” Taylor said in a post to the Packrats reflector. “Many of the new features have been tested on the air, and we find them to work well.”

Taylor was quick to point out that the new capabilities are not yet publicly available, not even in beta form. He said that he, Steve Franke, K9AN, and Bill Somerville, G4WJS, have been developing “enhanced versions of the MSK144 and FT8 protocols that extend the message payload to 77 bits.”

“Don’t rush to download something,” he cautioned. “There is more testing and code optimization to do.” He said current plans call for a beta-testing period “probably starting in mid- to-late September,” with a full release “possible a couple of months later.”

Taylor ticked off a few possibilities *WSJT-X* version 2.0 will bring to the table: ARRL Field Day operation with standard Field Day exchanges, ARRL RTTY Roundup operation with standard contest exchanges, North American VHF contest operation with full support of grid exchanges and Rover (/R) call signs, European VHF contest operation with the exchange of six-digit grids, QSO serial numbers, and portable (/P) call signs, better and more user-friendly support for compound and nonstandard call signs, a special “telemetry” message format for exchanging arbitrary information up to 71 bits and support for the existing “FT8 DXpedition Mode,” with a more powerful DXpedition Mode possible too.

“All of these features work seamlessly and automatically,” Taylor said. “No ‘contest mode’ checkboxes are needed. In most situations, decoding sensitivity will be slightly better than at present for FT8; for MSK144 it will sometimes be about 0.5 dB worse. Occupied bandwidths will be the same as they are now, and false-decode rates will be significantly lower.”

Taylor said *WSJT-X* version 2.0 will be available in time for users to digest the new documentation and to practice it before actually getting on the air with it, but he offered one important caveat. “The new protocols cannot be backward compatible with the existing ones,” he said in his post. “We will probably provide some temporary ‘bilingual’ capability for FT8, but not for MSK144. It will be essential for users to upgrade to version 2.0 in order to use the new features and communicate with others who have made the upgrade.”

FT8+ will first appear in a version of *WSJT-X* perhaps as soon as September 2018, and utilize the segments of the bands that originally saw JT9 signals. After a transition period, it’s planned for the original FT8 protocol to be retired. See the *WSJT-X* 2.0 plans document for more details.  
- ARRL

## LAUNCH OF ES’HAIL-2 WITH FIRST PHASE 4 AMATEUR TRANSPONDERS EXPECTED LATER THIS YEAR

Es'hailSat, the Qatar Satellite Company, has tweeted that it's anticipating that SpaceX will launch its geostationary *Es'hail-2* satellite sometime in the 4th quarter of 2018. The commercial Qatari satellite will provide the first Amateur Radio geostationary communication and will be capable of linking amateurs from Brazil to Thailand.

Es'hail-2 will carry two AMSAT-DL-designed Phase 4 Amateur Radio transponders operating in the 2.4 GHz and 10.450 GHz bands. A 250-kHz bandwidth linear transponder is intended for conventional analog operation, while an 8-MHz bandwidth transponder will serve experimental digital modulation schemes and DVB amateur television. The satellite will be positioned at 26° east. Es'hailSat said the new satellite "will allow also the AMSAT community to validate and demonstrate their DVB standard."

The narrowband analog linear transponder downlink will cover 10489.550 – 10489.800 MHz with 100 W output. The uplink will be 2400.050 – 2400.300 MHz. The wideband digital transponder will downlink on 10491.000 – 10499.000 MHz with 100 W output. The uplink passband will be 2401.500 – 2409.500 MHz.

Both transponders will be equipped with antennas capable of providing full coverage over about one-third of Earth's surface. The Qatar Amateur Radio Society (A71A) and Qatar Satellite Company are cooperating on the Amateur Radio project. AMSAT-DL is providing technical support.

Es'hailSat said its high-powered, advanced satellite will build on the success of Es'hail-1 and "further boost broadband delivery, broadcasting, and global connectivity in Qatar, the entire region and beyond." Mitsubishi Electric Corporation in Japan is manufacturing the satellite.

## DUCIE ISLAND VP6D TEAM AWAITING ITS TURN AT BAKER ISLAND KH1/KH7Z RADIOS

Operators on the upcoming [VP6D Ducie Island](#) DXpedition, set for October 20 - November 3, are looking forward to their turn at the Elecraft radio equipment used by the KH1/KH7Z Baker Island team during its just-ended DXpedition. In a recent news release, the VP6D team reported that its plans to activate Ducie Island this fall are on schedule, and the Baker Island radio gear has been returned to Elecraft for inspection, testing, and refurbishing. Members of the VP6D team will travel to California in early August to get the gear ready for shipment to New Zealand. Team member Jacky Calvo, ZL3CW, will then transfer the shipment to the M/V *Braveheart*, which will carry the VP6D team from New Zealand to its operating destination. Nigel Jolly, K6NRJ, is the captain of the *Braveheart*.

The VP6D team said it is planning to use FT8 as part of its mode mix on Ducie. "There's no question that the Baker team had considerable success with FT8," the VP6D release said. "However, a large percentage of the callers weren't prepared for the challenges of this new mode. We ask everyone to please read the [FT8 DXpedition Mode User Guide](#). It will be in everyone's best interest if callers use the most recent software version, correctly configure their equipment, call VP6D above 1,000 Hz, and call in the correct sequence."

The VP6D DXpedition intends to use Twitter and Facebook to update the DX community on its progress through regular updates. Seven operating positions are planned for 160 - 10 meters, SSB/CW/digital, including FT8.

While on Ducie Island, DXpedition team members will undertake some non-radio related activities. They will collect soil and plant specimens for study by the National Antarctic Scientific Centre of Ukraine to use in their climate change research. The Pitcairn Island government has



issued a permit for the specimens to be collected and removed from the island, the news release said.

An uninhabited atoll, Ducie Island is a British Overseas Territory in the Pitcairn Islands in the South Pacific. The last Ducie Island DXpedition was VP6DX in 2008. Ducie is currently the 21st most-wanted DXCC entity, according to Club Log. It's believed that this would be the fourth DXpedition to Ducie.

Sponsored by the Perseverance DX Group ([PDXG](#)), the VP6D Ducie Island DXpedition welcomes [support](#) from individuals or clubs. Direct questions to [Team Ducie](#). --ARRL

## ARRL EXHIBITS FOR FIRST TIME AT AIRVENTURE OSHKOSH 2018

The ARRL exhibit for the 2018 edition of the world-famous air show complemented other ham radio demonstrations. ARRL Marketing Manager Bob Inderbitzen, NQ1R, worked with a team of members who supported the exhibit at the weeklong aviation celebration and fly-in. The annual event typically draws more than 500,000 visitors, many of whom had signed the ARRL guest book.

ARRL Life Member and flight instructor TJ Johnson, K9KJ, of Munster, Indiana, was among those stopping by the ARRL booth. He shared his experience of operating aeronautical mobile during ARRL Field Day with his friend Bob Johnson, W9XY.

Two Amateur Radio [Special Event Stations](#) were on the air throughout AirVenture. Organized annually by the Fox Cities Amateur Radio Club in Appleton, Wisconsin, W9ZL was set up at KidVenture at the Pioneer Airport airstrip in Oshkosh.

The EAA Warbirds of America AirVenture Celebration Special Event Station, W9W, was set up near a display of vintage military aircraft.

Booth volunteers helped to direct newcomers to radio clubs and to Amateur Radio test locations, Inderbitzen said. --ARRL Letter

## RADIOSHACK "EXPRESS STORES" TO OPEN IN HOBBYTOWN USA LOCATIONS

According to a July 13 [article](#) in the *New York Post*, [RadioShack](#) is planning to open "express stores" within [HobbyTown USA](#) locations. The nearly century-old, twice-bankrupt retailer has signed a deal with HobbyTown USA to put a mini RadioShack outlet in some 50 HobbyTown USA stores across the country that would sell items that might appeal to radio amateurs and experimenters. Those locations will be identified with RadioShack signage. HobbyTown markets remote-controlled cars and boats as well as drones and other hobby-related merchandise.

RadioShack shuttered all of its company-owned retail outlets. Its last unsuccessful effort to bail itself out of debt involved a deal with cellular provider Sprint. HobbyTown USA has 140 retail outlets, and, according to the *Post* article, RadioShack eventually could carve out a presence -- on the order of 500 square feet -- in all of them. Stores in HobbyTown USA's headquarters town of Lincoln, Nebraska, as well as in Parker, Colorado, and Mooresville, North Carolina, will be among the first to host RadioShack express concessions.

"HobbyTown is purchasing the RadioShack merchandise and offering it to its hobbyist customers who need the tools, wires, and other accessories that RadioShack makes," the *Post* article said.

The article quoted Steve Moroneso, chief executive of General Wireless Operations Inc. -- an affiliate of hedge fund Standard General, which acquired RadioShack in 2015 -- as saying that RadioShack's strategy now is not to own brick-and-mortar stores. RadioShack came out of bankruptcy in January with 400 dealers, an online retail presence, and a distribution center. General Wireless acquired the 1,743 retail outlets that survived RadioShack's 2015 bankruptcy.

Moroneso also told the *Post* that there is "plenty of interest from dealers who want to open a full-line Radio Shack." Read [more](#)

## NO NEW BUILDING FOR THE 2019 DAYTON HAMVENTION

Hamvention/Dayton Amateur Radio Association has spent many hours working with Greene County officials to reach an agreement on a long-term contract where both the Fairgrounds and Hamvention would feel comfortable erecting a new building. Unfortunately, we have currently been unable to successfully reach an agreement satisfactory to all parties.

This does not mean our relationship with Greene County and the fair board is not good; quite the contrary, it is excellent. It does mean that we will not have a new building for Hamvention 2019. Some of the significant upgrades accomplished in 2018 were improved tents, permanent paths in the infield (flea market area) and we added an additional forum room. More improvements are planned for 2019. - Jack Gerbs, WB8SCT, Hamvention General Chairman & Rick Allnutt, WS8G, Hamvention Assistant General Chairman.

## TECHNICAL

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**ADALM – PLUTO** is a Software-Defined Radio Active Learning Module tool by Analog Devices. Based on the AD9363, it offers one receive channel and one transmit channel which can be operated full duplex, capable of generating or measuring RF analog signals from 325 to 3800MHz (or 70MHz to 6GHz in some applications). Up to 61 Mega Samples per second with a 20 MHz bandwidth. Completely self contained. Support for OSX, Windows, and Linux. <https://www.youtube.com/watch?v=qMeJS4gSIXo&t=328s>

**AQRP Club Kits** -- This is the effort of several retired guys, from the Austin QRP Club (AQRP) to make some useful kits available for you at reasonable prices to encourage kit building and homebrewing. As you can quickly determine, these kits are all based around readily available, low cost Microcontrollers with flash (program) memory and most use a certain LCD display that was very, very, inexpensive. The criteria for us, as "low buck" designers, was that firmware development tools have to be free, hardware interface tools have to be inexpensive, and PC board design tools have to be free.

<http://www.qsl.net/k5bcg/Kits/Kits.html> About 2/3 of the way down the page is Kit #25, an **8kHz to 440MHz Vector Impedance Analyzer** which looks interesting. --AF9A

## SHORTS

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It's a record... [According to NASA's Solar Dynamics Observatory](#), July 22 marked the longest interval of no sunspots in nine years - 23 days. We're getting close to solar minimum "more rapidly than many scientists predicted." (NASA Solar Dynamics Observatory)

[Downloadable contest award certificates in PDF and JPEG formats are now available for some recent ARRL contests on the ARRL website](#), and more will be available in the future. Just type in your call sign and press Go. The website will even show certificates for the station call of multioperator efforts where the typed call sign was submitted as one of the operators. As of this publication, the following contests support certificate download: 2017 ARRL 10 GHz and Up Contest, 2017 IARU HF, Championship, 2017 ARRL 222 MHz and Up Distance Contest, 2017 ARRL September VHF Contest, 2017 November Sweepstakes, 2017 ARRL 10 Meter Contest, 2017 160 Meter Contest, 2018 RTTY Roundup and the 2018 January VHF Contest. The new online certificates will offer enhanced content over what has been previously available on ARRL certificates. New recognitions have been added for Top 10 participants in a broader number of geographical (country, Division, Section) or categorical entries.

The sun has more than just the 11-year cycle for sunspots. According to a short [article by Scientific American](#), other cycles of length 88, 200, and 2400 years have been noted. The 11-year cycle that we're most attuned to is called the Schwabe cycle, discovered in 1843 by German astronomer Samuel Schwabe. The longer-duration solar cycles were discovered from isotope information recovered from cores drilled from ice built up over the last 9,000 years.

NOAA's new weather satellite enables very detailed views of weather events over North America. A [recent article by the UK's Independent features a mesmerizing video](#) of lightning strikes as storms move across the continent. (George, NE2U, via Mt. Airy *Cheese Bits*)

John, N8UR, has [developed a means to provide VHF+ spots to the Reverse Beacon Network](#) using RTL-SDR hardware, Raspberry Pi computers, and CW Skimmer software. The key is in emulating a multi-band HPSDR using some additional software by N1GP running on the Raspberry Pi. He [describes his work in a slide presentation](#) (PDF). By having more VHF+ capable nodes able to spot existing beacons, more band openings may be able to be detected.

Here's a recent [article from IEEE Spectrum on a company attempting to beat the competition in financial trading using HF frequencies instead of conventional terrestrial or satellite means of communication](#). [Bloomberg picked up on it](#), too. This whole thing started when an observant network engineer in Chicago noticed a large HF antenna on a tower near a telecom building, which he tracked to a company that is purportedly using it to transmit financial information to/from Europe via HF. Since the IEEE article was published, the engineer has [discovered even more about "Shortwave Trading"](#) and has uncovered more mystery gear. (Dennis, N6KI)

Triangulating arbitrary HF signals is just a few website clicks away. [Using a new feature of the global crowdsourced network of Kiwi-SDR receivers](#), multiple receiving sites can be chosen. Receiver IQ data is collected and analyzed, and a map of potential transmitter locations can be displayed. The Time Difference of Arrival method does a very reasonable job when there are multiple receiving stations, and all can hear a ground wave from the transmitter. (Brian, K7ON, via QRP-L list)

Embarcadero has announced the free community edition of their [C++ Builder](#) toolset, for most hobby scenarios. Some Amateur Radio Software, for example the [EXTFSK RTTY library](#), are dependent on long-obsolete versions of Borland's C++ Builder, which is an ancestor of the Embarcadero product. With the new availability of these tools for hobbyist use, Builder-dependent packages can be now be maintained and enhanced by a broader population of Amateur experimenters.

Hamvention forum videos now searchable on Youtube - videos of some hamvention 2018 forums are available in the Youtube Dayton Hamvention 2018 videos playlist. Among those available are the [TAPR Forum](#), the [SDR Forum](#) and the [HamSCI Forum](#). — Thanks to George Byrkit, K9TRV

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### THANKS FOR READING!

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