



Legacy Amateur Radio Club

RCA AMATEUR RADIO CLUB



AFFILIATED CLUB

INDIANAPOLIS, INDIANA

JULY 2018

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, JULY 10th, 6:30 PM AT
[SQUEALERS](#), 5899 E. 86th STREET, INDIANAPOLIS, IN

RCA ARC NEWS

SUMMARY OF THE JUNE MEETING – Thanks to all who attended the June meeting. The search for a Field Day site was discussed. The Victor Conservation Club has a friendly price and looks like a good choice at this point. The operation will be class 3A plus, GOTA, VHF and satellite stations. The call used will be N9NS which belonged to well known DXer and DXpeditioner, Mike Goode (SK), and is now owned by the Hoosier DX and Contest Club. Our Club will make a \$150 donation for food. Antennas will be set up and checked out on Friday evening. For the Indy Hamfest, our Club has rented 10 tables. Members with personal stuff to sell are welcome. We'll need help loading and transporting stuff on Friday morning and selling on Friday afternoon and Saturday. K9RU reported there is some test equipment available from Vox but it probably won't be available until after this year's Hamfest.

INDY HAMFEST JULY 13 – 14, WE NEED HELP! – Our Club needs volunteers to help transport stuff to the Hamfest on Friday morning, July 13. We have stuff which needs to be transported from K9RU's QTH to the Marion County Fairgrounds on Friday morning starting about 10 AM.

Vendors in the commercial building, that's us, can get in for setup starting at 12:00 noon Friday and at 6AM Saturday with a proper vendor pass. We'll have some of these passes at the July 10th meeting. Enter thru the Fisher Road (east side) gate. Everyone will have to purchase an \$8 ticket to get in. The Hamfest opens to the public at 2 PM Friday and 6 AM Saturday.

Contact Jim K9RU if you can help: <mailto:k9ru.indy@gmail.com>. 317 721-1458.

We'll also need help Friday afternoon and Saturday to help sell the stuff. Please plan to spend some time to help out!

**Indianapolis Hamfest
Marion County Fairgrounds
Gates open to the public Friday 2 PM – 7 PM
Saturday 6 AM – 2 PM
(Indoor sales open at 7 AM Saturday)**

FIELD DAY REPORT – Thanks to everyone who helped out with Field Day. All indications are that the effort was very successful. The final score has not been sent in yet, but it's safe to say we bettered our 2017 score by several hundred points.

If you haven't already seen them, there are nearly two dozen new Field Day 2018 photos on the

IRC Field Day Facebook page. They portray all the stations – not just the three main transmitters in the clubhouse and RV, but also the 6-meter, GOTA and satellite stations – with scenes ranging from Friday set-up to Field Day proper. Big thanks to Cyndy Meier, K9CMM, and Tom Carroll, W9CSX, for their fine camerawork, not to mention Jay Kraus, W9TC, for his photo of the Martinsville mayor.

Our year-round Facebook page can be found here: [IRC Field Day Facebook page](#) ... and this link takes you straight to the photos: [Field Day 2018 photo album](#). Feel free to add your own comments if you have a Facebook account.

More images, along with a couple of short videos, will be added in the coming days. – Brian, W9IND

AMATEUR RADIO LICENSE TEST SESSION –
No testing scheduled for July because of the Indy Hamfest.

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

July 13-14	Indianapolis Hamfest http://indyhamfest.com/
July 21-22	CQ Worldwide 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.w9qyq.org/
Oct 6-7	Hilly Hundred, Ellettsville, IN mailto:N9FEB@comcast.net
Oct 20	American Diabetes Assoc. Tour-de-Cure, mailto:KU9V@arrl.net
Oct 20	Shelbyville Tailgate Hamfest http://www.brvars.com/
Nov 3	Indianapolis Monumental Marathon, mailto:N9FEB@comcast.net
Nov 17	Fort Wayne Hamfest http://www.fortwaynehamfest.com/

For More Contests Information: <http://www.contestcalendar.com/>

Opportunities for public service: <http://indyhams.org/event>

ATTENDANCE HOLDS STEADY AT HAMVENTION 2018

[Hamvention](#)[®] marked another successful year in 2018, General Chair Ron Cramer, KD8ENJ, told ARRL this week. At 28,417 visitors, Hamvention recorded its third-largest attendance ever in its second year at its still-new location in Xenia, Ohio.

"We had a slight decline in attendance, but we think people were waiting to hear about the upgrades we made, and some upgrades did not happen until the very last moment," Cramer allowed. "Many were worried about the mud."

The drop in attendance amounted to some 900 fewer visitors from 2017. Hamvention attendance peaked in 1993 at 33,669, before the 1996 change in date from April to May and while it was still being held at Hara Arena.

Cramer said other events in the Xenia-Dayton area cramped lodging availability, but Dayton Amateur Radio Association (DARA) organizers were "very pleased with the results and comments everyone has made this year."

Hamvention's 2018 theme was "Amateur Radio...Serving the Community," and the event highlighted emergency communication forums -- many put on by ARRL -- plus a big display of emergency communication vehicles.

This was a year of "fine tuning the event" through critique sessions with committee chairs and evaluating comments, compliments, and criticisms from first-year Xenia attendees and vendors, Cramer said.

"From all the information we have received back already this year, from guests and vendors, we believe we have been successful and are working hard to prepare for Hamvention 2019," Cramer offered. "We expect new additions to the show and finer tuning to make sure our guests keep coming back." Read [more](#). --ARRL Letter

ARRL FIELD DAY 2018 PARTICIPANTS HAVE FUN DESPITE DICEY HF CONDITIONS

With typical propagation no better than fair to pretty good, most ARRL Field Day participants nonetheless enjoyed the 2018 running of Amateur Radio's most popular operating event -- most as part of club or group operations and some as individuals. Among them was an

ARRL Headquarters team that included several newer operators as well as some veterans, who operated Maxim Memorial Station W1AW in Class 3F. ARRL Station Manager Joe Carcia, NJ1Q, said most contacts were on the HF bands, with a handful of VHF/UHF FM and SSB satellite contacts via SO-50 or FO-29. More than 1,600 clubs and groups registered their locations on the ARRL Field Day Locator website.

"Conditions were so-so on 15 and 10, but 6 meters opened for a while, and 20 and below were hopping!" Carcia enthused. "We were doing well on 80 meters well before sunset." He said the team's contact count would have been higher with more operators and longer operating periods. W1AW's 791 contacts yielded 1,010 points.

On the west coast, the West Valley Amateur Radio Association returned to Mora Hill above Los Altos, using K6EI (and W6ZZZ for the GOTA station). "This year we were 14A, QRP, battery, and solar-panel powered," reported Bill Frantz, AE6JV. The club ran three CW stations, three SSB stations, and two digital stations on HF, plus VHF and UHF stations. Frantz said the GOTA station was quite popular, logging 50% more contacts than in 2017. "Since we are next to a popular trail in the San Antonio Open Space Preserve, we get a lot of bicycle visitors," he added. "Some know about ham radio and others have never heard of it. Everyone had a good time and went home tired."

In Idaho, "conditions didn't seem to be the best," observed Mark Earls, K7MEE, who participated in the K7BNR 6A Field Day operation. "But we all had fun, and that's what matters. We got to try out our new-to-us mesh network."

Tom Morehouse, K4AEN, and Rob Neece, KK4R, planned to renew "an old tradition" and take Field Day out on the Lafayette River in Virginia's Tidewater region in Morehouse's boat, *Miss Adventure*. The vessel had other plans, however, blowing an exhaust manifold and keeping the Field Day operation moored at the dock.

After not taking part in ARRL Field Day for 10 years, Mark Chouinard, K5YAC, in Oklahoma, celebrated the recent licensing of his son Tyler, W5EAA, by assembling four stations and five operators. "We worked several stations on 10, 15, and 20, but 40 and 80 were pretty noisy with storms out to the west," Chouinard reported in his Soapbox remarks. "No records broken, but a lot of fun."

A few operators braved the bands with low-power operating (QRP). Those included Len Popyack, WF2V, of New York, who used solar-charged batteries to power his Elecraft KX2 in his barn. "Phone is tough with 5 W, but CW was excellent," he reported. He logged 195 contacts, nearly all on CW. Another QRP'er was Dale Mecomber, N2DM, running just 2 W to a trap dipole for 40 and 20 meters. He said 40 was the better band from his location in central New York.

For Kevin Ryan, KM6KCP, and Tom Rees, KB7XL, their Class 1B operation in Nevada was a bit of a 50th reunion -- their first joint ARRL Field Day operation since getting their Novice licenses in high school. They managed 122 contacts, including two on satellite, Rees said in the pair's Soapbox remarks.

QST Editor Steve Ford, WB8IMY, was among those to receive a Field Day message transmitted in MFSK64 via a 100 kW HF broadcast transmitter in Nauen, Germany. The special transmission came during the weekly "Giant Jukebox" broadcast of [The Mighty KBC](#) on 9,925 kHz. "Field Day is ham radio's open house," the message said. "Every June, more than 40,000 hams throughout North America set up temporary transmitting stations in public places to demonstrate ham radio's science, skill, and service to our communities and our nation." Additional [reception reports](#) are invited.

ARRL Field Day contacts count for the International Grid Chase 2018 ([IGC](#)) activity, but Field Day stations must upload logs to Logbook of The World (LoTW), making sure that the *TQSL* Station Location includes the grid square of the operation. Field Day 2018 entries must be submitted (or postmarked) by Tuesday, July 24, 2018. Late entries cannot be accepted. Participants can earn a 50 bonus points for using the [web applet form](#) to submit their logs. --ARRL Letter

BAKER ISLAND KH1/KH7Z DXPEDITION SHUTDOWN SET FOR JULY 6

Word from the Baker Island KH1/KH7Z DXpedition team is that "things are humming on Baker Island." But, because of the tides, the DXpedition, which has logged more than 40,000 contacts, has announced that it will cease operation on July 6 — a day sooner than projected — and depart the following day. Station teardown will start late on July 4. Since its arrival, the team has encountered antenna-damaging storms, satellite phone failures, and extreme heat, but everything now has been restored to working order.

"We are all happily working radio shifts handing out ATNOs [all-time new ones] and making memories that will remain with us forever," the DXpedition said in an update over the weekend.

KH1/KH7Z will shift its 30-meter frequency to 10.107 MHz to avoid European interference, and it will try "normal" FT8 mode on 1.840 on July 3 at 0900 UTC for the US east coast. If successful, the DXpedition will remain on 160 through the night for eastern Europe.

The DXpedition has said that "fully half" of all FT8 callers are not using the correct software. Callers must use *WSJT-X* version 1.9.1, go into Advanced settings, choose "Hound" mode, and sync their computer's clock. DXpedition Pilot Lee Finkel, KY7M, has prepared a "Quick Start Guide" (attached below) for working KH1/KH7Z that includes more details. KH1/KH7Z hopes to activate FT8 on 60 meters on July 4.

All eight stations are on the air, covering 160 through 6 meters. The KH1/KH7Z frequency plan is on the DXpedition website. *DXpedition operators will be operating split. Please do not call on the DX station's transmitting frequency!* --ARRL Letter

ARRL DRONE TRANSMITTERS COMPLAINT SPURS PROPOSED \$2.8 MILLION FCC PENALTY

In the wake of an investigation resulting from a 2017 ARRL complaint, the FCC has proposed fining HobbyKing and associated entities \$2.8 million for apparently marketing noncompliant RF devices and failing to comply with Commission orders. According to a June 5 FCC Notice of Apparent Liability (NAL), HobbyKing appears to have sold audio/video (A/V) transmitters intended for use with unmanned aircraft, such as drones, in some instances marketing them as Amateur Radio equipment.

"The Enforcement Bureau previously issued a Citation notifying HobbyKing of its legal and regulatory obligations and ordering it to cease and desist from marketing noncompliant equipment," the FCC said in the NAL. "Additionally, the Bureau issued a Citation against HobbyKing for failing to fully respond to a Letter of Inquiry. Despite these Citations, HobbyKing has continued its apparently unlawful practices."

HobbyKing had denied that it was marketing its drone transmitters to US customers, but ARRL's January 2017 complaint pointed out that ARRL Laboratory Manager Ed Hare, W1RFI, was able to purchase two drone transmitters from HobbyKing and have them shipped to a US address for testing in the Lab.

In his 2017 letter to the FCC Spectrum Enforcement Division, ARRL General Counsel Chris Imlay, W3KD, described the transmitters as "blatantly illegal at multiple levels," and noted that they used frequencies intended for navigational aids, air traffic control radar, air route surveillance radars, and global positioning systems and not Amateur Radio frequencies, as the marketer had purported.

ARRL told the Enforcement Bureau in 2017 that the devices "represent a real and dangerous threat to the safety of flight, especially when operated from a drone platform that can be hundreds of feet in the air." Hare and ARRL Lab staffers Mike Gruber, W1MG and Bob Allison, WB1GCM, tested the units. Imlay credited ARRL Central Division Director Kermit Carlson, W9XA, and the Electromagnetic Compatibility Committee he chairs, for calling attention to the issue and prompting ARRL's action.

In a related news release this week, the FCC said that while HobbyKing represented that its transmitters operated in designated Amateur Radio bands, the Commission's investigation uncovered that 65 models could also apparently operate outside of the ham bands. The FCC noted that Amateur Radio equipment used to telecommand model craft are limited to 1 W (1,000 mW), but three transmitters included in the NAL "apparently operate at significantly higher power levels of 1,500 mW and 2,000 mW."

"The Commission generally has not required amateur equipment to be certified, but such equipment must be designed to operate only in frequency bands allocated for amateur use," the NAL said. "If such equipment can operate in amateur and non-amateur frequencies, it must be certified prior to marketing and operation." The FCC also said in its NAL that consumers who own such HobbyKing devices "should cease using them immediately or risk enforcement action."

This week, the FCC also issued an Enforcement Advisory cautioning that drone transmitters must comply with FCC rules in order to be marketed to customers in the US, and that operators must comply with FCC rules.

In its 2017 complaint, ARRL cited the Lawmate transmitter and its companion 6 W amplifier as examples of problematic devices being marketed in the US.

"However, many A/V transmitters that purport to operate on amateur frequencies also operate on frequencies that extend beyond the designated amateur frequency bands," the advisory said. "If an A/V transmitter is capable of operating outside of the amateur frequency bands, it cannot be advertised, sold, or operated within the United States without an FCC equipment certification. Individuals without an amateur license may not use such radio equipment, if it is designed solely for use by amateur licensees."

Imlay said the FCC action addressed "another of many instances in which unscrupulous importers import and market products in the US touted as Amateur Radio equipment but actually marketed to the general public, and which, in this case, have a high potential for abuse and interference to other radio services and to radio amateurs." Imlay characterized the FCC NAL as an important "line in the sand" aimed at keeping companies from encouraging the general public to use the amateur bands without a license. --ARRL Letter

POLITICO ARTICLE RAISES VISIBILITY OF AMATEUR RADIO PARITY ACT PROGRESS, CHALLENGES

On May 23, the US House version of the National Defense Authorization Act (NDAA) that included the language of the Amateur Radio Parity Act (HR 555) cleared the House. The following day, a fiscal year 2019 Financial Services appropriations bill also containing Parity Act language cleared the Financial Services and General Government subcommittee of the House Committee on Appropriations and is now working its way through the full Appropriations Committee. As a result, the Parity Bill has attracted some attention from outside the Amateur Radio and homeowners association (HOA) communities.

ARRL Hudson Division Director Mike Lisenco, N2YBB, who chairs the ARRL Board's Ad Hoc Legislative Advocacy Committee, called attention to a recent Politico article that addresses the challenges the bill faces.

On May 25, Politico reported, "Lawmakers are making a multi-pronged push to drive the bipartisan Amateur Radio Parity Act through Congress and finally bypass objections from top Senate Commerce [Committee] Democrat Bill Nelson of Florida, whose allegiance to his state's homeowners associations drove his panel to yank the bill from consideration last fall. The legislation, H.R. 555, would direct the FCC to let Amateur Radio operators get around private rules, like those imposed by some HOAs, that keep them from putting up radio antennas."

Politico cited a spokeswoman for the US House sponsor of the Parity Act, Representative Adam Kinzinger (R-IL), who told the journal that Kinzinger is "hopeful that Senator Nelson will see its value."

"When disaster strikes and the power goes out, like when Hurricane Irma hit Senator Nelson's home state of Florida back in September, Amateur Radio operators become critical to emergency response efforts," Kinzinger's spokeswoman said.

At this point, it's unclear how the Parity Act language or legislation will fare in the US Senate. The measure's Senate sponsor, Senator Roger Wicker (R-MS), told Politico that it would suit him to see the Senate follow the lead of the House in the matter. "I think we've done enough that Senator Nelson's concerns should have been answered," Wicker was quoted as saying.

Wicker and Nelson are both senior members of the Armed Services Committee, which will oversee the NDAA.

ARRL General Counsel Chris Imlay, W3KD, has stressed that the Parity Act "does entitle each and every Amateur Radio operator living in a deed-restricted community to erect an effective outdoor antenna. Full stop. That is the principal benefit of this legislation." Read [more](#). --ARRL Letter

PRESIDENT NOMINATES ENFORCEMENT BUREAU OFFICIAL TO FCC

Acting on a recommendation from Senate Minority Leader Chuck Schumer, President Donald Trump has nominated FCC Enforcement Bureau Assistant Chief Geoffrey Starks to fill the Commission's sole open seat. If confirmed by the US Senate, Starks would fill the seat vacated by Mignon Clyburn. Both are Democrats. Republican nominees have a 3-2 advantage on the FCC, which is headed by Chairman Ajit Pai. Starks' term would end in 2022. Commissioner Jessica Rosenworcel is the other Democrat on the FCC.

An attorney who holds degrees from Harvard University and Yale Law School, Starks has worked in government for most of his career and joined the FCC staff in late 2015. Before taking his current job in the Enforcement Bureau, Starks worked for the Justice Department.

Rosenworcel congratulated Starks on his nomination and said he would be "a welcome

addition" to the Commission. Clyburn called Starks "a sharp communications attorney committed to public service." Republican Commissioner Michael O'Rielly said Starks "will bring a new voice to important debates before the Commission."

YOUNG US RADIO AMATEUR WILL BE SOLE IARU REGION 2 ATTENDEE AT YOTA CAMP

Thirteen-year-old Faith Hannah Lea, AE4FH, of Palm Coast, Florida, will be the only representative of International Amateur Radio Union Region 2 (IARU R2) at the Youngsters on the Air (YOTA) camp, August 8 - 15 in South Africa. Faith Hannah has mounted a GoFundMe campaign to help cover her trip expenses.

"When I was chosen to go to South Africa for the YOTA summer event, I was thrilled that the committee thought I was one of the best choices to represent the United States," Faith Hannah said. "With the help and generosity of other hams, I will be able to go to South Africa for the summer event and learn more about Amateur Radio and other cultures. I am extremely thankful for any and all donations. To everyone who donates, thank you."

Licensed at age 10 and now holding an Amateur Extra-class license, Faith Hannah is very active on the airwaves and in promoting Amateur Radio via YouTube and elsewhere. She has been a presenter at the Hamvention Youth Forum. Faith Hannah comes from an all-ham family. Her dad, James, is WX4TV; her mother, Michelle, is N8ZQZ; her brother, Zechariah, is WX4TVJ; one sister, Hope, is KM4IPF, and her other sister, Grace, is KM4TXT. Faith Hannah will be traveling to South Africa from Florida in early August with her father.

The South African Radio League (SARL) will host 80 young hams between the ages of 16 and 26 at the 2018 YOTA camp, where it's expected they will spend some time at the helm of the camp's station, ZS9YOTA.

WORLD RADIOSPORT TEAM CHAMPIONSHIP 2018: THE OTHER HAM RADIO EVENT OF THE SUMMER

In about 2 weeks, some 60 two-person teams will take on the world and each other in World Radiosport Team Championship 2018 ([WRTC 2018](#)), in the Jessen-Wittenberg area of Germany. Held approximately every 4 years, WRTCs take place in conjunction with the 24-hour-long [IARU HF Championship](#) July 14 - 15, although WRTC teams are subject to additional rules specific to the competition. Several years of preparation and organization begun right after WRTC 2014 in New England have led to WRTC 2018, and a number of skills have been brought into play, including carpentry. A team of about 20 has been building WRTC boxes that will contain all equipment transported to individual sites.

"Everything that is needed on the site, including antenna materials, arrives packed in the box. Only the mast is transported separately," said Andreas "Paul" Paulick, DL5CW. "This ensures that nothing gets lost in transit in the vehicles." Paulick noted that the mast, antenna, tent, and generator accessories are bulky enough not to fall through the cracks, but that small items "tend to disappear."

Final antenna work also has been handled, with 65 rotators bolted to base plates and tested to make sure that they're working correctly. Guy sets for the masts are also complete. Organizers suggest the tension is building as July 12 approaches.

Fourteen North American teams qualified for WRTC 2018, including WRTC 2014 defending champions Daniel Craig, N6MJ, and Chris Hurlbut, KL9A, from the US. WRTC 2014 Chair Doug Grant, K1DG, merited a wild card slot, WRTC 2018 said. His teammate will be WRTC 2014 Competition Director Andy Blank, N2NT. WRTC 2018 also just announced a new team leader to take the place of a competitor who had to drop out of the event. Gilles Renucci, VA2EW, will head the new wild card team #6. He ended qualification for WRTC 2018 in 2nd place in area NA #7, which only had one team available. Arno Polinsky, DL1CW, will be his teammate. In about 2 weeks, some 60 two-person teams will take on the world and each other

in World Radiosport Team Championship 2018 ([WRTC 2018](#)), in the Jessen-Wittenberg area of Germany. Held approximately every 4 years, WRTCs take place in conjunction with the 24-hour-long [IARU HF Championship](#) July 14 - 15, although WRTC teams are subject to additional rules specific to the competition. Several years of preparation and organization begun right after WRTC 2014 in New England have led to WRTC 2018, and a number of skills have been brought into play, including carpentry. A team of about 20 has been building WRTC boxes that will contain all equipment transported to individual sites.

Nearly all WRTC 2018 participants got into Amateur Radio as teenagers; a WRTC 2018 survey showed an average age of just over 13 when first licensed. Team Leaders were chosen from each region, based on 2 years of qualifying contest scores and have chosen a teammate for the event.

Wherever they're from, competitors must muster the stamina to sit at their radios for 24 hours straight if they want to finish on top. In *Contact Sport*, a narrative of WRTC 2014, author Jim George, N3BB, described the role that "extreme fatigue" played. "The final 4 hours were tough at every site," George wrote. Describing the operators at one site, he wrote, "The men couldn't keep their eyes open, were not able to concentrate, and had trouble pushing the right buttons on the radio and pressing the correct keys on the keyboard. Neither could sit any longer -- it was just too uncomfortable."

WRTC 2018 organizers have ensured that all competing teams will operate from as level a playing field as possible. This includes not just topography, but antennas and even freedom from external noise sources. A referee will be at each station site to verify compliance with the rules and make decisions on any rule questions competitors may have.

A real-time [online scoreboard](#) will keep "spectators" up to date on how the competing teams are faring. "We want to make sure that from all competition locations, the ongoing results in 1-minute intervals are available on a scoreboard," said Ben Büttner, DL6RAI, who leads the real-time scoreboard team. He said special attention was given to RFI, thermal stability, and redundancy in assembling the computer systems that will collect score data.

[Radio DARC](#) will cover WRTC 2018 with two broadcasts in English, Saturday, July 14, at 1100 UTC and on Sunday, July 15, at 0900 UTC, on 6,070 kHz and on 13,860 kHz. The broadcasts will explain what WRTC 2018 is and how it works, and will include behind-the-scenes reports touching on the qualifying process, the competitors, and the volunteers. The transmitters for the Radio DARC program are in Vienna, Austria.

Fred Dennin, WW4LL, and other stations in Georgia, will activate ARRL Headquarters station W1AW/4 for the IARU contest. The IARU HQ station will identify as NU1AW/9 with CW operation from the station of Craig Thompson, K9CT, and from the station of Jerry Rosalius, WB9Z, and Val Hotzfeld, NV9L -- both in Illinois. The 2018 [IARU HF World Championship](#) runs from July 14 at 1200 UTC to July 15 at 1200 UTC. These and other HQ stations count as multipliers in calculating IARU contest scores.

CAMSAT OFFERS MORE DETAILS ON NEW SATELLITES, ONE CARRYING HF TRANSPONDERS

CAMSAT, China's Amateur Radio Satellite organization, has offered additional details about the three Amateur Radio satellites it plans to launch later this year. Two of the satellites, designated CAS-5A and CAS-6, will carry transponders, and one of them will offer HF capability.

CAMSAT's Alan Kung, BA1DU, told ARRL that the 6U CAS-5A will carry two HF transponders and two V/UHF transponders. The plentiful equipment package includes an H/T (21/29 MHz) mode linear transponder, an H/U (21/435 MHz) mode linear transponder, an HF CW telemetry beacon, a V/U linear transponder, a V/U FM transponder, a UHF CW telemetry beacon, and UHF AX.25 4.8k/9.6k baud GMSK telemetry.

- The H/T mode linear transponder will have a 30 kHz wide uplink centered on 21.400 MHz, and a downlink centered on 29.490 MHz. RF output is 0.5 W.
- An HF CW telemetry beacon will transmit on 29.465 MHz with 0.1 W.
- The H/U mode linear transponder will have a 15 kHz wide uplink centered on 21.435 MHz, and a downlink centered on 435.505 MHz. The RF output is 0.5 W.
- The V/U mode linear transponder will have a 30 kHz wide uplink at 145.820 MHz, and a downlink at 435.540 MHz. The RF output is 0.5 W
- The V/U mode FM transponder will uplink at 145.925 MHz, and downlink at 435.600 MHz. The transponder passband is 15 kHz, and the RF output is 0.5 W.
- The UHF CW telemetry beacon will transmit on 435.570 MHz, with an RF output of 0.1 W.
- UHF AX.25 4.8k/9.6k baud GMSK telemetry will transmit on 435.650 MHz at 0.5 W.

Kung told ARRL that the HF, VHF, and UHF antennas are quarter-wave monopoles.

A satellite within a satellite, the tiny CAS-5B, weighing 0.5 kilogram, will be deployed from CAS-5A in orbit. It will carry a UHF CW beacon on an Amateur Radio frequency. CAS-5A will launch from the Jiuquan Satellite Launch Center in late September.

Set to be launched at sea, the 50-kilogram CAS-6 microsat will include a VHF CW telemetry beacon, a U/V mode 20 kHz linear Amateur Radio transponder, and AX.25 4.8k baud GMSK telemetry. It will also carry an atmospheric wind detector and other systems that will operate on non-amateur frequencies. Read [more](#). --ARRL Letter

EXPERIMENTS LOOK TO LEVERAGE LOW-LATENCY HF TO SHAVE MICROSECONDS OFF TRADE TIMES

Experimental operations now under way on HF appear aimed at leveraging low-latency HF propagation to shave microseconds from futures market trades and gain a competitive edge in a field where millionths of a second can mean winning or losing. On June 18, *Bloomberg* [reported](#) on a secretive antenna facility near Maple Park, in Kane County, Illinois, and speculated that futures traders might be looking to take advantage of lower-latency HF propagation over state-of-the-art microwave links and undersea cables, where even the slightest path delay could compromise a transaction. The facility is not far from a major futures data center.

As the Bloomberg article explained, "Rapidly sending data from there to other important market centers can help the speediest traders profit from price differences for related assets. Those money-making opportunities often last only tiny fractions of a second."

Radio amateur Bob Van Valzah, KE9YQ, said in a May [blog post](#) that he recently stumbled onto the first evidence of HF radio futures trading at a site in West Chicago, Illinois. There, he spotted HF log-period dipole arrays on a pole, and a microwave dish he determined was aimed at a Chicago Mercantile Exchange (CME) data center. Additional research led him to the antenna facility in Maple Park, which also sported a microwave dish apparently aimed at the CME data center. Two approximately 170-foot towers on the site support a directional wire array for HF. Van Valzah is a performance engineer on leave from the high-frequency -- no pun intended -- trading field.

Bloomberg said the company behind the Kane County project is New Line Networks, LLC, a joint venture of Chicago-based Jump Trading, LLC, and New York-based Virtu Financial, Inc. While no FCC Part 5 Experimental license appears to have been assigned to New Line

Networks, WH2XVO is assigned to partner Virtu Financial, which assumed the license from Services Development Company LLC.

Sites listed on the license are Aurora and Chicago, Illinois, in addition to Homer, Alaska, and Secaucus, New Jersey -- home to several financial firms and right across the Hudson River from many more in New York City. Part 5 Experimental license WI2XAJ has been assigned to Toggle Communications, which is using the West Chicago site and appears to be experimenting with a similar system from other sites. Other entities may also be conducting similar experiments.

The Experimental-licensed systems use a variety of frequency shift-keying modes, including FSK, AFSK, QPSK, and 8-PSK, on frequencies ranging from about 6 MHz to 24 MHz and power levels from 20 kW ERP to nearly 50 kW ERP, depending on the Experimental license in question. Van Valzah pointed out in his blog post that, while HF is low bandwidth, unreliable, and expensive, "you can't beat it for [low] latency."

ARRL reached out to the point of contact listed on the WH2XVO application but has not heard back. --ARRL Letter

SHORTS

Yasme Foundation Director, Secretary Kip Edwards, W6SZN, SK - [Yasme Foundation](#) Director and Secretary G. Kip Edwards, W6SZN, of Indianola, Washington, died on June 6. An ARRL Life Member, he was 71. Yasme Foundation President Ward Silver, N0AX, said Edwards' death will leave a big hole in the organization. "His organizational skills were invaluable to several major Amateur Radio organizations," Silver said. "He was one of those rare birds who could organize, build, and participate with equal skill." Edwards was a member of the ARRL Maxim Society. --ARRL Letter

Curtis Keyer Chip Developer Jack Curtis, K6KU, SK The developer of the groundbreaking Curtis Morse keyer chip, John G. "Jack" Curtis, K6KU (ex-W3NSJ), of Granite Bay, California, died on June 4 after a long illness. An ARRL member, he was 87.

Curtis started Curtis Electro Devices on the side in 1968 and marketed his prototype electronic Morse iambic keyer -- the EK-38 -- which had "dit" memory. The follow-on EK-39 had "dah" memory and weight control, and later models offered a small scratch memory.

Putting the electronics on a chip revolutionized CW keying. In their heyday, Curtis chips were at the heart of an array of commercial memory CW keyers, were incorporated into amateur transceivers, and were favorites of homebrewers. Read [more](#). -- *Some information from "A History of Curtis Keyers," by Brad Mitchell, N8YG (August 2016 issue of QST)*

The World Radiosport Team Championship 2018 (WRTC 2018) Organizing Committee reports that all of the station sites it's selected for the July event in Germany "are perfect for the competition." A WRTC 2018 news release said this week, "The inspections proved that there are enough very well-suited sites with no topographical or interference problems." The aim of the exercise is to ensure a level playing field for all competing teams in terms of location. Ulrich Weiss, DJ2YA, and Frank Neumann, DM5WF, carefully inspected more than 80 possible WRTC 2018 sites in the region around Muehlberg, Jessen, and Jueterbog. Neumann noted that five sites did not meet their criteria and will be replaced with backup sites that they also inspected. WRTC 2018 has a last-minute opening for a team leader on a wild card team, with DL1CW as the teammate. The deadline to apply is June 9, 2359 UTC. Applicants should explain why they are applying as team leader.

Online Fund-Raising Hoax Targeting Some ARRL Members - A poorly worded online solicitation seeking donations to support medical costs for an ill youngster is *not* from ARRL and is a scam! Some members have reported receiving an email with the subject line "Help Support Dawn," dated on or about June 30, stating that "Dawn" is the critically ill son of an ARRL member and requires urgent surgery.

"ARRL would never send an unsigned email like this to our members," said ARRL CEO Barry Shelley, N1VXY. "This is clearly a hoax, and we would never solicit for private causes in this fashion. To prey on the willingness of our members to help other hams in need, is particularly despicable."

The attempt to solicit funds through GoFundMe and PayPal may be aimed at collecting personal and credit card information. ARRL members are urged not to repost, forward, or respond.

The Space Station's Digital Amateur Radio TV (DATV) System Transmitter is defective. Onboard repair is not possible for the Amateur Radio on the International Space Station ([ARRL](#)) "Ham Video" DATV. Also known as HamTV, the DATV system stopped working in mid-April, and a subsequent test on June 1 using a second L/S band patch antenna on the *Columbus* module had failed. ARISS-EU Mentor Gaston Bertels, ON4WF, said ARISS plans to return the transmitter to Earth to repair, pending space agency approvals and availability of ARISS funds. Bertels said ARISS would do its best to restart the service as soon as possible. --
Thanks to ARISS

Knowing more about HF radio wave propagation can make for better operating strategy. The University Corporation for Atmospheric Research (UCAR) has a free course (registration required) "[Radio Wave Propagation](#)" to provide a solid basis of understanding of how radio waves are propagated through the ionosphere, and how solar events affect propagation. Propagation at higher frequencies is the focus of the "[Introduction to Electromagnetic and Electro-Optic Propagation](#)" course also offered by UCAR. ARRL Contest Newsletter (Bill, AE0EE)

The [Reverse Beacon Network \(RBN\)](#) network will soon start handling FT8 spots. Some RBN nodes are already testing upgraded software with actual spots to make sure the increased load can be handled. According to a [message by Pete, N4ZR](#), on two typical days at the end of May, FT8 spots accounted for over 85% of all spots received at one of the testing locations. The CW and RTTY spots will continue to be available on available on port 7000, while FT8 spots will be available on port 7001, using the standard TELNET protocol. For those RBN nodes that want to provide FT8 spots, a new version of the aggregator software will be required. According to Pete, "We will closely monitor how the RBN servers handle this new load, as more and more nodes begin sending FT8 spots. We also reserve the right to take steps as necessary to protect the core mission of the RBN, including shutting off the FT8 stream on major CW and RTTY contest weekends or, in an extreme case, discontinuing spotting of FT8 altogether. Even in a worst case scenario, FT8 spots will continue to be carried by [PSKReporter](#)."

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

THANKS FOR READING!

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