

RCA AMATEUR RADIO CLUB



Legacy Amateur Radio Club

INDIANAPOLIS, INDIANA

AUGUST 2019

MONTHLY NEWSLETTER



AFFILIATED CLUB

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE
TUESDAY, AUGUST 13, 6:30 PM AT
MCL CAFETERIA, 1390 KEYSTONE WAY EAST DRIVE, CARMEL, IN

RCA ARC NEWS

AUGUST MEETING: The August meeting will be at the **MCL Cafeteria in Carmel, 1390 Keystone Way East Drive**. This is a "once only" meeting place as we could not get the Knights of Columbus location this month. You might want to check out the menu <https://www.mclhomemade.com/daily-menus/>

SUMMARY OF THE JULY MEETING – Thanks to those who attended the July meeting. The proposal to allocate part of the 2 meter band (144 to 146 MHz) to be primary aeronautical was discussed. Likely to be discussed much more in the near future. A new 40 MHz (8 Meters) band has been proposed and looks interesting. The September "repacking" of the Indianapolis area TV stations was discussed at some length. Some Indianapolis stations will be changing RF channels so you will need to have your TV rescan after the move is completed. The transition is part of the FCC repacking and it will be complete in 2020. Field Day for the new Indy United FD Club was very good although results haven't been finalized and won't be published until November in QST. We need help with the Club's effort at the Indy Hamfest... Hauling the stuff Friday morning and manning the tables during the hamfest. It was pointed out that a possible source of revenue for the Club is the Kroger Community Rewards program for non-profits. Discussion followed. No decision was made. **See Kroger Community Rewards info at the end of the newsletter.**

INDIANAPOLIS HAMFEST – I would like to thank everyone who helped out at the hamfest and for their donations. The club does not have any dues and the money we get from the hamfest pays our liability insurance, Field Day and the repeater operation.

The weather was great and the hamfest had a good turn out. Again this year we shared the RCA location with Jon Powell and Bill Mengel and this was a plus with their stuff and help at the booth.

This year encouraged members to clean out their shack and donate stuff to the club to sell at the hamfest. We have gone through all the parts and stuff we received from Thomson and VOXX and we needed stuff to sell to raise money for the club.

This worked out quite well, it took a little more work sorting it out and Jim Keeth's free table proved popular, with other vendors leaving stuff on the table.

Thank to Randy Clayburn and Kevin Northrop for the stuff they donated and Kevin for taking the remaining stuff to a recycler. --K9RU

AMATEUR RADIO LICENSE TEST SESSION

Time: Saturday, August 10, 2019, 12:00 pm (Walk-ins allowed)
Location: Salvation Army EDS Training Facility, 4020 Georgetown Rd
Indianapolis, IN 46254
Contact: Jim Rinehart, k9ru@arrl.net, 317 721-1458

New General Class Element 3 Exams took effect Monday July 1, 2019 for all exam sessions. The newly revised pool, released by the Question Pool Committee (QPC) of the National Conference of Volunteer Examiner Coordinators (NCVEC), must be in use starting July 1.

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Aug 17	Multiple Sclerosis Bike Ride: BikeMS Indiana
Aug 17-18	North American QSP Party http://www.ncjweb.com/NAQP-Rules.pdf
Aug 18	ARRL Rookie Roundup RTTY http://www.arrl.org/rookie-roundup
Aug 17	ARRL 10 GHZ Contest http://www.arrl.org/10-ghz-up
Oct 05	Indianapolis Half Marathon in Lawrence
Nov 09	Indianapolis Monumental Marathon
Nov 16 -17	Fort Wayne Hamfest, http://acarts.com/hfmain.htm

IARU PRESIDENT OFFERS ASSURANCES REGARDING FRENCH 144 - 146 MHZ ALLOCATION PROPOSAL

International Amateur Radio Union ([IARU](#)) President Tim Ellam, VE6SH/G4HUA, said his organization empathizes with the concerns of radio amateurs worldwide regarding a French proposal to allocate 144 - 146 MHz to the Aeronautical Service on a primary basis, essentially sharing it with Amateur Radio. The band is currently allocated to Amateur Radio on a primary basis around the world. Ellam this week offered assurances that the IARU is on top of the matter, which is still a regional issue, and is already working to keep the band in the hands of radio amateurs. While the issue could end up on the agenda of World Radiocommunication Conference 2023 (WRC-23), a lot would have to happen first.

"There is a lot of misinformation circulating as to what the proposal is seeking and how IARU is responding to it," Ellam told ARRL. "While the proposal is a concern, petitions and the like, while well intended, are going to have very limited value and, in fact, may harm the steps being taken in the regulatory environment."

The French proposal, submitted last month to a pre-WRC-19 European Conference of Telecommunications and Postal Administrations (CEPT) meeting, included 144 - 146 MHz within a range of frequencies to be studied for future airborne, non-safety applications in the Aeronautical Service. Germany opposed the move, and IARU "objected strongly," Ellam said. "Nonetheless, the proposal was carried forward to the next meeting of the CEPT Conference Preparatory Group in late August." IARU anticipates that other countries attending the August meeting will oppose the inclusion of 144 - 146 MHz as a frequency range to be considered for the WRC-23 agenda, Ellam said.

Since the June meeting, IARU Region 1 (Europe, Africa, and the Middle East) has asked its member-societies to contact their national administrations (i.e., governments) to explain the importance of the 144 - 146 MHz primary allocation, Ellam recounted. "IARU is also taking other actions to make its views known to those involved in the proposal," he said.

"If accepted as a WRC-23 Agenda Item, this proposal would require *4 years* of studies by administrations," Ellam stressed. "Considering the challenges of sharing spectrum with aeronautical systems, it seems inevitable that the conclusion of such studies would be that sharing with a widely used part of the amateur spectrum presents too many problems to be viable."

Ellam encouraged individual radio amateurs who want to help to become members of their IARU member-society. "If anything," Ellam concluded, "this recent news should serve as a timely reminder that defense of the amateur spectrum does not just happen. Your member-societies and the IARU constantly work at defending the amateur allocations." Read [more](#). ARRL Letter

SOME EUROPEAN TELECOMS REGULATORS KEEPING AN OPEN MIND ON FRENCH 2-METER PROPOSAL

At least two European telecommunications regulators appear inclined to give serious consideration to a French proposal to allocate 146 - 148 MHz to the Aeronautical Mobile Service on a primary basis. Some International Amateur Radio Union (IARU) Region 1 member-societies have written their governments' regulators, expressing opposition to the proposal, aired at a June CEPT meeting. The matter remains a regional issue at this stage but could become an agenda item for World Radiocommunication Conference 2023 (WRC-23).

In response to a letter from Switzerland's IARU member-society USKA to telecommunications regulator BAKOM, the agency's head of frequency planning assured USKA that this was not a matter of depriving radio amateurs of primary use, but said "so-called co-primary" usage of 144 - 146 MHz by both services could be examined.

"We don't see how the Amateur Radio Service...and the Aeronautical Service could co-exist without operating restrictions," USKA said in a report that asks, "Is the 2 Meter Band Threatened?" The article's author, Bernard Wehrli, HB9ALH, advised radio amateurs to keep using 2 meters and to avoid taking on the issue individually.

Meanwhile the Netherlands IARU member-society VERON reports what it called a "disappointing response" from national regulator Agentschap Telecom to a call from Dutch radio amateurs that 144 - 146 MHz be protected. According to VERON, an initial Agentschap Telecom response indicated that the French proposal "fits in with Dutch frequency policy" that encourages joint and shared use of spectrum. VERON said Agentschap Telecom has indicated that it's necessary to take a good look at actual use of the segment and to have insight into compatibility.

"VERON shares the opinion that this proposal has no viability," the organization asserts, pointing to remarks from IARU President Tim Ellam, VE6SH/G4HUA, that said the proposal to share 144 - 146 MHz would require 4 years of studies and reach the same conclusion.

Radio Society of Great Britain (RSGB) President Dave Wilson, M0OBW, also wrote to the UK's telecoms regulator Ofcom, strongly expressing the RSGB's concerns. Wilson

said RSGB "views the French proposal as lacking a proper understanding of the implications of sharing an aeronautical application with weak-signal terrestrial and space communications services."

Ellam told ARRL this week that, at this point, he's not concerned that some telecommunications regulators are giving serious consideration to the French proposal. "I think this is just part of the ongoing discussions," he said. Read [more](#)

MAJOR WSJT-X UPGRADE BOOSTS FT4 INTO "A FINISHED PROTOCOL FOR HF CONTESTING"

The [WSJT Development Group](#) has announced the "general availability" release of *WSJT-X* version 2.1.0. This major upgrade formally introduces FT4 as "a finished protocol for HF contesting." Users have been advised to discontinue using any "release candidate" (beta) versions of the software that *WSJT-X* version 2.1.0 supplants. The latest edition of the popular digital software suite also includes improvements and bug fixes in several areas, including FT8.

The list includes:

- FT8 waveform generated with GMSK and fully backward compatible
- User options for waterfall and spectrum display
- Contest logging
- Rig control
- User interface

The *WSJT-X* Development Group is providing a separate *WSJT-X* version 2.1.0 installation package for 64-bit Windows that offers significant improvements in decoding speed.

A detailed list of program changes since *WSJT-X* version 2.0.1 is included in the cumulative [release notes](#). Upgrading from earlier versions of *WSJT-X* should be seamless, with no need to uninstall a previous version or to move any files.

[Installation packages](#) for Windows, Linux, and Macintosh are available.

Visit the [FT8/FT4/JT9: WSJT 2-Way Narrow Modes for Amateur Radio](#) Facebook page for additional information. Read [more](#).

THE WORLD WIDE DIGI DX CONTEST AUGUST 31

The [World Wide Digi DX Contest](#) is a new exclusively-FT8/FT4 Contest, sponsored by the World Wide Radio Operators Foundation (WWROF), and the Slovenia Contest Club: The inaugural 24-hour event will occur August 31 starting at 1200 UTC, and features distance-based scoring based on the exchange of grids. Multipliers are grid fields (the letter part of a grid, for example "CN" of "CN87"), and are **per band**, so it will pay to get multipliers on multiple bands. There are entry categories for single operators of various power levels in addition to Multi-One, Multi-Two, and Multi-Unlimited categories. See the [contest rules](#) for more information. An *N1MM Logger+* version to be released later this week will have support for this new contest, including a new Grid Field Map display to visually show the multipliers.

ARISS NEXT-GENERATION RADIO SYSTEM COMPLETES CRITICAL FLIGHT CERTIFICATION TESTS

The Amateur Radio on the International Space Station (ARISS) next-generation Interoperable Radio System (IORS) successfully completed a battery of stress tests, required as part of the final certification of the hardware for launch to and operation on the International Space Station (ISS). The IORS consists of a JVC Kenwood D710GA transceiver and the AMSAT-developed Multi-Voltage Power Supply (MVPS). In early July, the equipment successfully completed a series of electromagnetic interference/electromagnetic compatibility (EMC) tests to ensure that the ARISS hardware will not interfere with ISS systems or other payloads.

The IORS also successfully passed power quality and acoustics testing, which verified that the ARISS IORS will not introduce harmful signals back into the ISS power system and is quiet enough to meet ISS acoustic requirements. ARISS Hardware Team members Lou McFadin, W5DID, and Kerry Banke, N6IZW, were at NASA's Johnson Space Center to support the 2-week battery of tests in concert with the NASA test and certification team.

"Since the IORS is being qualified to operate on 120 V dc, 28 V dc, and Russian 28 V dc, as well as transmit on VHF or UHF, a lot of test combinations were required to cover all cases," Banke said. "Each input voltage type was also tested at low, medium, and high line voltage. Moreover, additional permutations were required to test the IORS under no load, medium load, and full load at each voltage level. So it should not be surprising why the tests took 2 weeks to complete."

Successful completion of these tests represents a key milestone in preparing the IORS for launch. ARISS says it now can begin final assembly of the flight units and prepare for their safety certification before launch. ARISS is working toward launch-ready status by year's end.

AMSAT PRESIDENT ASKS MEMBERS TO HELP KEEP AMATEUR RADIO IN SPACE

"It takes considerable volunteer effort and real dollars to keep Amateur Radio in Space," AMSAT President Joe Spier, K6WAO, has reminded the organization's members in a message that included an invitation to the organization's 50th anniversary [Space Symposium and Annual Meeting](#) in October. In addition, Spier put out a call for "important assistance" in the areas of User Services and Engineering (prospective volunteers may [contact Spier via email](#)).

"AMSAT has several fundraising needs," Spier said, noting that contributions to AMSAT are tax deductible to the extent permitted by IRS rules. "The daily operation of AMSAT is accomplished by donations to the General Fund. The other main department needs are the fund for GOLF 3U CubeSats design/construction and Amateur Radio on the International Space Station (ARISS)."

Spier pointed to the 2018 successes of AO-92 (Fox-1D) and the launch of AO-95 (Fox-1Cliff). "AMSAT partnered with Spaceflight Inc. by contracting and paying for these launches," Spier noted. "Fundraising for Fox-series satellites has not yet recouped this"

IEEE MICROWAVE THEORY AND TECHNIQUES SOCIETY SEEKS STUDENT CUBESAT RF HARDWARE PROPOSALS

The IEEE Microwave Theory and Techniques Society ([MTT-S](#)) has announced the [MTT-Sat Challenge](#) for groups of students developing RF hardware for CubeSat applications. The MTT-Sat Challenge is a worldwide competition for teams of undergraduate and graduate students to design and build RF hardware for small satellites. The most promising designs will undergo space environmental qualification testing and could be incorporated into an actual CubeSat.

"The main goal of the MTT-Sat Challenge is to advance space RF and microwave education, inspire students to pursue science and engineering education and careers, and prepare tomorrow's leaders with the interdisciplinary teamwork skills, which are necessary for success," the society said in announcing the competition. The MTT-Sat Challenge is intended to run over 4 academic years (starting in June 2019) and is divided into several phases spanning overall technology readiness levels. Proposals may be submitted for every phase.

At this time, the IEEE MTT-Sat Challenge is calling for ideas that could come from among the following fields: Transceivers based on commercial of the shelf (COTS) components; antenna systems and arrays for CubeSats; ground terminals for low-earth orbit (LEO) satellites; radiation-hardened electronics based on COTS components; inter-satellite communication; electromagnetic sensors for CubeSats, and novel RF technologies for space applications.

[Detailed information](#) is available on the MTT-Sat Challenge. The submission deadline is October 2, 2019, 0900 UTC (October 1, 11 PM HST). Those planning to submit proposals should [send](#) a brief letter of interest by August 31

NO CONSENSUS REACHED FOR FCC ON "SYMBOL RATE" ISSUES

ARRL-initiated efforts for rival parties to reach consensus on issues raised in the so-called "Symbol Rate" proceeding have ended. In April, the FCC granted ARRL's request for a 90-day hold in the proceeding, FCC Docket WT 16-239, to provide an opportunity for ARRL to lead an effort to determine whether consensus could be reached on some or all of the issues that commenters raised in the FCC's proceeding. The FCC already has issued a [Notice of Proposed Rulemaking](#) in WT 16-239, which stemmed from ARRL's rulemaking petition RM-11708.

Discussions were since widened to include issues raised in another *Petition for Rule Making*, [RM-11831](#), filed by Ron Kolarik, K0IDT, that seeks, "to ensure Amateur Radio digital modes remain openly decodable and available for monitoring" by the FCC and by other third parties, including other radio amateurs. His petition also aims to limit Automatically Controlled Digital Stations (ACDS) to identified subbands on HF, to reduce interference. Last month, ARRL filed an [interim report](#) with the FCC summarizing its efforts to bring all sides to the table, and on June 28, ARRL requested an additional 60-day pause to pursue promising talks.

"In seeking the delay, it was the ARRL's intent to facilitate discussions between the opposing parties in an effort to explore the possibility of an agreed resolution that would better protect users of the Amateur Radio spectrum from interference and would permit all members of the Amateur Radio service to continue to contribute to the advancement of the radio art," ARRL Washington Counsel David Siddall, K3ZJ, said, summarizing the

situation in a July 15 letter to the FCC. "The end purpose, if a binding agreement between the opposing parties could not be reached, was to provide the strongest possible basis for the ARRL to file its recommendations on a fair and equitable resolution of the issues."

Siddall said that despite difficulties "partially attributable to the passions of the respective parties," ARRL was able to schedule meetings with both sides and, eventually, facilitate joint discussions among the respective parties.

Siddall said in his letter, "At the beginning of our meetings there emerged consensus on the issues to be discussed. By the end, the parties had reached consensus on some of the issues, but not all. Despite our best efforts, some of the parties did not agree to submit to the Commission any of the recommendations on which there had been an apparent consensus, having negotiated with an 'all or nothing' approach."

Despite the disappointing conclusion, Siddall expressed confidence that a better understanding of issues and positions of the various interests exists among all of the parties who participated in the in-person meetings and teleconferences, and that this will have an overall positive effect upon the outcome of the proceeding. Read [more](#). ARRL Letter

AMATEUR RADIO SHOWCASED AT THE 2019 EAA AIRVENTURE IN OSHKOSH, WISCONSIN

ARRL member-volunteers were part of the excitement at the 2019 International Experimental Aircraft Association annual AirVenture show, which wrapped up on July 29 in Oshkosh, Wisconsin. This year marks the 50th anniversary of [EAA AirVenture](#), which drew more than 600,000 visitors and 10,000 aircraft last year. The ARRL exhibit highlights radio communications, encouraging pilots and aviation enthusiasts to discover the many facets of Amateur Radio and to expand their interest in technology. ARRL Product Development Manager Bob Inderbitzen, NQ1R, organized the booth with an all-volunteer team.

"This is a great opportunity to show off Amateur Radio at such a large-scale event," Inderbitzen said. "There's a kinship among the aviation and Amateur Radio communities. In addition to introducing newcomers to ham radio, we met over 600 ham-pilots at last year's AirVenture."

[Icom America](#) and [EAA Warbirds of America](#) have organized special event station W9W, which will be on the air all week from AirVenture. W9W was on 40 through 10 meters and on VHF and UHF. The station were set up against the backdrop of the display of historic and vintage ex-military aircraft.

Members of the Fox Cities Amateur Radio Club ([FCARC](#)) operated W9ZL from the nearby Pioneer Airport. The station was located within KidVenture, which was filled with activities for children and youth attending AirVenture.

Tying in with the 50th anniversary of the Apollo 11 moon landing, EAA AirVenture had Apollo 11 crew member Michael Collins as the event's featured guest.

AMSAT AND ARISS DESIGNING AMATEUR RADIO SYSTEM FOR LUNAR GATEWAY

Details are still being fleshed out, but AMSAT and ARISS are working on the design of an Amateur Radio system for NASA's Lunar Gateway. As NASA explains, the Gateway "will be a small spaceship in orbit around the moon that will provide access to more of the lunar surface than ever before with living quarters for astronauts, a lab for science and research, ports for visiting spacecraft, and more." For NASA, the Lunar Gateway is "a spaceport for human and robotic exploration to the moon and beyond." For radio amateurs, the Lunar Gateway will represent the next step in moving ham radio out of low-Earth orbit and into deep space. Under the current timeline, initial sections of the Gateway are scheduled to launch in 2022, with the Gateway in lunar orbit by 2026.

"To make this happen, we are leveraging the work and expertise of the worldwide AMSAT organizations and the international ARISS community in this endeavor," ARISS-International Chair and AMSAT Vice President for Human Spaceflight Programs Frank Bauer, KA3HDO, said. "We have an international team working on this and are meeting twice a month to mature the concept." The ARISS concept was presented to NASA in May and got positive feedback, and was favorably received a few weeks later at the ARISS-International meeting in Montreal from the Canadian Space Agency's Gateway Program Manager.

"The Amateur Radio Exploration (AREx) team has done some really good work," Bauer continued. "The challenge for amateurs will be on the order of a 30 dB signal path loss as compared to LEO. But the link margins on our design seem too close."

The Lunar Gateway will serve as a solar-powered communication hub, science lab, short-term habitation module, and a holding area for rovers and other robots that may be bound for the moon or for other planets. NASA is leading the project in collaboration with commercial and international partners, and all of the International Space Station partners. This includes the European Space Agency, Roscosmos (Russia), JAXA (Japan), and the Canadian Space Agency.

One of the project's facets now under discussion within the AREx Working Group is a phased-array antenna that can be electronically directed. The Lunar Gateway group has told ARISS that it is important to get in on Phase 1 of the Lunar Gateway program and develop its system early on.

"We need to develop a block diagram of a system and subsystems and find team members who want to work on each, Bauer said when the ARISS-International team met in Montreal. "We must set up requirements and interface documentation. We need to solidify the frequencies to use, working with the International Space Frequency Coordination Group."

ARISS ARRL Representative Rosalie White, K1STO, said that ARISS wants to spread the word about the new initiative. "Doing so will help bring in greatly needed new volunteers to join the team and assist with what unique things must be done," she said. "When able, face-to-face meetings must be held with team leaders to define roles for team members and to develop hardware plans."

White also hopes the new project may inspire the generosity of the Amateur Radio community.

ARTICLE: GLOBAL INSTITUTIONS SUPPORT AMATEUR RADIO COMMUNICATION AND EXPERIMENTATION

Former ARRL CEO David Sumner, K1ZZ, has contributed to the latest edition of *ITU News Magazine* — published by the International Telecommunication Union (ITU). The issue is devoted to “terrestrial wireless communications,” which includes the Amateur Radio and Amateur Satellite services. Sumner’s article, “Self-training, intercommunication and technical investigations: the amateur service in the 21st Century,” discusses Amateur Radio within the context of a global network of experimenters and communicators who, in Sumner’s words, “expand the body of human knowledge and technical skills that are essential to development and offer a resource that can literally save lives when natural disasters disrupt normal communications channels.”

“Amateur licensees are grateful that ITU member-states continue to recognize the benefits of providing direct access to the radio spectrum to qualified individuals,” said Sumner, who now serves as secretary of the International Amateur Radio Union (IARU), an ITU sector member.

Sumner points out that access to frequency bands “spaced throughout the radio spectrum” is critical to Amateur Radio’s future. He notes that the initial pattern of ham allocations dates back to 1927 and the International Radiotelegraph Conference. Allocations have been extended and expanded at subsequent conferences, most recently at World Radiocommunication Conference 2015 (WRC-15), when ham radio obtained a tiny secondary band near 5.3 MHz. (An earlier WRC was responsible for the Amateur Service’s two lowest-frequency allocations, 135.7 – 137.8 kHz and 472 – 479 kHz.)

On the other end of the radio spectrum, the 1979 World Administrative Radio Conference (WARC) extended terrestrial allocations above 40 GHz to include amateur allocations. “If a future World Radiocommunication Conference extends allocations above 275 GHz, adequate provisions for amateur experimentation should be made,” Sumner observed.

The first item on the agenda for WRC-19, which takes place this fall in Egypt, calls on delegates to consider an allocation at 50 MHz to the Amateur Service in ITU Region 1 (Europe, Africa, and the Middle East) that aligns with existing allocations in Regions 2 and 3. “Harmonized allocations highly facilitate intercommunication,” Sumner asserted.

Sumner notes that ITU “plays an essential role” in keeping the spectrum clear of unwanted interference and emissions, an effort he said is “especially vital to the Amateur Service, which uses sensitive receivers to compensate for practical and regulatory limitations on antennas and transmitter power levels.”

Sumner also pointed to the role radio amateurs can play in developing and refining communication protocols, including digital techniques, to improve weak-signal performance. He noted that Joseph Taylor, K1JT — a codeveloper of such digital modes as FT8, FT4, and JT65 — received an ITU Gold Medal in recognition of his outstanding contributions to radiocommunication.

Sumner explained that the IARU — a federation of more than 140 member-societies — represents the interests of radio amateurs around the world before ITU. The IARU’s contribution to the work of ITU began in 1932 with its admission to participate in the work of the International Radiocommunication Consultative Committee (CCIR). IARU is a member of the ITU Radiocommunication and Development sectors.

“The IARU is proud to be an active member of the ITU community,” Sumner said in conclusion.

SHORTS

ARRL's Logbook of The World has been updated to embrace FT4 contacts for the Digital Worked All States award. This follows the WSJT-X Development Group's July "general availability" release of *WSJT-X* 2.1.0. No other endorsements are under consideration at this time. LoTW users are currently able to upload all FT4 contacts they have made. While the FT4 Digital WAS Award Endorsement functions are now active, award processing and fulfilment remain pending the availability of the new endorsement sticker. Watch ARRL News for this and other updates.

The spherical Chinese CAS-7B (BP-1B) Amateur Radio satellite carrying an FM transponder launched on July 25 at 0500 UTC. Signals from both the FM transponder and the telemetry beacon have been received. CAS-7B (BP-1B) was developed by the Chinese Amateur Satellite Group (CAMSAT) in cooperation with the Beijing Institute of Technology (BIT), and AMSAT has designated the satellite as Bit-Progress OSCAR 102 (BO-102). CAMSAT completed the project planning, design, build, and testing, and manages the satellite's on-orbit operation. BIT provided the satellite environmental testing, launch support, and financial support. Many students from BIT were involved with the project, learning about satellite technology and Amateur Radio. CAS-7B is expected to have a lifetime of about a month before reentry. The satellite was launched on Hyperbola-1 from Jiuquan into a 300 kilometer, 42.7° inclination orbit. The CW telemetry beacon transmits on 435.715 MHz; the V/U FM transponder downlink is 435.690 MHz (16 kHz passband), and the V/U FM transponder uplink is 145.900 MHz. Further information is available from [Alan Kung, BA1DU](#), at CAMSAT

Applications for the 2020 ARRL Foundation Scholarship Program will be accepted between September 1 and December 31, 2019. All applicants must be FCC-licensed radio amateurs, and many scholarships have other specific requirements, such as intended area of study, residence within a particular ARRL Division, Section or state, and license class. Applicants should review the scholarships and check off the ones for which they are eligible. If you complete an online application, you must also [email](#) a PDF of academic transcripts from your most-recently completed school year by **January 13, 2020**. Applications not accompanied by transcripts will not be considered. The ARRL Foundation Scholarship Committee will review all applicants for eligibility and award decisions. Scholarship recipients will be notified in May 2020 via USPS mail and email. For more information, visit the [ARRL Foundation Scholarship Program](#) page.

What have you been up to on the bands? Plug your call into this website to find out: <https://foc.dj1yfk.de/activity/>. The tool uses the Reverse Beacon Network (RBN) data to generate an activity report for any call. (Ward, N0AX)

SSSP Propagation - Summer Solstice Short Path - From an [article by Han, JE1BMJ](#): A type of 6-meter propagation that occurs roughly in June and July in the northern hemisphere, and around the December solstice in the southern hemisphere. The exact mechanism of this propagation path is still debated, but signals are characterized as "weak, but pure tone" with slow QSB and no flutter

The [Morserino-32](#) is an open source/open hardware device for learning Morse code and a lot more. This is way beyond your grand-Elmer's code practice oscillator, with hardware features including a 32-bit microcontroller with Wi-Fi, Bluetooth, and LoRa capability, a bitmapped OLED display, and USB interface for charging.

The unit can act as a CW Keyer, CW decoder, a CW trainer, and even a CW transceiver in the 432 MHz ISM band! [One club](#) is using these for internet video-based CW training. You can see more on Twitter with the [#morserino hashtag](#), or visit the [morserino website](#). It might make a good giveaway at a club meeting or hamfest.

Kroger Community Rewards

Kroger is giving up to \$2 million to non-profit organizations. Be sure to earn your share! Kroger is committed to helping our communities grow and prosper. It's easy!

If you're not sure if your organization is already enrolled, [click here](#) for a list of qualified organizations.

How Your Organization Earns

Once your organization is approved and enrolled:

- Simply encourage your members to register their Plus Card online at www.krogercommunityrewards.com, using your organization name and/or NPO number.
- Within 7-10 business days of registering the individual Plus Card on-line.
- Every time a member shops for groceries and swipes their card, your organization automatically starts earning a rebate.

What Your Organization Earns

Kroger will pay up to \$500,000 per cycle to participating organizations based on their percentage of spending as it relates to the total spending of all participating Kroger's Community Rewards organizations.

- Kroger limits every cycle contributions to a maximum contribution of \$500,000 to be distributed among all participating eligible organizations.
- Kroger limits a participating organization's earned rewards to a maximum of \$50,000 every cycle.
- The minimum cycle payout is \$25 per organization. In the event that an organization earns less than \$25 in a cycle, Kroger's will hold the amount until the next cycle that the reward exceeds \$25 or until the end of the program term, whichever comes first.
- Your rewards check will be mailed within 30 days after the close of each cycle.

THANKS FOR READING !

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