



Legacy Amateur Radio Club

RCA AMATEUR RADIO CLUB



AFFILIATED CLUB

INDIANAPOLIS, INDIANA

OCTOBER 2017

MONTHLY NEWSLETTER

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

RCA ARC NEWS

SUMMARY OF THE SEPTEMBER MEETING – Thanks to all who attended the September meeting! The status of the '88 repeater, the 6m beacon, which was recently modified by Jim, K9RU, to improve spectral purity, were discussed. Also discussed was the possibly getting some of the aluminum mast sections from Dave Brown's estate to be used on Field Day. Also noted that Hank, K9LZJ's "barn" was having an open house and equipment sale of Sept. 23rd. The IRC Hilltop contest is coming up on Saturday. W9ZB and K9RU participated in the recent VHF contest, noting there was lots of 6M FT8 activity. Our Club's supply of "junk" to sell at next year's hamfest has been pretty well depleted. Jim, K9RU, thought we might get more donations from VOXX. Also noted, the W9IMS special event station reported this has been a good year.

JASON WIGNOT, KC9WEP, SK – Our condolences to Leroy Wignot, WA4OTD, and his family on the death of their son, Jason, who passed away on Sept. 11, 2017. Jason enjoyed playing soccer, running, and working out as well as building and programming computers with special interest in embedded systems.

Jason graduated from Carmel High School, and received his Bachelor of Science degree from IUPUI School of Public Environmental Affairs. Jason was three months from his degree in computer engineering. He was a member of IEEE, where he served as Vice President. Currently, Jason was serving his Software Internship with MS Sedco. Jason was 29.

FREE COAX AT THE OCTOBER MEETING! – Thanks to Jon, KC9GUM, we have a quantity of RG-8 type 50 ohm coax in various lengths. This is Belden 89913 plenum rated WITH type N connectors. These are the "correct" connectors for this cable and are the "clamp connection" type (not crimp) so it's relatively easy to remove/reinstall connectors if you need to cut the cable. Remember, **FREE!**

AUGUST AMATEUR RADIO LICENSE TEST SESSION

Time: Saturday, Oct. 14, 2017, 12:00 pm (Walk-ins allowed)

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

Contact: Jim Rinehart, k9ru@arrl.net, 317 721-1458

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Oct 7

56th Hoosier Hills Hamfest, Mitchell, IN <http://www.w9qyg.org/hamfest>

Oct 7-8 ARRL EME Contest, <http://www.arrl.org/eme-contest>
Oct 21 Shelbyville Tailgate Hamfest, Shelbyville, IN <http://www.brvars.com>
Oct 28-29 CQWW SSB DX Contest <https://www.cqww.com/>
Nov 4-5 ARRL EME Contest, <http://www.arrl.org/eme-contest>
Nov 18 Fort Wayne Hamfest and Computer Expo, <http://www.fortwaynehamfest.com>
Nov 25 TurkeyFest 2017, Brazil, IN <http://w9uuu.org/turkeyfest.html>
Opportunities for public service: <http://indyhams.org/events>

THIS HAS BEEN A BUSY MONTH WITH HURRICANES IRMA AND MARIA AND THE MEXICO EARTHQUAKE

The US is still recovering from both Irma and Maria and amateur radio has played a big roll in these disasters.

Caribbean Island residents and the Amateur Radio community hardly had a chance to catch a breath from Hurricane Irma, as recovery operations continue, before Hurricane Maria was knocking on the door. The Hurricane Watch Net ([HWN](#)) activated September 18 on 14.325 MHz and on 7.268 MHz (after dark). The [VoIP Hurricane Net](#) activated the same day to track Hurricane Maria and its potential impact in the Caribbean. [WX4NHC](#), the Amateur Radio Station at the National Hurricane Center, activated to receive weather information from both nets, while the Caribbean Emergency Weather Net ([CEWN](#)) was called up on September 18 on 3.815 MHz (and/or 7.188 and 7.182 MHz as propagation dictates) to provide round-the-clock coverage during the passage of Hurricane Maria and in the storm's immediate wake. It has been handling health-and-welfare traffic in and out of Dominica and is accepting [inquiries](#) via e-mail. (Indicate your name and location, as well as that of the party sought).

The Federal Emergency Management Agency (FEMA) opened 60-meter interoperability nets on September 19, using Channel 1, 5.330.5 MHz (primary voice traffic) and Channel 2, 5.346.5 MHz (digital traffic).

In the immediate aftermath of then-Category 5 Hurricane Maria's passage over Dominica on Monday, Frans van Santbrink, J69DS, on St. Lucia checked into the [VoIP Hurricane Net](#) to relay [damage reports](#) he'd gathered via repeater conversations with other hams there. *The New York Times* also [reported and posted audio](#) that Amateur Radio was a primary source to gather initial damage reports from the storm-ravaged Caribbean Island nation of some 70,000 residents. US-based Julian Antoine, J73JA, solicited reports via a VoIP connection with the J73MAN repeater on Dominica.

A Magnitude 7.1 earthquake hits the central Mexico state of Puebla September 19 at 1814 UTC. The epicenter was some 75 miles southeast of Mexico City, which also felt the temblor and suffered damage.

The FMRE National Emergency Net (Red Nacional de Emergencia or RNE) activated Tuesday on 7.060 MHz.

Participation from Mexican radio amateurs has been excellent with mobile communication units were deployed south of Mexico City, where communication problems have been reported, and in communities surrounding the city, where communication problems exist. FMRE representatives has been stationed in the emergency operations center in Mexico City as well. Most of the traffic involved missing persons. --ARRL

"FORCE OF 50" STEPS UP TO ASSIST HURRICANE-RAVAGED PUERTO RICO

Members of the Amateur Radio community have volunteered to assist in the ongoing recovery from Hurricane Maria, which devastated Puerto Rico and Dominica and, to a lesser extent, the US Virgin Islands. This week, 50 of the most accomplished US radio amateurs responded within 24 hours to a call from the American Red Cross (ARC) to deploy to Puerto

Rico and provide emergency communications assistance there. At the ARC's request, ARRL rallied the US Amateur Radio community to provide up to 25 two-person teams of highly qualified hams. ARRL CEO Tom Gallagher, NY2RF, said that more than 350 answered the call, from nearly every state.

"This generous outpouring of response represents the finest qualities of the Amateur Radio community," he said. "These individuals are dropping whatever they are doing now, heading off to an extended hardship-duty assignment, and offering their special talents to Americans who have been cut off from their families, living amid widespread destruction and without electrical power since Hurricane Maria struck the Caribbean region last week."

The group's principal mission will be to move health-and-welfare information from the island back to the US mainland, where that data will be entered in the Red Cross [Safe and Well](#) system. The Salvation Army Team Emergency Radio Network ([SATERN](#)) has been asked to assist these operators when they check in with tactical, health-and-welfare (H&W), and Safe and Well messages.

SATERN and other active nets are not accepting incoming H&W inquiries. The Caribbean Emergency and Weather Net (CEWN) is taking incoming H&W inquiries via e-mail [for Dominica](#). The Puerto Rico Federal Affairs Administration (PRFAA) is taking inquiries (only one per sender) via e-mail [for Puerto Rico](#). Inquiries should include the full name and location of both the sender and the individual(s) being sought and the sender's e-mail address.

The group will be in Puerto Rico for up to 3 weeks. ARRL has equipped each team with an HF transceiver, software, a dipole antenna, a power supply and all connecting cables, fitted in a rugged waterproof container. In an unprecedented and crucial move, the Federal Emergency Management Agency (FEMA) agreed to help get the Ham Aid gear to Puerto Rico.

The League also is sending two VHF repeaters, a dozen hand-held transceivers, five mobile radios, what Gallagher described as "5 cubic feet of batteries," a number of small 2-kW portable generators, and solar-powered battery chargers. The hams and their equipment will be sent to Red Cross shelters extending from San Juan to the western end of the island.

In addition, ARRL has committed to purchasing up to \$50,000 worth of new Ham Aid gear for this and for future emergencies.

ARRL's Emergency Preparedness Manager Mike Corey, K11U, said this was the first time in the nearly 75-year relationship between ARRL and the ARC that such a request for assistance had been made. "Hurricane Maria has devastated the island's communications infrastructure," Corey said. "Without electricity and telephone, and with most of the cell sites out of service, millions of Americans are cut off from communicating. Shelters are unable to reach local emergency services. And, people cannot check on the welfare of their loved ones. The situation is dire."

The [Yasme Foundation](#) announced this week that it has made a grant to ARRL's [Ham Aid](#) fund, in support of the Amateur Radio response to the recent hurricanes in the US and Caribbean. The Ham Aid fund was created in 2005 in response to the need for equipment and resources to support the Amateur Radio response to hurricanes Katrina, Rita, and Wilma.

A September 27 [CNN report](#) documented the personal impact of the storm on Puerto Rico and Amateur Radio's role in the recovery. --ARRL Letter

AMATEUR RADIO REPORTS: ARECIBO OBSERVATORY DISH SUSTAINED SERIOUS DAMAGE FROM MARIA

Articles on the [National Geographic](#) and [Space.com](#) websites last weekend cited Amateur Radio reports that Puerto Rico's [Arecibo Observatory](#) came through Hurricane Maria largely intact but "with some significant damage." Universities Space Research Association ([USRA](#)), which helps to operate the Observatory, said it learned via "short wave radio contact" that staff and family members sheltering at Arecibo are safe.

"The major structures, including the 300-meter telescope, are intact, though suffered some damage when the atmospheric radar line feed broke off, and falling debris from it punctured the dish in several places," USRA reported on its website. "Also, a separate 12-meter dish used as a phase reference for Very Long Baseline Interferometry was lost."

Observatory officials are still assessing the damage, but Jim Breakall, WA3FET, of Penn State University, told ARRL that the 96-foot line feed antenna at 430 MHz is "historically the key piece to the observatory." It's also the antenna that he and others have used for Amateur Radio moonbounce activities from Arecibo. The Observatory is home to KP4AO.

"To hear that this 10,000-pound key piece to the Observatory fell and hit the 1,000-meter dish is just a huge shock," Breakall said last Saturday. "This antenna was connected to the 2.5 million W 430-MHz radar transmitter that was a key to ionospheric experiments. It is a great loss for sure."

Angel Vazquez, WP3R, who manages radio telescope operations at the Observatory, was one of the only radio amateurs able to pass along any information; among those he contacted was Princeton University professor and Nobel Laureate Joe Taylor, K1JT. Vazquez was using a generator that, Breakall told ARRL, was not working very well. "Many others have heard about all of this and have come to help relay messages to loved ones and friends to let people know they are okay," Breakall added.

Breakall said he's less concerned to learn that his own Amateur Radio contest station, on a hill not far from the Observatory, was destroyed by Hurricane Maria. "While this is sad for me and others, my concern is with the safety and health of many friends and the people of Puerto Rico in General," he said. This is my second home, and many of the people there I treat as my brothers and sisters."

USRA reported last weekend that the access road to the Observatory was covered with debris and impassable.

Breakall told ARRL that he's worried about what might happen in the weeks and months ahead. "I just hope that desperation does not set in, and things get out of hand there," he said. "It is going to be very tough." --ARRL

FCC OPENS 630- AND 2200-METER BANDS; STATIONS MUST NOTIFY UTC BEFORE OPERATING

The FCC has announced that the Office of Management and Budget has approved, for 3 years, the information-collection requirement of the Commission's March 29 *Report and Order* ([R&O](#)) that spelled out Amateur Radio service rules for the two new bands -- 630 meters (472-479 kHz) and 2200 meters (135.7-137.8 kHz). Notice of the action appeared in the September 15 edition of the *Federal Register*. Before using either band, stations must [notify](#) the Utilities Technology Council ([UTC](#)) that they plan to do so. If UTC does not respond within 30 days, they may commence operation.

On March 27, 2017, the FCC adopted the 2012 World Radiocommunication Conference (WRC-12) implementation *Report and Order* ([ET Docket 15-99](#)), amending its Amateur Radio rules to -- in the FCC's words -- "provide for frequency-sharing requirements" in the two bands. Section 97.313(g)(2) of the new rules requires that, prior to starting operation in either band, radio amateurs must notify UTC that they intend to operate by submitting their call signs, the intended band(s) of operation, and the coordinates of their antenna's fixed location. The new rules do not permit any mobile operation.

"Amateur stations will be permitted to commence operations after a 30-day period, unless UTC notifies the station that its fixed location is located within 1 kilometer of Power Line Carrier (PLC) systems operating on the same or overlapping frequencies," the FCC said. PLC systems are unlicensed. "This notification process will ensure that amateur stations seeking to operate [on 630 or 2200 meters] are located beyond a minimum separation distance from PLC

transmission lines, which will help ensure the compatibility and coexistence of amateur and PLC operations, and promote shared use of the bands."

ARRL 630-Meter Experiment Coordinator Fritz Raab, W1FR, advised radio amateurs who anticipate using either band to read the *Federal Register* posting "to understand frequencies, power limitations, and operating modes permitted." Experimental Group participant Ed Cole, KL7UW, has been operating as WD2XSH/45 with 100 W into a 43 × 122-foot base-loaded inverted L, achieving about 3 W ERP. In a message to the Topband Reflector, Eric Tichansky, NO3M, noted that during his operations as part of the ARRL Experimental Group and with his own FCC Part 5 Experimental license, he enjoyed "many cross-country QSOs at QRP power levels" using a 67-foot top-loaded vertical that shares the radial field for his 160-meter antenna. The [Antennas by N6LF](#) website offers more information. --ARRL Letter

IARU ADMINISTRATIVE COUNCIL CONSIDERS NEW RADIO SPECTRUM POLLUTION THREAT

The Administrative Council (AC) of the International Amateur Radio Union ([IARU](#)) believes high-power wireless power transfer (WPT) for electric vehicles has significant potential to interfere with radio communication. That assessment came as the AC met on September 15 and 16 in Landshut, Germany, immediately prior to the IARU Region 1 Conference, to review its priorities and positions with regard to the 2019 World Radiocommunication Conference (WRC-19). Conference Agenda Item 9.1.6 would call for studies in advance of WRC-23 to assess the impact of WPT for electric vehicles on radiocommunication services and to study suitable harmonized frequency ranges to minimize its impact. The AC determined that addressing the threat requires an increased commitment of resources by potentially affected radiocommunication services, including Amateur Radio.

The WPT issue came up earlier this month at the meeting of [CEPT](#) WRC Project Team D, held in Vilnius, Lithuania, the week of September 11. At that gathering, IARU addressed the impact of spurious emissions from proposed high-power WPT systems for electric vehicles.

As the ITU explained in its August 2016 report, "[Applications of wireless power transmission via radio frequency beam](#)," WPT technology is considered a game-changer. "We will be able to become free from lacking electric power when electric power will be supplied wirelessly," the report said. WPT vehicle applications typically use frequencies in the LF and MF range.

In addition to WPT, the WRC-19 agenda includes several other items of potential concern to radio amateurs and a possible allocation in Region 1 of 50-54 MHz to the Amateur Service to harmonize with the allocations in the other two International Telecommunication Union (ITU) regions.

Delegates reviewed and updated the strategic plan to develop support for amateur spectrum allocations in 2016-2020, and they approved action plan for the remainder of 2017 and 2018. They also reviewed and adopted the IARU 2018-2020 budget, based upon anticipated financial contributions from the IARU International Secretariat and the three regional organizations. The budget adopted reflects ongoing efforts to minimize expenses.

Regional representatives on the AC reported progress in their areas, including the successful Amateur Radio Administration Course, a course attended by administrators from several Latin American countries that was offered earlier this year in Mexico City.

Tore Worren, LA9QL, was appointed as EMC Coordinator, replacing Thilo Kootz, DL9KCE, who has had to step down because of a change in employment. Read [more](#). --ARRL Letter

JOTA 2017 ORGANIZERS URGE SCOUT STATIONS TO REGISTER NOW

Scouting's Jamboree on the Air/Jamboree on the Internet (JOTA/JOTI) event takes place over the October 20-22 weekend, and organizers are urging Scout stations planning to participate to [register](#) now. The world JOTA-JOTI team has activated its online sign-up system.

"Our number one message at this time is to register their station and get ready for [JOTA](#)," JOTA Coordinator Jim Wilson, K5ND, told ARRL. "It's time for Scout groups to bring together their open action items -- ordering patches, printing handouts, gathering equipment, reminding staff members, verifying location, and getting the word out to the Scouts to be prepared for a fabulous experience talking with other Scouts across the country and hopefully around the world."

JOTA is the world's largest Scouting event, held annually over the third full weekend in October, and Scouts of any age can participate -- from Cub Scouts to Boy Scouts and Venturers, male and female. During JOTA, Amateur Radio links Scouts with other Scouts and hams, locally and worldwide. Since the first JOTA in 1958, millions of Scouts have met each other through this event to exchange ideas a

share experiences via ham radio. Many contacts made during JOTA have resulted in enduring friendships and connections.

According to the World Scout Bureau, the 2016 JOTA had nearly 1.3 million Scout participants from more than 30,000 locations, and reached 156 countries.

The World JOTA-JOTI team has published a [Participant's Guide](#) to help Scouts to get on the air and the internet for the largest Scouting event in the world. They've also published a brief history of the [60 years of Jamboree on the Air](#) as well as the [Top 10 Challenges and Activities in 2016](#) that might provide ideas for your event this year. An [online scheduling tool](#) is available too.

For participating via *EchoLink*, two conference nodes now have been designated for Scout contacts -- *JOTA-365* (node 480809) and *JAMBO* (node 832996). Visit the K2BSA Radio Scouting page for [more information](#) on frequencies, including D-STAR, DMR, and IRLP. --ARRL

ARISS MOVES ONE STEP CLOSER TO FLYING NEW HAM EQUIPMENT TO ISS

Amateur Radio on the International Space Station ([ARISS](#)) International Chair Frank Bauer, KA3HDO, has announced that his program has submitted its Interoperable Radio System (IORS) flight safety data package to NASA for review. ARISS has been developing the IORS to replace most of the Amateur Radio hardware that's now on the space station. It is called "interoperable" because it's designed to operate anywhere on the ISS. A NASA flight safety review in about a month is the next step. Bauer said he was highlighting the accomplishment because all the work on the safety data submission was developed exclusively by ARISS volunteers, rather than NASA or other contractors, as had been done in the past. It also meant a substantial saving to ARISS, which has become more reliant on donations in recent years.

"This is a very major IORS milestone," Bauer said. "We cannot get [the new equipment] to orbit without successfully completing the safety review process and getting our hardware certified for flight."

Bauer said having the work done by volunteers not only was "innovative and gutsy," but will shorten the timeline involved to get the new Amateur Radio hardware on board the International Space Station. "Otherwise, we probably would have to slip launch 1 – 2 years while we acquired additional funding to get this done," Bauer said.

He explained that the material turned in for NASA Human Spaceflight Safety Certification covers the first three phases of a four-phase process. The initial steps in the process are aimed at ensuring that NASA understands the design, demonstrating that ARISS understands the potential hazards that the new hardware systems could introduce, and how it has mitigated or prevented them.

“One example is to demonstrate to NASA that our IORS was designed with electrical wiring and circuit breakers that possess adequate features and sufficient margin to prevent an electrical shock or fire on board the ISS,” said Bauer, who previously worked for NASA. “Critically important stuff!”

The final phase will be complete when ARISS has finished all testing and NASA deems the hardware flight worthy. ARISS is hoping that will happen next spring.

The new hardware will be used in the two areas of the ISS that have legacy Amateur Radio antennas — the *Columbus* module and the Russian Service Module. “Interoperability allows us to leverage existing ISS power cables, move it between modules in the event of on-orbit failures, and use it to support common training and operations,” Bauer said.

“The IORS is the most complex in-cabin hardware system we have ever designed, built, tested, and flown as a volunteer team,” Bauer continued. “We will remove the 3-W Ericsson handheld radio system, initially certified for flight in 1999, and the packet module — both of which have recently had issues — and install a brand-new, specially modified 25-W JVC Kenwood TM-D710GA radio to enable a multitude of new or improved capabilities on ISS, including voice repeater and better APRS operations.”

A key development, Bauer explained, is the multi-voltage power supply (MVPS), which interfaces with multiple electrical outlet connector types on the station and provides a range of power output capabilities for current and future ARISS operations and Amateur Radio experiments. It will also allow the ham video (HamTV) digital Amateur Radio TV (DATV) system to have its own power outlet instead of having to share, something that occasionally shuts down the DATV system.

Bauer praised the IORS development team, which includes Chief Engineer Lou McFadin, W5DID; lead MVPS designer Kerry Banke, N6IZW; the MVPS lead designer; MVPS Mechanical enclosure designer Bob Davis, KF4KSS; Ed Krome, K9EK; Dave Taylor, W8AAS; Bob Bruninga, WB4APR; Shin Aota, JL1IBD; Phil Parton, N4DRO, of JVC Kenwood; Operations Lead Kenneth Ransom, N5VHO, and safety package team Ken Ernandes, N2WWD, and Gordon Scannell, KD8COJ.

“Designing, building, and testing the IORS is a huge undertaking and *very* expensive,” Bauer said. That’s at least due in part to the fact that ARISS must build 10 duplicate units to support flight hardware and spares, testing, and training. “Hardware parts, development tools, fabrication, testing, and expenses to certify the IORS are expected to cost approximately \$150,000,” said Bauer. “And the hard part — that is, the most expensive part — is just now starting.”

ARRISS invites [contributions](#) to help cover the expenses of its work. All donations go directly to ARISS

OPERATING TIPS

TIME SYNCHRONIZATION - If you're using the new digital modes like JT65 and FT8, it's more important than ever to make sure your computer's time is correct.

If your computer's clock is off by more than a second or two, contacts with other stations may be difficult or impossible.

For internet-connected computers, time synchronization could be as easy as turning on and configuring Internet time synchronization in your operating system settings. For those on DXpeditions or otherwise not connected, alternative means of time synchronization such as WWVB or GPS can be used.

The WSJT-X documentation recommends using Meinberg NTP on Windows machines to synchronize with Internet timeservers. Meinberg comes with utilities that help you better monitor the quality and health of your clock synchronization source(s). Check accuracy of your computer clock here: <https://time.is/>

N1MM LOGGER+ Releases later than 1.0.6731 have a [new feature that allows adding QSOs to an N1MM log from external programs](#). [JT-Alert](#) is already compatible with this interface, so contacts can be made using WSJT-X, which feed into JT-Alert, which are then fed into N1MM Logger+. In technical terms, N1MM Logger+ can be enabled to listen on UDP and TCP ports for ADIF-formatted log information.

[Version 3.0.6 of the ADIF standard](#) with support for the FT8 mode, was released August 13, 2017. LOTW now supports the upload of FT8 QSOs after a TQSL configuration file update released shortly after the new ADIF standard. To update your TQSL program, see the [LOTW website on how to check for TQSL updates](#), update TQSL, and upload your FT8 QSOs.

WHAT DOES IT TAKE TO MAKE AN EME CONTACT? – Lance, [W7GJ](#), comments on what it would take to make just one Earth-Moon-Earth (EME) contact in the upcoming [ARRL EME Contest](#), just to do it. It could be a nice challenge to share among a group of club members. Lance has quite a bit of experience in this area, dragging EME gear to many [far away places](#) just to give other Amateurs rare grids on this mode.

Here is a quick introduction for someone who might want to try 6-meter or 2-meter EME. I have worked many single Yagi stations on both 2m and 6m, and the only for thing for sure is that *if you don't try, you won't be successful*.

The first step on trying EME on 6m or 2m would be to download WSJT-X and learn how to use it to operate JT65. A step-by-step checklist for setting up the program is at <http://www.bigskyspaces.com/w7gj/JT65.pdf>.

One of the very popular features of WSJT-X is that it will work with most modern rigs that have some sort of USB cable to control the rig by computer using CAT (a separate "computer interface" box is not necessary in such a case).

If you cannot elevate your antenna, and you have a quiet QTH with chance for good ground gain (smooth, unobstructed terrain toward your east or west), find someone who has a larger array with elevation so they can track the moon and run a sked with you while your moon ascends (or descends) through your ground gain antenna lobes below 20 degrees elevation.

You can run the [WSJT-X "ECHO MODE"](#) to check on your own as to whether you have ground gain lobes and what moon elevations work best for you, given your antenna height above ground, and the steepness of the terrain around your antenna site.

Ground gain lobes work best if you don't have any buildings or HF antennas below your VHF antennas to shield them from the valuable ground gain reflections. You can [compare the gain of popular antennas and learn more about ground gain on my website](#).

Especially on 6m, it is important to increase your chances by trying EME on a day when conditions are best for EME. The [best days for 6m EME are also shown on my website](#). In addition, you should avoid days when there is aurora or a [high Kp index](#).

Next, if you want to try to work somebody on 6m, go to the [ON4KST EME chat](#) page and try to line up a JT65A mode sked with a big station.

If you want to try 2m, follow the same steps as above, but go to [this page to arrange a sked](#). GL and DX! VY 73, Lance

SHORTS

How You Can Help – ARRL President Rick Roderick, K5UR, has asked for contributions to ARRL's [Ham Aid](#) fund. "Equipment has been flying out the door since Hurricane Harvey struck the US mainland," he emphasized. "From meeting requirements in aid of Hurricane Irma victims in the US Virgin Islands and Florida, our store of Ham Aid kits has been depleted."

ARRL's Ham Aid program loans Amateur Radio equipment kits to established Amateur Radio Emergency Service (ARES®) groups and partner agencies during disaster responses, in order to establish Amateur Radio communication support. Ham Aid is supported by donations from individuals and corporations, including many of our ham radio industry partners.

ARRL has previously staged Ham Aid equipment in Texas as well as supplied kits to Florida, the US Virgin Islands, and Puerto Rico. With the Ham Aid inventory depleted, donations are needed now. Contributions to Ham Aid are 100% tax deductible. To donate online, select "Ham Aid" from the [ARRL donation form](#). To donate by mail, print a donation form, and mail it with your check payable to ARRL, noting "Ham Aid" on the memo line of your check. Mail to ARRL, 225 Main St., Newington, CT 06111 USA.

Revised ARRL Frequency Chart Now Available – An updated ARRL frequency chart is now available for printing and downloading at <http://www.arrl.org/graphical-frequency-allocations>. The chart has been updated to include our new bands at 2,200 and 630 meters.

The new chart is available in the following PDF formats:

- 8.5 X 11 grayscale
- 8.5 X 11 black and white
- 8.5 X 11 color
- 11 X 17 color

FalconSAT-3 Now Open for Amateur Radio Use The Air Force Academy satellite [FalconSAT-3](#) is now open for Amateur Radio use as a digital store-and-forward system. Built in 2005 and 2006 by cadets and faculty in the Space Systems Research Center at the US Air Force Academy in Colorado Springs, FalconSAT-3 was launched in 2007.

The satellite has completed its scientific and training missions, and the Academy now is making it available for Amateur Radio use. The Packet Bulletin Board System operates at 9,600 baud with a 145.840 MHz uplink/435.103 MHz downlink. Output power is 1 W, and the downlink is continuously on. Digipeating is enabled for live QSOs, but unattended digipeating operation is not authorized at this time.

[Additional information](#) is on the AMSAT website.

Hurricane Damage Forces Changes to Planned DX Operations - Members of Argentina's Yaguarete DX Group, expected to be active as PJ7T from Sint Maarten from October 24 through November 4, have cancelled their plans due to Hurricane Irma damage. "Hurricane Irma destroyed 95% of infrastructure on the island, and it will be impossible to arrive and live there for a long time," the group said in its announcement. It has changed the destination for its fall DXpedition to San Andres Island and is in the process of working out the formalities. Meanwhile, the PJ7TM station of Tom Metz, K2GSJ, is said to have been "wiped out," and Metz is heading there in October to repair the damage. Post-Hurricane Irma [drone and ground video](#) in Sint Maarten is available on YouTube. W3HNC and K3NK also have dropped plans to operate from Guadeloupe and Sint Maarten from October 23 until November 1, including the CQ World Wide DX SSB Contest. The Polish team's mid-November TO2SP DXpedition to St. Barthelemy Island is still a go, however, "barring any further surprises," a team spokesperson said. -- *Thanks to [The Daily DX](#) for some information*

Sputnik 1's 60th Anniversary is October 4 - The 60th anniversary of the launch of Sputnik 1, Earth's first artificial satellite, is Wednesday, October 4. The Soviet Union heralded the launch as a national triumph, and the space race between the USSR and the US began. Sputnik 1 was fairly basic — a sphere with four antennas that transmitted a 1-W signals on 20.005 and 40.002

MHz, putting it within the range of nearly any radio amateur/ WWV halted its nighttime 20-MHz transmissions to avoid interfering with the satellite's signal.

A 58-centimeter diameter polished metal sphere, *Sputnik 1* could be seen from Earth, orbiting the planet about once every 96 minutes. It had no stabilization system. Two aluminum casings bolted together with a seal created an airtight housing for the two transmitters plus temperature and pressure sensors.

US Senate Confirms FCC Chairman Ajit Pai for a Second Term - In a mostly party-line vote, the US Senate on October 2 confirmed FCC Chairman Ajit Pai for a second term on the Commission. Pai would have had to leave the FCC at the end of the year, had he not been reconfirmed.

President Donald Trump nominated Pai for a new term in January; his previous term as a commissioner had expired on July 1, 2016, and his new term is retroactive to that date. FCC rules permitted him to remain until the end of 2016.

The final tally was 52-41, although he picked up votes from four Democratic senators.

THANKS FOR READING!

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