RCA Amateur Radio Club
Indianapolis, IN

www.w9rca.org

MAY 2020 MONTHLY NEWSLETTER

A VIRTUAL ZOOM MEETING WILL BE SCHEDULED FOR
TUESDAY MAY 12 AT 7:00 EDT
INVITATIONS TO JOIN WILL BE EMAILED BY MAY 11

RCA ARC NEWS

MAY 12 MEETING – For the May 12th meeting we shall again use a Zoom virtual meeting. If you're not familiar with Zoom... Their basic service is free and allows up to 100 attendees. The only restriction is the meeting can only last 40 minutes. You will receive an email message with a link on probably May 11. If you can access your emails by your smart phone, then you can join using it. If you join using your desktop or laptop and do not have a video camera, then it will join you with audio only assuming you have some type of microphone connected to the computer. If not, then you will be logged as listen only.

APRIL MEETING SUMMARY – The April meeting was our first attempt to do a Zoom meeting. Ten members showed up and everything worked out although not much club business was discussed the the 40 minute meeting. Field Day with the Indy United FD Club is still on using the Victor Conservation Club site. Plans are dependent on Covid-19 restrictions still in place at that time. Our club is donating $50 to help cover the cost of FD. Some time was spent discussing the problems involved with VE testing during this time. The March test session just got in under the wire before everything was shut down. It was mailed to the ARRL for processing, but they had closed down. K9RU working with the ARRL VEC had to recover all the documents and send them in to the ARRL by email. The April 18th test session was canceled which had 12 people signed up for it. Thanks to those who were able to attend see you again next month.

AMATEUR RADIO LICENSE TEST SESSION

Time: Saturday, June 13, 2020, 12:00 pm (Registration Required)
This is still tentative depending on what the Salvation Army will allow
Location: Salvation Army EDS Training Facility, 4020 Georgetown Rd
Indianapolis, IN 46254-2407
Contact: **Jim Rinehart, k9ru@arrl.net, 317 721-1458**

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

June 27-28 ARRL Field Day
July 10-11 Indianapolis Hamfest **CANCELED**
July 9-10, 2021 Indianapolis Hamfest
For more information: http://www.indyhams.org/events

2020 FIELD DAY PLANS --This year the RCA ARC is again particating with the Indy United field day club. Plans are moving forward for operating a 3A operation like last year with a VHF and GOTA station with what every safe social-distancing adjustments are need for the Governer's COVID-19 state orders.

The same location as last year the Victor Conservation Club south of Mooresville. The RCA ARC is responible for setting up the VHF station and the FT8 operation and AF9A generator. -- K9RU

INDIANAPOLIS HAMFEST CANCELLED

For 49 years, the Indianapolis Hamfest has provided one of the premier hamfests in the Midwest. This year was to be our golden anniversary, fifty years, and an accomplishment that few have realized. It is with great disappointment that we inform the amateur community that under an abundance of caution and our desire to follow Indiana Governor Holcomb's 5 step plan, that we will not have the Indianapolis Hamfest this year.

There were a number of factors that lead to this decision. First, the Marion County Fair board has had a change in management and they booked another event on our dates. Disregarding our over 40 year relationship with them, they refused to correct the error. We would have had to reschedule for another date which would have probably conflicted with other hamfests and meant that many of our faithful vendors would not be able to attend. We found this unacceptable.

Second, even though the Governor's plan called for large events after July 4th, it still required that social distancing rules be maintained and that all of the hamfest staff be medically evaluated. We felt that it would be nearly impossible to comply with these requirements.

Third, at this time it is still very unclear that opening up will not cause another rise in cases as people begin to resume social gatherings. We felt that we do not want to be part of the problem.

So, at this time the staff of the Indianapolis Hamfest want to extend our profound thanks to all of our loyal vendors, our flea market sellers, and to all the fellow amateurs who have supported our show for 49 years. We look forward to the 50th running of the greatest hamfest in the state of Indiana in 2021.

On behalf of the entire staff, be safe, stay healthy, and join us next year.

Mike Sercer, WA9FDO, General Chairman

INDIANAPOLIS RADIO CLUB VE TEAM CONDUCTS ITS FIRST REMOTE ONLINE LICENSE EXAM USING ZOOM

The Indianapolis Radio Club VE team conducted its first online test session and it also was the1st time we used the ARRL efile and it worked out great. The ARRL VE efile allows a 2 to 3 day turn around for receiving a license instead of the 2 weeks we were experiencing by using the US mail for the test session.

For this session, the applicant, who had previously had held a Technician license that had expired in 2008, is blind was looking to get a new Technician license. The blind exam differs from the normal an exam as it does not contain the schematic drawings and the questions are read to the applicants by the VE who then marks the answer on the answer sheet.

The blind exam seemed like a great opportunity to try an online exam using video conferencing. Maria Somma, AB1FM, ARRL VEC manger approved conducting the blind exam online with the applicant and all three VEs on ZOOM.

The paperwork was emailed to the applicant to be completed and mailed back to me along with a copy of his ID and the check for the fee. Once the exam was completed and graded, the paperwork was taken to the other VEs to be checked and signed.

The three VEs participating in the test session were: Dave Jarvis, N9KZJ, David Spoelstra, N9KT and Jim Rinehart, K9RU. Everything went as planned and the new license was received a couple of days after the test session. BTW, this was more work than I had anticipated.

Special thanks to Jimmie Merry, KA9RPX, Indiana Section Manager for letting us use the Indiana section Zoom for the test session. – K9RU

REMOTELY ADMINISTERED AMATEUR EXAM SYSTEMS SHOWING PROMISE

Facing a growing demand for amateur radio exam sessions in a time of social distancing and stay-at-home orders, sponsors of some Volunteer Examiner (VE) teams have risen to the challenge and are developing systems to remotely proctor test sessions.

"Many of our VEs and VE Teams have been working on remotely proctored exam session ideas, employing both video and in-person components -- following social distancing protocols," ARRL Volunteer Examiner Coordinator (VEC) Manager Maria Somma, AB1FM, said. "We have been receiving interesting and innovative suggestions, and we appreciate the dedication and ingenuity our examiners have shown."

The Spalding County Amateur Radio Club in Georgia is among those that have come up with plans to remotely administer amateur exams while complying with ARRL VEC testing standards during COVID-19 stay-home mandates and social distancing guidelines. Current systems leverage Zoom video-teleconferencing technology, the "Fill & Sign" feature of Adobe PDFs, reliable email, appropriate computer equipment and internet connection, and no volunteer examiners (VEs) present at individual remote test sites. The Georgia club collaborated and shared ideas with the Emergency Amateur Radio Club (EARC) in Hawaii, which has successfully conducted sessions since 2011 with its own remote testing system, initially with paper exams with a proctor on site and now with fillable PDFs, with no on-site proctor.

The Georgia club obtained ARRL VEC approval to administer video-supervised exams. "We have started with testing just one candidate at a time, but are planning to ramp up to multiple candidates -- probably two or three -- simultaneously," club member David Robinson, K4WVZ, told ARRL. "Before we do that, we want a few more single sessions under our belt and a few more Video VEs trained."

The club's procedures entail a pre-exam video interview with candidates to ensure they understand all the requirements and procedures. Following the exam, the VEs score the test and sign off on the paperwork, with the VE Team Leader submitting the application online and by mail, per ARRL VEC instructions.

New England Amateur Radio Inc (NE1AR), an affiliate of New England Sci-Tech, (NESciTech), has taken it one step further, Somma said. It got the approval of ARRL VEC to begin trials of what it describes as "completely online testing with strict rules and protocols for maintaining the integrity of the testing environment." NE1AR is limiting candidates to one exam per session, due to the current candidate backlog and the "difficulty of administering exams online." Candidates must agree to a list of protocols, which include a cell-phone camera scan of the entire room and

exam area "to show that there are no materials or people [in the room] that could aid in taking the exam."

"We began a series of trials on April 1 under ARRL VEC review and have now been asked to help train more VE teams on the process," NE1AR President Bob Phinney, K5TEC, told ARRL. "We have now tested 12 applicants and are still working on streamlining the process. We are working with the software developer of the exam delivery system to help them adapt the system for video-supervised testing."

With pressure continuing to build to provide testing compatible with COVID-19 guidelines and stay-home orders, ARRL VEC Manager Maria Somma has asked the amateur radio community to be patient. "Please remember that with the introduction of significant new processes such as these, that there should be proof of concept, establishment of protocols and procedures, and beta testing, before expanding to a larger audience," she said this week. Somma said video-supervised exam sessions require a different skill set than in-person exam administration, and not all teams will be equipped to deliver video exams right away.

"ARRL is pleased to be one of the leaders in providing an opportunity, although limited initially, for video-supervised exams in this time of social distancing and isolation required by the current health situation," Somma said. Read more.

FCC PROVIDING FLEXIBILITY TO VOLUNTEER EXAMINERS IN DEVELOPING REMOTE TESTING METHODS

The FCC has clarified that nothing in its rules prohibits remote amateur radio testing, and no prior approval is needed to conduct remote exam sessions.

“The Commission provides flexibility to volunteer examiners and coordinators who wish to develop remote testing methods or to increase remote testing programs already in place,” the FCC said in an April 30 news release. “We recognize that some volunteer examiner coordinators may not have the immediate capacity for widespread remote testing. We expect those volunteer examiner coordinators with limited remote testing capacity to work closely with those requesting such testing to prioritize any available remote testing slots.”

ARRL Volunteer Examiner Coordinator Manager Maria Somma, AB1FM, said she’s gratified to see that the FCC appreciates the need for remote testing. “Many of our VEs and VE Teams have been employing remotely proctored exam sessions with both video and in-person components, and following social-distancing protocols, where necessary” she said. “Some ARRL VE teams have shown great promise in administering exams remotely.” Somma also said that as states begin to lift restrictions, the possibility exists to restart in-person amateur radio exam opportunities.

“We urge our VE teams to keep up to date so they can make informed decisions based on local community guidelines, as each community is unique,” she said. “Our volunteers should use their best judgement when deciding whether or not to begin conducting in-person exam sessions. It is important to us that you feel confident when choosing your course of action, because the health and safety of our VEs and the examinees is the top priority. VE teams that choose to conduct in-person sessions should re-start consistent with local restrictions and guidelines.”

To find amateur radio license exam sessions in your area, visit the ARRL website. Candidates should verify with their VE teams that the exam session *is* being held and if any special procedures are required to attend. --ARRL Letter

BALLOT COUNTING POSTPONED FOR THE INDIANA ARRL SECTION MANAGER ELECTION

During these unprecedented times of social distancing and staying at home, the ARRL Ethics and Elections Committee (E&E) has postponed ballot counting for four contested Section Manager elections.

Since March 23, ARRL Headquarters staff has been working remotely under the Governor of Connecticut's mandate, which is currently in effect through May 20 and may be extended into June. The ballots for the Section Manager races in Illinois, Indiana, Oregon, and Maine were scheduled to be counted on Tuesday, May 19 as directed by the ARRL rules and regulations for Section Manager elections.

Due to the circumstances,ARRL Interim CEO Barry Shelley, N1VXY, asked the E&E Committee for an extension that would allow ballot counting to happen as soon as practicable before mid-June.

Although this extension was granted, it does not change the Friday, May15, 2020 deadline for ballots to be received at ARRL HQ. Standardoperating practice dictates that any ballots received after this deadline will not be counted. The Governor's mandate and social distancing practices do not affect this section of the election rules.

Terms for election winners are scheduled to begin on July 1, 2020. ARRL hopes to see the Governor's restrictions relaxed in time to have a team of tellers inside HQ to count the ballots and publish the elections' results in enough time that the terms of office will not change. The E&E Committee will have to decide the course of action, should any unforeseen circumstances not allow the ballots to be counted by mid-June. The safety of our staff and members remains the highest priority as we work through these difficult times. Thank you for your understanding. --ARRL Letter

ARRL ANNOUNCES NEW BENEFITS FOR MEMBERS

ARRL members will now receive digital access to four ARRL magazines beginning with their May/June issues. Joining *QST* and *On the Air* magazines on a digital platform will be the bimonthly editions of *QEX -- The Forum for Communications Experimenters* and *NCJ -- National Contest Journal*. *QEX* includes articles, columns, and other features ranging from construction projects to more advanced technical information in radio theory and practice. *NCJ*, published since 1973, targets radio amateurs active in radiosport. *NCJ* includes scores, technical articles, contributions from top contesters, and advice for beginners and seasoned radiosport enthusiasts alike.

"Feedback from ARRL members and our readership surveys has shown that our magazines are one of the most valued member benefits," said ARRL Publications Manager Steve Ford, WB8IMY. "Our investment in digital access provides another channel through which we can deliver content to our members across the expanse of interests and activities in amateur radio. All members can enjoy specialized content and a high-quality reading experience whether at their desk or on the go. Offering this suite of digital magazines is an opportunity for us to give members more of what they want while adding value to ARRL membership."

ARRL's digital magazine editions provide replicas of the printed editions with added functionality, allowing users to fully search issues, enlarge pages, share articles, and more. The free *ARRL Magazines* app also supports downloading complete issues onto your mobile device or tablet for offline reading.

Members who have elected to receive a printed *QST* or *On the Air* as part of their membership benefits will continue to have this service. Members may not substitute a print subscription of *QEX* or *NCJ* as their delivered magazine member benefit. Print subscriptions of *QEX* and *NCJ* will continue to be available at additional cost for those who want to receive them.

All four magazines are easily accessed through any web browser from members-only links. The free *ARRL Magazines* app is available for iOS and Android in the Apple App Store and Google Play. If you're already an ARRL member and previously created an **arrl.org** website account, your username and password will provide you access to the digital editions, whether online or in the app. Members who have not previously registered will need to create a new account. If you've forgotten your password, visit www.arrl.org/forgot-password, or email circulation@arrl.org for assistance.

Previous and prospective members can join ARRL and take advantage of this and other membership benefits. --ARRL

NEW VOLUNTEER MONITOR PROGRAM IS UP AND RUNNING

After kicking off on January 1, the new Volunteer Monitor Program has ramped up to operational status. A "soft rollout" of the program began on February 1, designed to familiarize Volunteer Monitors (VMs) with issues on the bands and to put into practice what to report -- and what to ignore, based on their training. The VMs will not only be looking for operating discrepancies, but for examples of good operating. The VM program has, at least for the moment, put Riley Hollingsworth, K4ZDH, back in the center of amateur radio enforcement as the Volunteer Monitor Coordinator (VMC). He was brought aboard to get the program up and running, and ARRL will eventually take over the VMC function.

Hollingsworth is using a system called *VMTRAC* -- developed by a VM -- to measure the work of VMs and determine instances that qualify for good operator or discrepancy notices, referral to the FCC, or follow-up with FCC requests to the VM program. Hollingsworth reported that during March, the 165 active VMs logged upward of 2,300 hours of monitoring on HF, and nearly 2,000 hours on VHF-UHF and other frequencies.

"I am extremely pleased with the number of hours devoted to monitoring this early in the program," Hollingsworth said. No stone is being left unturned. Two VMs constantly monitor FT8 watering holes and have developed programs that alert them if a licensee is operating outside of privileges accorded to that license class or if a license has expired. "We have 30 open cases, five of which are good operator cases," Hollingsworth said. "Regarding open cases relating to rule violations, none have yet had to be referred to the FCC." He said he's experimented with letters, telephone calls, or emails to the subjects of discrepancy reports where they could be identified. While he's still waiting for replies to his written correspondence, he has received responses to his calls and emails, and the violations have either stopped or were explained. "They were violations such as expired licenses, Technicians operating on General frequencies, unauthorized use of a call sign, and deliberate interference," he said.

One case "being groomed for FCC referral," he said, involves long-standing interference to a repeater in the Philadelphia area by someone using an unauthorized call sign. Hollingsworth said he worked with net control operators of nets on 75 and 40 meters that had been suffering serious interference, and so far the solutions are working.

"It is becoming apparent that if informal contact can be made by the VMC with a known offender, the problem can sometimes be stopped," Hollingsworth said. "We do not want to call upon the FCC unless absolutely necessary." Read more. --ARRL Letter

RESOLVING SUNSPOT NUMBER CONFUSION

*Recently, well-known contester and DXer Frank Donovan, W3LPL, reviewed NOAA's official upda**ted*** solar *cycle* prediction. Noted propagation authority Carl Luetzelschwab, K9LA, followed up.

In his discussion, Donovan commented that the International Sunspot Number is typically about one-third lower than the Space Weather Prediction Center (SWPC) sunspot number. There's a good reason for this discrepancy, and it should be resolved in the near future. Let's look at how we got into this confusing situation, and what the solution is.

We have sunspot records back to Solar Cycle 1 (and even earlier). The official sunspot number originally came out of Zurich, but now originates from the Royal Observatory of Belgium. In 1848, Rudolf Wolf devised the equation for the sunspot number. It involves the number of sunspot groups, the total number of individual spots in all the groups, and a variable scale factor. We were happy with this until 2011, when the first of four workshops were held to review the sunspot data due to concerns that the scale factor may have been skewing the data. The result of the four workshops was an entirely new sunspot record.

The biggest difference is the scale factor of 0.6 that had been used and is no longer considered valid, based on corroborating data. This change raised the revised (Version 2.0) data over the former (Version 1.0) data by 1/0.6. The Royal Observatory of Belgium started reporting Version 2.0 sunspot numbers on July 1, 2015. Keep in mind that the V2.0 record *all the way back to Cycle 1* changed, too). Now, if we go to the Table of Recent Solar Indices (Preliminary) of Observed Monthly Mean Values' in the data tab, we'll see the following SWPC predictions. Columns 1 and 2 are the year and month. Columns 3, 4, and 5 are the monthly mean sunspot numbers per Space Weather Operations (with the SWPC), per the Royal Observatory of Belgium (RI is also known as the International Sunspot Number), and the ratio between the two. Columns 6 and 7 are the smoothed sunspot numbers per SWO and per the Royal Observatory of Belgium (RI). Note that the smoothed sunspot numbers are 6 months behind the monthly mean sunspot numbers. That's because of how the smoothed sunspot number is determined.

So, the discrepancy that W3LPL talked about is between the SWO values and the RI values; the SWO group never applied the 0.6 scale factor to its sunspot count, and thus the SWO values are essentially the Royal Observatory of Belgium Version 2.0 data. The RI values reported by SWO are the Royal Observatory of Belgium Version 1.0 data. In the graph, the V1.0 data is in blue and the V2.0 data is in orange. The SWO data (in gray) indeed follows the V2.0 data, and the RI data, in yellow, follows the V1.0 data.

To resolve this discrepancy going forward, SWO plans to change RI to V2.0 data at solar minimum, when the V1.0 data should be equal, or extremely close, to the V2.0 data. So, the SWO data, for all intents and purposes, will be equal to the RI data. That should resolve the confusion with sunspot numbers, except for the fact that our old sunspot numbers, to which our propagation predictions were correlated, now are deemed incorrect. -- *Carl Luetzelschwab, K9LA*

FIRST CANDIDATE RELEASE OF WSJT-X 2.2.0 NEXT MONDAY, MAY 10

WSJT-X 2.2.0-rc1 will be a beta-quality release candidate providing a number of new features and capabilities. These include improvements to the decoders for five modes:

FT4: Corrected bugs that prevented AP decoding and/or multi-pass decoding in some circumstances. The algorithm for AP decoding has been improved and extended.

FT8: Decoding is now spread over three intervals. The first starts at t = 11.8 s into an Rx sequence and typically yields around 85% of the possible decodes for the sequence. You therefore see most decodes much earlier than before. A second processing step starts at 13.5 s, and the final one at 14.7 s. Overall decoding yield on crowded bands is improved by 10% or more. (Systems with receive latency greater than 0.2 s will see smaller improvements, but will still see many decodes earlierthan before.)

JT4: Formatting and display of Averaged and Deep Search decodes has been cleaned up and made consistent with other modes. JT4 remains the digiaal mode of chice for EME and other extreme weak-signal work on microwaves bands.

JT65: Many improvements for Averaged and Deep Search decodes and their display to the user. These improvements are particularly important for EME on VHF and UHF bands.

WSPR: Significant improvements have been made to the WSPR decoder's sensitivity, its ability to cope with many signals in a crowded sub-band, and its rate of undetected false decodes.

We now use up to three decoding passes. Passes 1 and 2 use noncoheren demodulation of single symbols and allow for frequency drifts up to ±4 Hz in a transmission. Pass 3 assumes no drift and does coherent block detection of up to three symbols.

It also applies bit-by-bit normalization of the single-symbol bitmetrics, a technique that has proven helpful for signals corrupted by artifacts of the subtraction of stronger signals and also for LF/MF signals heavily contaminated by lightning transients.

With these improvements the number of decodes in a crowded WSPR sub-band typically increases by 10 to 15%.

New format for "EU VHF Contest" Tx2 and Tx3 messages When "EU VHF Contest" is selected, the Tx2 and Tx3 messages (those conveying signal report, serial number, and 6-character locator) now use hashcodes for both callsigns.

This change is NOT backward compatible with earlier versions of _WSJT-X_, so all users of EU VHF Contest messages should be sure to upgradeto versiion 2.2.0.

Accessibility Keyboard shortcuts have been added as an aid to accessibility:

Alt+R sets Tx4 message to RR73, Ctrl+R sets it to RRR. As an aid for partial color-blindness, the "inverted goal posts" marking Rx frequency on the Wide Graph's frequency scale are now rendered in a darker shade of green.

Minor enhancements and bug fixes "Save None" now writes no .wav files to disk, even temporarily.

An explicit entry for "WW Digi Contest" has been added to "Special operating activities" on the "Settings | Advanced" tab. Contest mode FT4 now always uses RR73 for the Tx4 message.

The Status bar now displays the number of decodes found in the most recent Rx sequence.
Release candidate WSJT-X 2.2.0-rc1 will be available for beta-testing for one month starting on

May 10, 2020. We currently plan a General Availability (GA) release of WSJT-X 2.2.0 on June 1, 2020.

For those looking even farther ahead: We are well along in the development of two new modes designed for the LF and MF bands. One mode is for WSPR-like activity and one for making 2-way QSOs.

Both use Low-density Parity Check (LDPC) codes, 4-GFSK modulation, and two-minute T/R sequences. The QSO mode reaches threshold SNR sensitivity around -31 dB on the AWGN channel, and the WSPR-like mode better than -32 dB.

With best wishes, -- Joe, K1JT, Steve, K9AN, and Bill, G4WJS

RUSSIAN DOSAAF-85 (RS-44) AMATEUR RADIO SATELLITE TRANSPONDER NOW ACTIVE

The amateur radio linear transponder (SSB/CW) on the Russian DOSAAF-85 (RS-44) has been activated. Dmitry Pashkov, R4UAB, explains that RS-85 is a small scientific satellite built by specialists at Information Satellite Systems and students at Siberian State Aerospace University (SibSAU).

The satellite's name commemorates the 85th anniversary of the Voluntary Society for the Assistance to the Army, Aviation, and Navy (DOSAAF), the organization responsible for the military training of Soviet youth.

This is the third satellite created by the specialists of ISS-Reshetnev and is based on the Yubileyniy platform, which features a hexagonal prism structure with body-mounted solar cells. It was launched into orbit last December 26 from the Plesetsk Cosmodrome and is in an elliptical orbit with a perigee of 1,175 kilometers (729 miles), an apogee of 1,511 kilometers (937 miles), and an inclination of 82.5°.

Transmitter power is 5 W, and the beacon is on 435.605 MHz (identifying as RS44). The transponder is inverting, with uplink centered at 145.965 MHz ±30 kHz, and downlink centered at 435.640 MHz ±30 kHz.

LoTW accepts contacts via DOSAAF-85 as "RS44."

ARISS EXPERIMENTS WITH SCHOOL CONTACTS USING "MULTIPOINT TELEBRIDGE" APPROACH

Amateur Radio on the International Space Station (ARISS) is hoping to adopt a concept it's calling the "multipoint telebridge contact via amateur radio" that will allow stay-at-home students to take part in amateur radio contacts with members of the space station crew. Its initial success on an April 30 contact with youngsters in Northern Virginia should provide some impetus for the initiative.

ARISS has used telebridge stations in the past to enable contacts at times when the ISS orbit does not pass overhead to permit a direct radio contact with the school or other location. In a conventional ARISS telebridge contact, an amateur station ground station in a favorable location for an ISS pass on the scheduled day makes the contact and handles two-way audio between the station and the contact site. ARISS said its new multipoint telebridge approach permits simultaneous reception by families, school faculty, and the public.

"During the last several weeks, efforts to contain the spread of the COVID-19 virus have resulted in massive school closures worldwide," ARISS said this week in a news release. "In addition, the stay-at-home policies invoked by authorities initially shut down opportunities for ARISS school contacts for the near future."

The April 30 event involved 5-to-10-year old pupils. Fred Kemmerer, AB1OC, in Hollis, New Hampshire, who served as the telebridge ground station, linked with a ISS crew member via radio. Homebound students and their teacher were able to take part individually via the telebridge network. Under the teacher's direction, each at-home student was to take a turn to ask the astronaut one question on a prepared list, although unrelated technical issues aboard the ISS curtailed the contact.

"This approach is a huge pivot for ARISS, but we feel it is a great strategic move," said ARISS-International Chair Frank Bauer, KA3HDO. "In these times of isolation due to the virus, these ARISS connections provide a fantastic psychological boost to students, families, educators, and the public. And they continue our longstanding efforts to inspire, engage, and educate students in STEAM [science, technology, engineering, the arts, and mathematics] subjects and encourage them to pursue STEAM careers." -- *Thanks to ARISS*

RADIO AMATEUR FINDS ANOTHER "ZOMBIE SATELLITE"

British Columbia radio amateur Scott Tilley, VE7TIL, has found another "zombie satellite," as he calls them. This time, he tracked and identified radio signals from the experimental UHF military communication satellite LES-5. Tilley says he found the satellite in what he called a geostationary "graveyard" orbit after noting a modulated carrier on 236.7487 MHz.

"Most zombie satellites are satellites that are no longer under human control, or have failed to some degree," Tilley told National Public Radio (NPR) earlier this month. It's not clear whether LES-5 is still capable of receiving commands.

LES-5 was built by MIT's Lincoln Laboratory and launched in 1967 as part of the military's Tactical Satellite Communication Program. It was supposed to shut down in 1972, but it continues to operate as long as its solar panels are facing the sun.

What intrigued Tilley about LES-5 was that it might be the oldest functioning geostationary satellite in space. After British Columbia went on lockdown due to the COVID-19 pandemic, Tilley found himself with a lot of free time for such a search. He located LES-5 on March 24.

From his home in Roberts Creek, British Columbia, Tilley, an amateur astronomer, routinely scans the skies for radio signals from classified objects orbiting Earth. Since he started, he's located dozens of secret or unlisted satellites.

In 2018, while hunting for an undisclosed US government spacecraft lost in a launch mishap, he spotted the signature of IMAGE (Imager for Magnetopause-to-Aurora Global Exploration), a NASA spacecraft believed to have died in December 2005. The discovery delighted space scientists. NASA and another ham in the UK confirmed his finding. Launched in 2000 on a mission to monitor space weather, IMAGE mapped plasma patterns around Earth.

THE CLAIMED TRANSATLANTIC RECORD ON 2 METERS HAS BEEN EXTENDED TO NEARLY 4,760 KILOMETERS (2,951 MILES).

"The incredible tropo conditions between Cape Verde Islands and the Caribbean continue to amaze with transatlantic contacts on 144 MHz and 432 MHz being made," John Desmond,

EI7GL, said in a blog post. The April 8 FT8 contact was between D4VHF in the Cape Verde Islands and PJ2BR on Curacao. The distance covered was some 300 kilometers greater than the previous transatlantic record, set last summer by D41CV and NP4BM. The new 2-meter transatlantic record distance is about 10 kilometers short of the IARU Region 1 tropospheric propagation record on that band, Desmond said. On April 7, an operator at D4VHF and Burt Demarcq, FG8OJ, on Guadeloupe completed the first direct transatlantic contact on 70 centimeters, spanning 3,867 kilometers (2,398 miles) using FT8.

GARMIN SEEKS FCC RULING OR WAIVER TO OBTAIN CERTIFICATION FOR PART 95/PART 25 DEVICE

The FCC is seeking public comment on an April 24 request by Garmin International for a declaratory ruling or a rules waiver to obtain equipment certification for a handheld unit that combines a low-power, terrestrial Part 95 Multi-Use Radio Service (MURS) transmitter and a Part 25 emergency satellite communication module in the same device. Section 95.2761(c) precludes combining MURS transmitting capabilities in equipment that is also capable of transmitting in another service, with the exception of Part 15 unlicensed services.

Garmin's proposed product is a handheld unit that will include two transmitters: a low-power MURS transmitter for short-range terrestrial communication, and a previously certified Part 25 module that will allow emergency communication via the Iridium satellite system under a blanket license held by Iridium. End users would have to subscribe to the Iridium service.

Garmin argues that the purpose of the original equipment authorization restriction was "to prevent consumer confusion with other terrestrial services that either had different licensing regimes or were for different types of communications" and that it is inappropriate in this case. Garmin asserts that a waiver would serve the public interest because "the certified Part 25 module in the MURS unit would allow emergency communications to the outside world at the push of a button." The FCC seeks comment on the waiver request.

Comments are due by May 28, with reply comments due by June 13. Interested parties may file short comments via the FCC's Electronic Comment Filing Service (Express). Visit the FCC's "How to Comment on FCC Proceedings" page for information on filing extended comments. --ARRL

SHORTS

RSGB's RadCom Magazine May Edition Available to All Online --As another facet of the Radio Society of Great Britain (**RSGB**) "**Get on the air to care**" campaign, the May edition of *RadCom* magazine is being made available to radio amateurs around the world online as a **sample edition**. A number of International Amateur Radio Union (IARU) member-societies have taken similar steps. — *Thanks to RSGB General Manager Steve Thomas, M1ACB, via IARU*

Special Events Commemorate the End of World War II – Several special event stations are on the air to mark 75 years since the end of World War II. In the UK, GB4VVV ("V for victory"), and G0SFJ will operate through May 11. Listen for GB75VET through May 28. The Guernsey Amateur Radio Society is operating GU75LIB May 6 – 12 to mark the liberation of Guernsey in World War II. The RSGB Contest Club will field special call signs GB1945PE, GB1945PJ, and GB75PEACE through May and again during August 1 – 31 to mark victory in Europe and Japan. From Norway, LI8MAI celebrates the end of World War II in Europe on May 8, 1945. Operation will continue through the end of May. From Israel, 4Z75V and 4X75V will be on the air until May

10. From Serbia, listen for YT5DP until May 31. Many Russian stations will use special prefix RP75 until May 9. The letter P stands for “pobeda,” which means “victory.” This is not intended to be a comprehensive list of special event stations marking the end of World War II. — *Thanks to* The Daily DX

Japanese hams have additional frequencies on 160 meters and 80 meters. Before these changes, frequency restrictions made it difficult for JA hams to participate in the newer digital modes on these bands. One big contest implication: On the low end of 160 meters you'll now be able to hear JA hams from 1.800 to 1.875 MHz (in addition to the existing allocation above 1.9 MHz).

HAM RADIO in Friedrichshafen, Germany, Announces Cancellation of 2020 Show - The annual HAM RADIO show in Friedrichshafen, Germany, has decided to cancel its 2020 show due to the COVID-19 pandemic. According to the announcement, HAM RADIO acted in accordance with an April 15 decision by federal and state authorities that no major events are to take place until August 31. HAM RADIO 2020 was set for June 26 - 28. The event is Europe's major ham radio show, attracting some 15,000 visitors from around the world each summer, including a contingent from ARRL. This year's show would have been the 45th HAM RADIO.

"Our members, domestic and foreign guests, and we ourselves have been hit hard by this decision, which now became necessary to make on short notice," said Deutscher Amateur Radio Club (DARC) President Christian Entsfellner, DL3MBG. "Until we get together again in Friedrichshafen, we as amateur radio operators are looking forward to keeping in contact with one another using amateur radio."

On the HAM RADIO website, exhibitors, including DARC, will offer a virtual show.

Ham-Com Cancels 2020 Show – will not take place in 2020, due to the COVID-19 pandemic. “While we have held out hope that this year we would be able to host Ham-Com 2020 as a light at the end of the long tunnel of the COVID-19 virus, it is with great sadness that we must inform all that we are canceling Ham-Com 2020, with the event postponed until June 17, 18, and 19, 2021,” Ham-Com Board of Directors President Bill Nelson, AB5QZ, said in a statement. “Payments made to Ham-Com for the 2020 event for general admission, vendor booths, and flea market tables will also be rolled to the 2021 event. Thank you for your understanding and we are looking forward to the next Ham-Com.”

The ARRL/TAPR Digital Communications Conference (DCC) will be held online this year, due to the coronavirus pandemic. Originally planned for Charlotte, North Carolina, the 2020 ARRL-TAPR DCC will take place as an online virtual conference on the same dates, September 11 - 13. Details of the virtual DCC will be announced in the coming months as event plans are finalized. Plans call for holding the 2021 DCC in Charlotte.

Amateur radio operators affiliated with the American Red Cross will conduct a nationwide communication drill on May 30. The drill will simulate the types of message traffic that are typical of a national disaster response, such as a hurricane or wildfire. Hams will utilize digital modes to move a variety of Red Cross data, with special focus given to methods that do not require infrastructure, such as a repeater or the internet. The drill features a local option where ARES organizations can work with local Red Cross chapters to drill local and regional functionality. For more information, contact ARRL Rhode Island Section Emergency Coordinator Paul Silverzweig, W1PJS. -- *Thanks to Brian S. McDaniel, N4AE, executive director, American Red Cross of the Illinois River Valley*

Touch Portal is a "macro remote control for PC or Mac" that some hams are using to better automate their ham shacks. Buttons are placed on the screen, and "execute several actions with one press." The program works across a wide range of operating systems and devices, including those with older versions of operating systems, so you could find renewed purpose for

those old smart phones or tablet devices. There's a free version that may well do everything you need.

***VOACAP* (Voice of America Coverage Analysis Program) is a modeling tool for radio propagation to predict path losses and probability of successful communication between two points on the globe**. *VOACAP* models can be used different forms, including stand-alone program and derivate works for your computer, as well as at least one online version. You can look for overall path predictions using the VOACAP.com website, and predict paths to various parts of the globe during contest periods. If you're targeting a specific location, you can use the steps outlined by the VOACAP.com site's owner OH6BG in a recent tweet to find the date and times of common gray line between two locations.

THANKS FOR READING !

THE RCA ARC MONTHLY NEWSLETTER IS COMPILED AND EDITED BY JIM RINEHART, K9RU AND JIM KEETH, AF9A. ALL MATERIAL CONTAINED HEREIN IS OBTAINED FROM THE SOURCES CREDITED AND EDITED FOR THIS NEWSLETTER. EMAIL TO mail to:WebMaster@w9rca.org. Check our web site at http://www.w9rca.org