



RCA Amateur Radio Club Indianapolis, IN

www.w9rca.org



MARCH 2021

MONTHLY NEWSLETTER

A VIRTUAL ZOOM MEETING WILL BE SCHEDULED FOR
TUESDAY MARCH 9th AT 7:00 EST
INVITATIONS TO JOIN WILL BE EMAILED BY MARCH 8th

RCA ARC NEWS

THE MARCH 9th MEETING – For the March 9th meeting, we shall again use a Zoom virtual meeting. The meeting will start at 7:00 pm and is being hosted on the Indiana ARRL Section Zoom courtesy of the Indiana SCM Jimmy Merry, KC9RPX.

You will receive an email message with a link, meeting ID and password by March 8th. 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. You can also use your phone and call in using the numbers listed in the email for the session.

FEBRUARY MEETING SUMMARY – Thanks to all who attended our February Zoom meeting. Jim, K9RU, and Dick, W9ZB, discussed their experiences during the VHF – UHF contest which was held in January. A general discussion followed concerning the use of FT8 in contests and other operating activities. Jim, K9RU, reported there has been a huge increase in the number of people wanting license testing. The February test session was “sold out” weeks before the posted testing date. We had 107 people wanting to sign up for the 20 seats at the test session. Brian, W9IND, has begun planning for this years' Field Day with the first organizational meeting of the Indy United Field Day ARC to be held in the early of March.

AMATEUR RADIO LICENSE TEST SESSION

March 13, 2021 Starting at 12:00 pm **by appointment only.**

(**REQUIRED: FRN and completed form NCVFC 605 and a FACE MASK.**)

Location: Salvation Army EDS Training Facility, 4020 Georgetown Rd
Indianapolis, IN 46254-2407

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

The next test session will be: April 10, 2021

2021 ARRL FIELD DAY, JUNE 26-27 PLANNING – Planning has started for 2021 ARRL Field Day and the RCA ARC will participate with the Indy United ARC again this year.

We are facing another year of uncertainty from the pandemic – but like 2020, we intend to plan for a semi-normal Field Day and make adjustments as we learn more.

The operation will be similar to last year, operating from Victor Conservation Club, with stations on CW and on SSB plus a VHF and GOTA station.

The RCA ARC has been responsible for the VHF station and operation for the last 3 years.

So what's new in 2021? Part of the plan is to give our GOTA rookies on-air training before Field Day. So if you know of any GOTA 2021 prospects, including “generally inactive” hams and newbies licensed since the last Field Day, please pass them along. --Jim K9RU

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

March 6-7	ARRL DX CONTEST PHONE - http://www.arrl.org/arrl-dx
March 20	Wabash Valley Hamfest https://www.w9uuu.org/hamfest.php
March 27-28	CQ WPX Phone Contest - https://www.cqwpw.com/
May 1	Indiana QSO Party - http://www.hdxcc.org/inqp/rules.html
May 8	INDY 500 Mini-Marathon - Virtual race again this year.
May 21-23	DAYTON HAMVENTION – cancelled
June 26-27	ARRL Field Day
July 9-10	Indianapolis Hamfest - http://indyhamfest.com/

For more contest info: <https://www.contestcalendar.com/contestcal.html>

ARRL TO EXTEND FIELD DAY RULE WAIVERS FROM 2020, ADD CLASS D AND E POWER LIMIT

The COVID-19 pandemic-modified [ARRL Field Day](#) rules from 2020 will continue this June with the addition of a power limit imposed on Class D (Home Stations) and Class E (Home Stations-Emergency Power) participants. The news from the ARRL Board's Programs and Services Committee comes as many clubs and groups are starting preparations for Field Day in earnest. Field Day 2021 will take place June 26 – 27.

“This early decision should alleviate any hesitancy that radio clubs and individual Field Day participants may have with their planning for the event,” said ARRL Contest Program Manager Paul Bourque, N1SFE.

For Field Day 2021:

- Class D stations may work *all other* Field Day stations, including other Class D stations, for points. This year, however, Class D and Class E stations will be limited to 150 W PEP output.
- An *aggregate* club score will be published — just as it was done last year. The aggregate score will be a sum of all individual entries that attributed their score to that of a specific club.

ARRL Field Day is one of the biggest events on the amateur radio calendar. Last summer, a record 10,213 entries were received.

“With the greater flexibility afforded by the rules waivers, individuals and groups will still be able to participate in Field Day, while still staying within any public health recommendations and/or requirements,” Bourque said.

The preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions on how to submit entries, which must be submitted or postmarked by Tuesday, July 27, 2021.

The [ARRL Field Day](#) web page contains for complete rules and entry forms, as well as any updated information as it becomes available. Join the ARRL Field Day [Facebook page](#).

ARRL BOARD CONSIDERS PLAN TO COVER NEW \$35 FCC FEE FOR SOME YOUNG APPLICANTS

At its Annual Meeting in January, the ARRL Board of Directors considered a motion to offer a new service that would pay the new but not-yet-implemented \$35 FCC application fee for a limited number of new radio amateurs younger than age 18 who, at the time of testing, belonged to an ARRL-affiliated 501(c)(3) charitable organization and passed their tests through an ARRL VEC-sponsored exam session. The proposal called for reducing the VEC fee for these candidates to \$5. The initial proposal came from ARRL Southeastern Division Director Mickey Baker, N4MB. Other Board members offered subsidiary motions. Supporters said the purpose behind the motion was to ameliorate the potential financial hardship the pending FCC application fee posed on certain minors applying for their first license, and to encourage new youth membership.

Consideration of the motion, which was subject to considerable discussion, was deferred to an ad hoc committee composed of the members of the Administration & Finance Committee, two Members of the Programs & Services Committee, and ARRL CEO David Minster, NA2AA (or his designated representative). The Board directed the panel to review and more fully develop the proposal and report back to the Board by the end of March with a recommendation as to whether such a program should be adopted and, if adopted, how it should be implemented.

Supporters expressed the belief that recruitment and training of young radio amateurs "is a necessary and proper mission of the ARRL" and that subsidizing the \$35 fee "will reduce the number of new amateurs that otherwise would be lost from these groups."

In December, the FCC agreed with ARRL and other commenters that the initially proposed \$50 fee for certain amateur radio applications was "too high to account for the minimal staff involvement in these applications." In a *Report and Order* ([R&O](#)), the FCC scaled the fee back to \$35 for a new license application, a special temporary authority (STA) request, a rule waiver request, a license renewal application, and a vanity call sign application. All fees are per application. There will be no fee for administrative updates, such as a change of mailing or email address. Read [an expanded version](#).

ARRL TO FCC: ADDITIONAL VOLUNTEER EXAMINER COORDINATORS NOT NEEDED

ARRL has told the FCC that no additional Volunteer Examiner Coordinators (VEC) are needed to oversee the administration of amateur radio exams by Volunteer Examiners (VEs). Examination opportunities have continued to be widely available throughout the US — except for a couple of months during the onset of the COVID-19 pandemic — and adding VECs to the 14 now in place would "have no effect" on the number of available exams, ARRL said. ARRL's [comments](#) on February 4 were in response to a January 5 FCC [Public Notice](#) in WT Docket 21-2 seeking input on possible expansion of the VEC pool.

"In response to the Commission's *Notice*, ARRL reviewed the amateur examination numbers for the past 5 years, including the COVID-19 pandemic period," ARRL said in its comments. "We found that even though 10 of the 12 months for calendar year 2020 were times of severe

disruption throughout the nation, including for FCC and ARRL headquarters staff, amateur examination opportunities and numbers were strong.”

Multiple web-based exam opportunities are available across the US, even on short notice, and in-person examinations are available in many areas where local regulation and special safety requirements allow.

“It has never been easier,” ARRL asserted, noting that exam sessions often are available within 2 days but rarely more than 7, if taking advantage of a remote, web-based exam opportunity.

“Instead of increasing the number of VECs, we would encourage volunteers to become accredited as VEs and to volunteer to help the current VECs wherever possible,” ARRL said. “Many of the VECs would welcome help.” ARRL said VEs, not VECs, are responsible for administering amateur radio exams.

ARRL VEC — the nation’s largest — has 30,000 accredited VEs, with 11,000 of them regularly participating in exam activities on a weekly or monthly basis.

The number of new and upgraded licenses has been in line with earlier years, “with noticeable increases in the 4 months following the lockdown that occurred in many areas in the early spring,” ARRL pointed out. New FCC licenses issued in January 2021 numbered 2,838, compared with 2,058 for a year earlier. Upgrades were also up significantly — 920 in January 2021 to 554 for the same month last year.

“The 14 separate and independent FCC-approved VECs readily accredit additional VEs whenever and wherever needed,” ARRL concluded. “Increasing the number of individual VECs would have no discernible benefit.”

Instead, ARRL said, increasing the number of VECs would expand the complexity of VEC coordination and management, increase demand on FCC resources to interface with additional organizations, and raise the potential for abuse and fraud.

FT8 AND THE OTHER WSJT-X DIGITAL MODES ARE "TOOLS," K1JT SAYS

According to *WSJT-X* software co-developer Joe Taylor, K1JT, the very popular FT8 and the other digital modes in the software suite “are tools, freely available to hams who want to use them. They are very good at some things, not so good at others.” Nonetheless, FT8 -- and, by extension, its contest-mode variation, FT4 -- especially have become game-changers on the HF bands, although, as Taylor has explained, FT8 “was explicitly designed” for making contacts during weak, multi-hop, sporadic-E openings on 6 meters.

“It’s extremely good at that,” he added, and noted that transcontinental and intercontinental DX on 6 meters has greatly benefited from the use of FT8 over the past several years. Developed in 2017, FT8 is named after its developers -- Taylor, and Steven Franke, K9AN. The numeral designates the mode’s eight-frequency shift-keying format.

Taylor said that while the development team knew that FT8 would be very useful for weak-signal DXing on HF as well as on 6 meters, it did not foresee that it would have the sort of impact it’s had on HF operating.

Taylor agreed that FT8 is “a mature mode,” with the protocol’s details published in *QEX*. “Details of message structure, in particular, will not change in a way that is not backward compatible,” he said.

Although some FT8 fans may feel the mode is running out of room on some bands, Taylor said that as far as he and his fellow *WSJT-X* developers are concerned, the 3 kHz slices of spectrum

suggested for FT8 use are just that -- suggestions.

"There is no reason why additional slices should not be used when over-occupancy requires it," he told ARRL. "We don't attempt to dictate such usage patterns; band planning is best done by committees created for that purpose."

Many radio amateurs are taking advantage of the FT8 and FT4 modes all the time. FT8 watering holes are sometimes the only places to find signals on bands that otherwise might be considered dead.

The *WSJT* Development Group this week announced the general availability release of *WSJT-X* Version 2.3.0. It includes a new Q65 mode but does not involve any changes to the FT8 protocol. A summary of new features can be found in the *WSJT-X* 2.3 [User Guide](#). The [Release Notes](#) offer additional information, including a list of important program changes since the *WSJT-X* 2.2. Upgrading from earlier versions of *WSJT-X* should be seamless. [Installation packages](#) for Windows, Linux, and Macintosh are available.

IARU AGREES ON PRELIMINARY WRC-23 POSITIONS

The International Amateur Radio Union (IARU) has agreed on its [preliminary positions](#) for World Radiocommunication Conference 2023 (WRC-23), according to Barry Lewis, G4SJH, Chair of IARU Region 1 Spectrum Affairs.

"The preparatory work for WRC-23 has started across all [three] regions in both the ITU's [Radiocommunication Sector] and the Regional Telecommunications Organizations (RTOs)," Lewis said. "The IARU has representatives in these RTOs, and the ITU's contributing to the studies and helping to develop the regional positions on all the WRC agenda items. It is vital that the amateur community presents its views in a consolidated and consistent manner on each WRC agenda item across all the regions."

Lewis said the IARU Administrative Council has agreed on initial preliminary positions covering the six most important agenda items for the Amateur and Amateur-Satellite Services.

The preliminary IARU positions:

- Agenda Item 1.2 -- oppose the identification of 10.0 - 10.5 GHz for International Mobile Telecommunications (IMT) in Region 2 (the Americas), as well as the introduction of a mobile service allocation in the region.
- Agenda Item 1.12 -- support studies that include the need to protect the incumbent amateur service in the adjacent 50 - 54 MHz band. The agenda item calls for studies to establish a possible new secondary allocation for spaceborne radar sounders within a range of frequencies around 45 MHz.
- Agenda Item 1.14 -- support retaining the 248 - 250 GHz primary and the 241 - 248 GHz secondary Amateur and Amateur-Satellite Services allocations.
- Agenda Item 1.18 -- support retention of the amateur secondary allocation of 3300 - 3400 MHz in Regions 2 and 3.
- Agenda Item 9.1, Topic A -- The IARU said, "In considering potential new regulatory provisions for the recognition of space weather systems, additional constraints on incumbent services including the Amateur and Amateur-Satellite Services must be avoided."
- Agenda Item 9.1 Topic B -- The IARU said, "Radio amateurs have successfully co-existed and innovated in the frequency range of 1240 - 1300 MHz for many years, and IARU believes that the regulatory status of the Amateur and Amateur-Satellite Services in this range is already clear."

A "PERFECT CORONAL MASS EJECTION" COULD BE A NIGHTMARE

[A new study](#) in the research journal *Space Weather* considers what might happen if a worst-case coronal mass ejection (CME) hit Earth -- a "perfect solar storm," if you will.

In 2014, Bruce Tsurutani of Jet Propulsion Laboratory (JPL) and Gurbax Lakhina of the Indian Institute of Geomagnetism introduced the "[perfect CME](#)." It could create a magnetic storm with intensity up to the saturation limit, a value greater than the [Carrington Event](#) of 1859, the researchers said. The interplanetary shock would arrive at Earth within about 12 hours, the shock impingement onto the magnetosphere would create a sudden impulse of around 234 nanoteslas (nT), and the magnetic pulse duration in the magnetosphere would be about 22 seconds. Orbiting satellites would be exposed to "extreme levels of flare and interplanetary CME (ICME) shock-accelerated particle radiation," they said. The event would follow an initial CME that would "clear the path in front of it, allowing the storm cloud to hit Earth with maximum force."

The CME's 12-hour travel time would allow little margin for preparation. The CME would hit Earth's magnetosphere at 45 times the local speed of sound, and the resulting geomagnetic storm could be as much as twice as strong as the Carrington Event. Power grids, GPS, and other services could experience significant outages.

More recent [research](#) led by physicist Dan Welling of the University of Texas at Arlington took a fresh look at Tsurutani and Lakhina's "perfect CME," and given improvements in spaceweather modeling, he was able to reach new conclusions.

Welling's team found that geomagnetic disturbances in response to a perfect CME could be 10 times stronger than Tsurutani and Lakhina had calculated, especially at latitudes above 45 to 50°. Read [an expanded version](#).

PLANS TO RETRIEVE TITANIC WIRELESS EQUIPMENT PUT ON INDEFINITE HOLD

RMS Titanic, Inc., (RMST) the company that owns salvage rights to the *Titanic* shipwreck, has indefinitely put off its plans to retrieve the vessel's radio equipment for exhibit. The company cited the coronavirus pandemic for the delay, according to a January 29 court filing. The Atlanta-based company said its plans have faced "increasing difficulty associated with international travel and logistics, and the associated health risks to the expedition team." RMST's primary source of revenue comes from its exhibits of its vast collection of *Titanic* relics, which have been closed or seen only limited attendance due to virus-related restrictions.

RMST -- a subsidiary of Premier Exhibitions and the "salvor-in-possession" of the *Titanic* wreck site -- said its planned expedition to recover the ship's wireless station equipment remains a top priority, however, and will "take place as soon as reasonably practicable." The Marconi-equipped station transmitted the distress calls after the *Titanic* (on its maiden voyage) struck an iceberg some 370 miles off the coast of Newfoundland in 1912 and began sinking. The transmissions, heard by some nearby vessels, have been credited with helping rescue some 700 passengers in lifeboats deployed from the *Titanic*, but about 1,500 passengers were lost.

RMST has been in an ongoing legal battle with the US government over whether the recovery operation would be legal. In May 2020, a US federal judge in Virginia gave permission to retrieve the wireless gear, ruling that the company would be permitted "minimally to cut into the wreck" to access the radio room.

RMST has said the radio room may be reachable via an already-open skylight. But, the National Oceanic and Atmospheric Administration (NOAA) has contended that the retrieval expedition is

still prohibited under US law and under an international agreement between the US and the UK.

The wreck, some 2 1/2 miles beneath the surface, remained undiscovered until 1985. Read [more](#).

INNOVATOR ULRICH ROHDE, N1UL, DONATES SOPHISTICATED VECTOR SIGNAL GENERATOR TO ARRL



ARRL Life Member Ulrich Rohde, N1UL, has donated a [Rohde & Schwarz](#) SMBV100A vector signal generator to the ARRL Laboratory. The device offers internal signal generation for all major digital radio standards. "That is absolutely fabulous news and extremely generous," ARRL CEO David Minster, NA2AA, told Rohde.

ARRL Laboratory Manager Ed Hare, W1RFI, said the instrument will be a valuable addition to the Lab's testing capabilities.

"We will be able to do more comprehensive tests on modern radios, almost all of which use software-define radio technology," Hare said. "We will also be able to add testing of receivers' digital capability. The flexibility of this generator will serve the Laboratory for years to come."

Hare said he was looking forward to learning more about the SMBV100A once it's installed at the Lab. "The potential is really exciting," he said. "As always, we appreciate the support that Ulrich Rohde has given to the Lab over the past several decades."

Rohde said vector signal generators are the logical successors to the older AM/FM modulation-capable signal generators and have practically unlimited capability. "For some of the tests required to characterize a software-defined radio (SDR), we need different test equipment," he said. Rohde noted that the SMBV100A has a built-in arbitrary waveform generator capable of operating up to 6 GHz, with "many complex signals in its library, and also has the familiar AM/FM simple mode"

Going from analog to digital SDRs, large-signal behavior is best determined with special multi-carrier signals, Rohde said. Instead of a two-tone test signal for, say, measuring IF characteristics, the SMBV100A can generate up to 30 discrete tones. Rohde said the SMBV100A can produce any signal "as long as you can describe it mathematically," even an FT8 signal. The

bottom line is a more realistic test result.

Rohde said that in 1982, while he headed the Department of Defense Radio Division at RCA, he and his engineering group "invented what is now called the software-defined radio," which was considered classified military information at the time.

BRITISH COLUMBIA RADIO AMATEUR COPIES SIGNAL FROM MARS-ORBITING SATELLITE



As reported on [Spaceweather.com](https://spaceweather.com), Canadian radio amateur Scott Tilley, VE7TIL, of Roberts Creek, British Columbia, has snagged another signal from deep space. His latest conquest has been to copy the signal from China's [Tianwen-1](#) (pronounced "tee-EN-ven") probe, which went into orbit around Mars on February 10. Tilley told Spaceweather.com that the probe's X-band signal was "loud and audible."

"It was a treasure hunt," Tilley told Spaceweather.com. He explained that while the spacecraft did post its frequency with the International Telecommunication Union (ITU), it was too vague for precise tuning (X band is between 8 GHz and 12 GHz).

Launched last July, Tianwen-1 represents China's first Mars mission. It consists of an orbiter and a rover, which will land on the Martian surface in May or June 2021. It is able to photograph the planet's surface while in orbit.

Finding signals from deep space is a sub-hobby for Tilley, who seeks what he calls "zombie satellites" among other signal sources. In 2020, he tracked and identified signals from the experimental UHF military communication satellite LES-5.

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.

Tilley has also picked up signals from NASA's [Mars Reconnaissance Orbiter](#), and the United Arab

Emirates Hope probe, both orbiting Mars some 124 million miles away.

He uses a homemade 60-centimeter dish and relies on software-defined radios (SDRs) to accomplish the task.

Radio amateurs have been listening for signals from space since the 1957 launch of Sputnik 1, which transmitted at around 20 MHz. Read [an expanded version](#).

AMATEUR RADIO HELPING TO FILL EARTHQUAKE REPORT "DONUT HOLES"

An [article](#) describing how radio amateurs can help fill the information "donut hole" by providing post-earthquake "Did You Feel It" (DYFI) reports via [Winlink](#) HF radio email appeared on February 22 in the American Geophysical Union (AGU) magazine *Eos*. As the article points out, "Ham radio networks gear up to provide real-time, on-the-ground information about earthquake shaking and damage when other communication pathways are knocked out of commission." Authors of the article were David J. Wald of the US Geological Survey (USGS), Vincent Quitoriano, and Oliver Dully, K6OLI.

As the article explains, DYFI uses a questionnaire to gather individuals' experiences and observations, and USGS uses the information to evaluate the shaking intensity at that person's location. DYFI has been in operation since 1999 in the US and 15 years around the world, during which the USGS has gathered more than 5 million individual DYFI intensity reports.

The article notes that a potential problem is that "public access to it may be compromised as a result of strong earthquake shaking," with affected individuals experiencing power and communication outages or may be distracted by more immediate priorities.

"USGS and other global seismic network operators have witnessed felt report 'donut holes' in areas of strong shaking due to loss of internet communication," the article said, "most recently during the magnitude-5.7 earthquake that hit near Salt Lake City in March 2020." The article suggested that "alternative pathways" of communication are needed to "gather important ground-truth shaking data with minimal delay." And this is where amateur radio groups come into play.

"We now expect to sample the donut hole with the help of amateur radio groups worldwide," the article's authors said. "These groups can mobilize a significant number of licensed radio operators after a strong earthquake, especially near large population centers, ensuring a baseline level of macroseismic intensity reporting even in heavily affected areas."

As the article explains, USGS has partnered with [Winlink](#), a radio email platform with more than 28,000 users worldwide, and with ARRL Amateur Radio Emergency Service (ARES®) members. Winlink adapted the USGS DYFI questionnaire to its platform, and this version is now available to all radio amateurs, the article said. Read [an expanded version](#).

ARRL INTERVIEW EXPLAINS BACKGROUND OF HAM RADIO IN SPACE FILM SHORT

Josh Tanner, the Australian filmmaker who produced the thriller [Decommissioned](#) by Perception Pictures, has explained how he came up with the idea to develop the movie short. In the approximately 6-minute film, SuitSat returns in the future to haunt International Space Station commander "Diaz," played by Joey Vieira, who spots SuitSat, the surplus Russian *Orlan* spacesuit that Amateur Radio on the International Space Station ([ARRL](#)) turned into an amateur radio satellite several years ago.

An exclusive ARRL [video interview](#) premiering on Saturday, February 27, brings together Tanner,

who directed the sci-fi horror film about an eerie ham-radio-in-space reencounter, and ARISS-International Chair Frank Bauer, KA3HDO. In the interview, conducted by ARRL volunteer Josh Nass, KI6NAZ, of the popular YouTube channel [Ham Radio Crash Course](#), Tanner described the uniquely creative and technical aspects of the filmmaking involved in *Decommissioned* and its connection with the real-life *SuitSat-1*.

"My wife, Jade, who is also a co-writer of this short film, and I are both really obsessed with space, and we discovered SuitSat on Wikipedia," Tanner said in the interview. "It was an initial sort of two-pronged reaction. One, this is genius. It's amazing that they did this; I'd never heard this before. And the second one was, this is kinda creepy...that they had what looks like a stranded, dead astronaut floating around the Earth...and there were voices of children being transmitted from it."

SuitSat-1 transmitted a voice message, "This is SuitSat-1 RSORS!", in several languages, plus telemetry and a slow-scan TV image on an 8-minute cycle as it orbited Earth. Tanner said a lot of the films he produces involve "pieces of history that are rather quite odd or interesting that maybe a lot of people don't know about."

Bauer described the background of the 2006 SuitSat project, which involved ARISS's relationship with Sergey Samburov, RV3DR. Samburov was "the initial brainchild" behind the *SuitSat-1* concept, and ARISS ran with it, Bauer recounted.

"We had 3 weeks to pull it all together and get it ready for launch," Bauer said, and that included getting safety approvals. *SuitSat-1* operated for about 2 weeks, and a contest of sorts evolved to guess when it would burn up in the atmosphere, which wasn't until about 6 months later. A *SuitSat-2* was launched from the ISS several years later.

Tanner said the *Decommissioned* script was written about 3 years ago, but creating the realistic atmosphere and sets involved a number of complexities, which was "very expensive," he revealed. A big push toward using video game engine technology in feature-film development made it possible. *Decommissioned* was produced using a game engine called *Unreal Engine*, which was also used to produce the TV show *The Mandalorian*.

Grab your popcorn and avoid a spoiler. ARRL recommends viewing the [short film](#) before watching the 45-minute interview. The interview premieres on ARRL's [YouTube channel](#), Saturday, February 27, at 1600 UTC.

ARRL reminds interested schools and educational organizations in the US that the latest [window](#) to submit proposals to host scheduled ham radio contacts with an ISS crew member opened on February 15. Contacts would be scheduled January 1 - June 30, 2022. Proposals are due to ARISS by 0759 UTC on April 1.

In the US, ARRL is a partner in the ARISS program, along with AMSAT, NASA, and the ISS National Lab, which has kept amateur radio on the air from the International Space Station for 20 years.

TECHNICAL

Mike, K7MDL, thought that the ["PTT Multiplier" from thedxshop.com](#) specifically for the Icom IC-9700 would be of interest to the members of the [Pacific Northwest VHF Society](#). The add-on accessory plugs into the IC-9700's remote and ACC1 socket to provide band-specific PTT signals for each of the 144/432/1296 MHz bands. It also provides a feed-through of the remote and ACC1 signals so "you can still daisy chain on other devices that use the ACC1 or remote sockets." (via PNWVHFS)

Magic-T, Mr. T... one is a signal combiner, the other is an actor. Find out about one of them by watching Steve, VE6WZ's video "[How-to: The Magic-T, or hybrid combiner](#)" Steve's video will help your phased RX antenna plans come together.

Jim, W8ZR, has been [working on an "auto-tuning building block" for homebrew amplifier builders to enable them to build an auto-tuning high-power tube-based linear amplifier](#). His work consists of a reference design for hardware, and software that will control the reference design. He's ready to show off his progress with a [YouTube video](#) discussing the goals of the project, the reference hardware, and demonstrates tuning on the basis of frequency. (via Amps email reflector)

Bob, W2SJ, president of the Mt. Airy VHF/UHF Society, **thoughts on the state of VHF/UHF contesting, and where it might be going in the future.** Bob offered to share *part* of the collective club feedback (special thanks to Mike, N2DEQ, for providing the summary). The part they shared is the "impact of digital modes on minimal SSB activity on 6 and 2 meters" gathered at the club's customary wrap-up meeting that took place after the January VHF Contest. This year, everyone had to be content with a Zoom meeting.

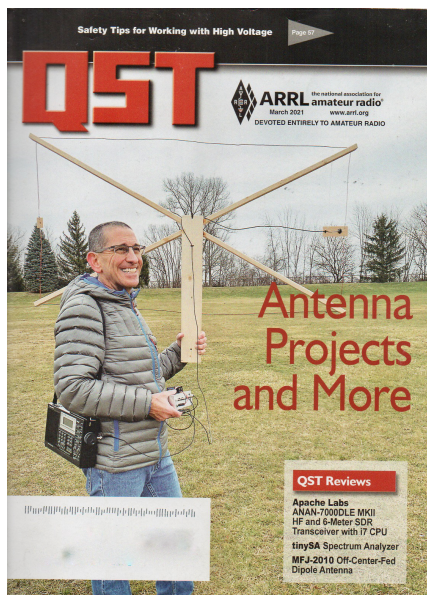
Club member comments generally echoed those that also have been made post-contest by other VHF/UHF contesters: that the newer digital modes are attracting many operators; that the modes are "sticky" and that some operators using them won't attempt to use other modes, even when there would be a rate advantage by doing so; for many "analog" (SSB/CW) operators, using the new digital modes doesn't have the same emotional appeal.

The club members found no hard and fast answers to these concerns, but did focus on recommendations for actions that would help no matter what the underlying reasons might be, and would be responsive to the changing contest landscape. These included:

- Developing FTx mode best practices and communicating them clearly
- Reviewing current practices, improving as necessary, and incorporating FTx mode best practices, being disciplined about using all contact methods possible
- Encouraging more operating time (BIC) during the contest weekend
- Having better coordination with other clubs for contact opportunities

Since the FTx mode software is really only in its second year of contest features, many current users expect that it will continue to be refined in capability and usability of the contest-essential tasks such as moving a station to another band or mode. ARRL Contest Letter

SHORTS



In case you missed it: Don Kirk, WD8DSB, made the cover of **QST** this month with his home-brew portable antenna for hunting down interference on the 160 meter and 80 meter bands. Don lives in Fishers, IN. Don has helped a lot of hams in the Indianapolis area run down station interference. He is a member of the Indianapolis Motor Speedway Club and can be found on the air during the the W9IMS Special Event operation.

Youth on the Air (YOTA) in the Americas summer camp. Plans remain up in the air for the camp, tentatively set for July 11 – 16. The event would take place in West Chester, Ohio. "We know that changes in the COVID-19 pandemic status between now and

July will have an impact on our decision to host the camp," 2021 YOTA Americas Camp Director Neil Rapp, WB9VPG, said. "At this time, we are still hopeful that hosting the camp safely July 11 - 16, 2021 will be possible. Should we not be able to host the camp, we will let everyone know with as much notice as possible and postpone it to 2022. Our plan is to make the final decision in the month of April." Registration will continue until February 28 for campers accepted to the camp for the 2020 session to attend in 2021. At that point, Rapp said, he will evaluate how many positions remain for additional campers from across the Americas in order to fill out the roster of 30 campers and take applications in March for the remaining slots.

Planning meetings for the 2021 Indy Hamfest If you would like to be a part of the committee (meetings held on the 3rd Monday via Zoom) please contact Mike WA9FDO at <http://serc1mp@sbcglobal.net>. This is the 50th anniversary of the Indy Hamfest and they are looking for new people wanting to be involved with the hamfest.

This [short video from IEEE is not contest related](#), but about KDKA and how technology can impact society. A member of the New Jersey Antique Radio Club demonstrates an early Westinghouse receiver, and discusses how radio was launched to compete with print media for the home audience.

The Southeastern VHF Conference has been cancelled for 2021, but because "of the hard work leading up to last year's cancelled conference of 2020, the Society has published a Technical Journal containing all of the papers that were scheduled to be presented." The [journal is available through Downeast Microwave](#). The table of contents (available as an image at the link) indicates there is something for everyone in the materials - examples: a proposal for moving stations band to band using FT8, PWM control of winch motors, Digital TV, FM contesting, synthesizers, IF strips, eBay amplifiers, high altitude balloons, and more!

Organizers of the NCJ-Sponsored North American Sprint (CW and RTTY) have leveraged the US Postal Service to drum up participation. "Some 'friends of sprint' have mailed postcards to stations in rare multipliers on occasion in the past," said Ward Silver, NOAX. He located a print-and-mail service that would send promotional cards to a list of addresses the contest sponsors compiled. "I was hoping it would get noticed [and] I guess it did!" Silver said. "There are a lot of short contests these days, so we need to remind folks of the sprints that started it all!" The mailing list was modified from a list of call signs that included past sprinters and participants in the ARRL November Sweepstakes (CW) and the North American QSO Party (NAQP), also sponsored by NCJ. The postcard calls attention to the earlier 2300 UTC start times for the February 6 - 7 CW and March 13 - 14 RTTY sprints. First-time sprinters would be wise to [consult the rules](#). The time shift is to encourage more 20-meter activity in the east and north.

CQ has announced that Trent Fleming, N4DTF, of Germantown, Tennessee, has been named CQ magazine's VHF-Plus Editor. He succeeds Tony Emanuele, K8ZR. Fleming's first column will appear in the April 2021 issue of CQ.

Tom Callas, KC0W, has announced that he's activated Saipan (KH0) for the first time on 60 and 160 meters FT8. "The 160-meter pileups have been massive," he reports. Do not call on his transmit frequency.

ARRL Member Sean Donelan, KM6NGN, of Concord, California, is the winner of the 2020 Congressional App Challenge (CAC) for California's 11th District, according to an announcement from US Representative Mark DeSaulnier (CA-11). Donelan, a 9th grader at Northgate High School, designed and created *Netham: The Public Service Event Coordinator's Third Hand*. "My app is a radio that partially automates the more arduous and monotonous tasks of being the main operator of an amateur radio voice net. These tasks include automated sign-in of operators, easy tracking of participants without lengthy radio conversations, and an operator attention-keeper/attention-caller," Donelan told ARRL. "The point of these features is to allow a

radio net control station to focus on the more important task of relaying pertinent information around a radio network, rather than focusing on constantly reciting and editing operator and event participant rosters."

A scientific paper has linked Jupiter with solar cycles. The [paper](#), published in *Solar Physics*, predicts that the Solar Cycle 25 maximum will take place in 2026 and reach an amplitude similar to that of Solar Cycle 24. "This article deals with the prediction of the upcoming solar activity cycle, Solar Cycle 25. We propose that astronomical ephemeris, specifically taken from the catalogs of aphelia of the four Jovian planets, could be drivers of variations in solar activity, represented by the series of sunspot numbers (SSN) from 1749 to 2020," the abstract reads. "We conclude with a prediction of Solar Cycle 25 that can be compared to a dozen predictions by other authors: The maximum would occur in 2026.2 (± 1 year) and reach an amplitude of 97.6 (± 7.8), similar to that of Solar Cycle 24."

2Tone, the popular RTTY software by David, G3YYD, has been updated and is [available from the RTTY Contesting website](#). The new version supports Microsoft Windows 8 and later with binaries for both 32-and 64-bit Microsoft Windows. The 64-bit version will take advantage of certain newer instructions in CPUs equipped with multiple cores for improved performance. David suggests reading the documentation, since it has also been updated.

S55ZMS is the call sign of the new 8-meter beacon from Slovenia. It transmits both CW and PI4 -- a digital mode designed for beacons -- on 40.670 MHz, running 7 W into a dipole.

"Mini-Visalia" organizers Jim Neiger, N6TJ, and Dick Norton, N6AA, have announced that, due to the COVID-19 pandemic, the event, set for March 19 - 21 in Visalia, has been postponed.

Special call sign prefixes -- SX200, SY200, and SZ200 -- will be on the air through 2021 to celebrate the bicentennial of the 1821 Greek Revolution. -- *Thanks to RAAG*

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>
