



RCA Amateur Radio Club Indianapolis, IN



ARRL Affiliated Club
www.w9rca.org

SEPTEMBER 2024

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE TUESDAY, SEPTEMBER 10,
6:30 PM AT NORTH SIDE EVENTS, FORMERLY THE KNIGHTS OF COLUMBUS,
2100 EAST 71ST, INDIANAPOLIS, IN

RCA ARC NEWS

AUGUST MEETING SUMMARY – Thanks to all who attended the August meeting, we had a good turnout, probably the best in recent memory. Tributes were given for Susan Hall, who passed away recently. [See our writeup in the August, 2024, issue of this newsletter.] Lots of stories were passed around about her time at Thomson and the assistance she provided for the RCA ARC.

Also, we helped Bob Begeman, W9KVK, celebrate his 100th birthday which occurred a few days after our August meeting. Hope you had a happy one Bob!



Photo by David Gusman, KC7UI

AMATEUR RADIO LICENSE TEST SESSION

Date: Saturday, Sept. 14, 2024
Time: Starting at Noon, **by appointment only.**
Location: Salvation Army EDS Training Facility, 4020 Georgetown Rd
Indianapolis, IN 46254-2407
Contact: Jim Rinehart (317) 721-1458
Email: testing@indyradioclub.org
Required: FCC FRN and a completed NCVEC 605 license application form.
ARRL Test Fee: \$15

Laurel VEC test sessions: <https://www.laurelvec.com/?pg=exams>

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Salvation Army Open Net, Thurs. 7PM, W9RCA repeater, 146.88 MHz, tone 88.5 Hz

Oct 12 Hoosier Hills Hamfest, Lawrence County 4-H Fairgrounds, 11265
US-50, Bedford, IN 47421, Tim Wray , KB9SNL

Oct 19 Shelbyville Tailgate, Shelby County Fairgrounds, 500 Frank St.,
Shelbyville, IN 46176, John Walker , K9SVL

Nov 16 -17 Fort Wayne Hamfest & Computer Expo, Allen Co. Memorial
Coliseum, [Fort Wayne Hamfest & Computer Expo](#)

WA7BNM expanded contest calendar, <https://www.contestcalendar.com/>

Visit the **ARRL Special Event Stations database** at www.arrl.org/special-event-station to find other on-the-air events and commemorations.

Hamfest or Convention: www.arrl.org/hamfests

Find a license exam in your area: www.arrl.org/exam

ARRL Home: www.arrl.org

ARRL IT SECURITY INCIDENT - REPORT TO MEMBERS

THE FOLLOWING WAS SENT TO ARRL MEMBERS – Sometime in early May 2024, ARRL's systems network was compromised by threat actors (TAs) using information they had purchased on the dark web. The TAs accessed headquarters on-site systems and most cloud-based systems. They used a wide variety of payloads affecting everything from desktops and laptops to Windows-based and Linux-based servers. Despite the wide variety of target configurations, the TAs seemed to have a payload that would host and execute encryption or deletion of network-based IT assets, as well as launch demands for a ransom payment, for every system.

This serious incident was an act of organized crime. The highly coordinated and executed attack took place during the early morning hours of May 15. That morning, as staff arrived, it was immediately apparent that ARRL had become the victim of an extensive and sophisticated ransomware attack. The FBI categorized the attack as "unique" as they had not seen this level of sophistication among the many other attacks, they have experience with. Within 3 hours a crisis management team had been constructed of ARRL management, an outside vendor with extensive resources and experience in the ransomware recovery space, attorneys experienced with managing the legal aspects of the attack including interfacing with the authorities, and our insurance carrier. The authorities were contacted immediately as was the ARRL President.

The ransom demands by the TAs, in exchange for access to their decryption tools, were exorbitant. It was clear they didn't know, and didn't care, that they had attacked a small 501(c)(3) organization with limited resources. Their ransom demands were dramatically weakened by the fact that they did not have access to any compromising data. It was also clear that they believed ARRL had extensive insurance coverage that would cover a multi-million-dollar ransom payment. After days of tense negotiation and brinkmanship, ARRL agreed to pay a \$1 million ransom. That payment, along with the cost of restoration, has been largely covered by our insurance policy.

From the start of the incident, the ARRL board met weekly using a continuing special board meeting for full progress reports and to offer assistance. In the first few meetings there were significant details to cover, and the board was thoughtfully engaged, asked important questions, and was fully supportive of the team at HQ to keep the restoration efforts moving. Member updates were posted to [a single page on the website](#) and were posted across the internet in many forums and groups. ARRL worked closely with professionals deeply experienced in ransomware matters on every post. It is important to understand that the TAs had ARRL under a magnifying glass while we were negotiating. Based on the expert advice we were being given, we could not publicly communicate anything informative, useful, or potentially antagonistic to the TAs during this time frame.

Today, most systems have been restored or are waiting for interfaces to come back online to interconnect them. While we have been in restoration mode, we have also been working to simplify the infrastructure to the extent possible. We anticipate that it may take another month or two to complete restoration under the new infrastructure guidelines and new standards.

Most ARRL member benefits remained operational during the attack. One that wasn't was Logbook of The World (LoTW), which is one of our most popular member benefits. LoTW data was not impacted by the attack and once the environment was ready to again permit public access to ARRL network-based servers, we returned LoTW into service. The fact that LoTW took less than 4 days to get through a backlog that at times exceeded over 60,000 logs was outstanding.

The board at the ARRL Second Board Meeting in July voted to approve a new committee, the Information Technology Advisory Committee. This will be comprised of ARRL staff, board members with demonstrated experience in IT, and additional members from the IT industry who are currently employed as subject matter experts in a few areas. They will help analyze and advise on future steps to take with ARRL IT within the financial means available to the organization.

We thank you for your patience as we navigated our way through this. The emails of moral support and offers of IT expertise were well received by the team. Although we are not entirely out of the woods yet and are still working to restore minor servers that serve internal needs (such as various email services like bulk mail and some internal reflectors), we are happy with the progress that has been made and for the incredible dedication of staff and consultants who continue to work together to bring this incident to a successful conclusion.

This information was shared with ARRL Members via email on August 21, 2024.

SOLAR CYCLE 25 PRODUCING RECORD HIGH SUNSPOT NUMBERS

By: Frank Donovan, W3LPL

Editor's note: This article was written earlier in the week. The latest measurements show even higher numbers. See this week's K7RA Solar Report in The ARRL Letter for latest information.

Record High Solar Cycle 25 Solar Maximum Sunspot Numbers Have Improved HF Propagation Since Mid-July and Possibly Bringing Worldwide 6 Meter F2 Propagation This Fall.

According to the NOAA Space Weather Prediction Center (SWPC), Solar Cycle 25 likely reached its highest sunspot number yet of at least 299 on August 8th.

www.swpc.noaa.gov/news/solar-cycle-25-likely-reached-highest-sunspot-number-over-20-years

The World Data Center - Sunspot Index and Long-Term Solar Observations (SILSO) publishes near-real-time Estimated International Sunspot Number (EISN) reports based on its global network of reporting stations. Daily EISN reports during Solar Cycle 25 were consistently well below 200 until suddenly rising to 218 on July 14th and reaching 289 on July 18th, but then declining to 178 on July 22nd.

While occasional brief daily EISN increases are not unusual during solar maximum, after only five days, the daily EISN suddenly rose to 212 on July 27th reaching a Solar Cycle 25 record high 297 on August 8th and remaining mostly well above 200 through this writing on August 11th.. Daily EISN reports are likely to remain well above 200 during most days through late September and possibly much longer.

Since February 2002, worldwide 6-meter propagation has been mostly limited to sporadic occurrences of trans-equatorial propagation (TEP) near the equinox months and occasional sporadic-E propagation reaching many thousands of miles during June and July. Worldwide 6-meter F2 propagation may again occur -- perhaps very frequently -- starting in late October 2024 if daily EISN reports consistently remain well above 200. See www.sidc.be/SILSO/eisnplot.

ARRL URGES PROTECTING THE AMATEUR RADIO 902-928 MHZ BAND

The Federal Communications Commission (FCC) accepted for public comment a [Petition for Rulemaking filed by NextNav Inc.](#), a licensee in the 900-MHz Location and Monitoring Service (LMS), to completely reconfigure the 902-928 MHz band and replace the LMS with high-powered 5G cellular and related location services.

The FCC [Notice requested comment](#) on the effects that NextNav's proposals would have on amateur radio operations in the band. [ARRL® The National Association for Amateur Radio®](#) is preparing comments urging protection of existing and future amateur uses in this band and urges all amateurs to file their own comments describing their activities in this band and the expected effect of the proposed changes. [Click here for a guide to filing comments.](#)

NextNav currently holds licenses in the 900-MHz band that authorize it to provide services limited to determining the location and status of mobile radio units. NextNav ties its request to provide high-power broadband, cellular and location services to the vulnerabilities of the current satellite-based GPS system and argues that implementation of its proposal would complement GPS by providing an alternative nationwide terrestrial location system in addition to cellular and broadband services. Under its proposal, NextNav would be designated the sole nationwide licensee for this spectrum in exchange for its more limited licenses.

The new nationwide license would authorize NextNav to provide much higher-powered traditional broadband and 5G cellular services as well as the related location service occupying 15 of the total 26 megahertz available in the band. The reconfiguration proposed by NextNav would create a 5-megahertz-wide uplink subband at 902-907 MHz paired with a 10-megahertz downlink subband at 918-928 MHz. The 5-megahertz uplink subband would be limited to use by mobiles with a maximum of 3 watts ERP. On the 10-megahertz downlink subband, up to 2000 watts ERP would be permitted in rural areas and 1000 watts ERP in urban and suburban areas, radiating from tower structures that could reach 1000 or more feet above average terrain. These configurations reflect the FCC's rules for standard cellular configurations that have been adopted to govern a number of other bands used for similar 5G and like services.

Although uses by the Amateur Radio Service in this band are secondary to LMS, NextNav is proposing substantial technical and use changes that would completely alter the foundation

upon which the current rules and spectrum sharing arrangements rely and undercut shared use of the band by amateurs as well as a variety of other users. In addition, NextNav proposes deletion of a specific interference provision in the Commission's rules that was adopted to encourage and protect continued sharing with amateurs and other secondary users.

NextNav, in its petition, argues without evidence that the changes that it proposes to the 902-928 MHz band "will not impede amateur operations." In an [8-page description](#) of NextNav's proposal released by the FCC's Wireless Telecommunications Bureau, the FCC staff asks a series of questions that would clarify the proposal and help the Commission ascertain the likely effect of the proposed changes on existing users if the requested changes were adopted. Comment was specifically requested on the extent of amateur operations in the band, the potential impact of the proposed changes, any other spectrum options that may exist, and the costs for relocations if other options exist.

ARRL is preparing comments urging protection of existing and future amateur uses in this band. ARRL urges all amateurs to study the proposal and file their own comments describing their activities in this band and the expected effect of the proposed changes. The filing deadline is September 5, 2024. Replies to comments are due by September 20, 2024. [Click here for a guide to filing comments.](#) --ARRL

ARRL EXPANDS PUBLICATIONS ARCHIVE

[ARRL®](#) has expanded member access to its rich archive of publications. The [ARRL Periodicals Archive and Search](#) now includes content from two more popular ARRL magazines: QEX — *A Forum for Communications Experimenters*, which features technical articles and columns of interest to radio amateurs and communications professionals; and NCJ — *the National Contest Journal*, which covers information, scores, and advice from the world of competitive radiosport and the contributions of top contesters.

Before accessing the archive, members should ensure they are first logged in to the [ARRL website](#). Members may now view and download articles from across the extensively indexed archive of QEX from 1981 to 2011, and NCJ from 1973 to 2011. Members can access an index and view copies of articles from the huge ARRL periodicals archive.

The ARRL Periodicals Archive and Search was first introduced to members in 2008, providing PDF copies of articles from the QST magazine archive. Since then, thousands of members have enjoyed searching, viewing, and printing their favorite articles, projects, and more. The archive is populated with QST articles from 1915 to 2011.

While this archive includes access to downloading many older articles, the more recent and current issues of ARRL magazines continue to be available to members in a digital edition. See www.arrl.org/magazines for more information. ARRL members have access to four digital edition magazines: QST, On the Air, QEX, and NCJ.

Access to the archive is an ARRL membership benefit and a service of the ARRL Technical Information Service ([TIS](#)). Not an ARRL member? Join today: www.arrl.org/join.

ESTATE PLANNING FOR HAMS (WHAT HAPPENS TO ALL YOUR STUFF?)

August is National Make-a-Will month. Some estimates show that nearly two-thirds of Americans don't have a plan. For some, it's procrastination. Others don't know where to start. "So many times we hear from the family of a Silent Key who are overwhelmed with what to do with a lifetime worth of amateur radio gear," said ARRL Director of Development Kevin Beal, K8EAL. "Simply thinking through what needs to be done ahead of time can prevent the stress on our loved ones after we are gone."

ARRL this week [held a webinar](#), hosted by Beal and Dino Papas, KLØS, to discuss the first

steps of planning. “It is something that, unfortunately, doesn’t get a lot of attention. The bottom-line up front is, ‘what happens to all our beloved ham gear when that inevitable day comes along that we become a Silent Key?’... Unfortunately, that day may arrive unexpectedly – so we need to prepare ahead of time to make it as simple as possible for our families,” said Papas.

On the ARRLHQ YouTube channel, you can see a [replay of the 52-minute presentation](#), along with the question-and-answer section at the end.

“Your station is an asset, just like anything else you’ve built and put resources into. Deciding now what happens when you become a Silent Key can help solidify your legacy to ham radio,” said Beal. [The ARRL Legacy Circle](#) recognizes the generosity of individuals who have planned support for ARRL through wills, trusts, life insurance gifts, and other ways. The ARRL Legacy Circle ensures that ARRL and amateur radio will continue to thrive for generations to come. --ARRL

RESILIENCE THROUGH AMATEUR RADIO FOR NATIONAL PREPAREDNESS MONTH

Amateur radio is an excellent tool for community resilience in times of crisis. The utility value of the critical communications it provides is enhanced by having well trained local Amateur Radio Emergency Service® (ARES®) groups and other teams. However, to maximize the value to yourself, your family, and your community; an operator must be prepared. September is National Preparedness Month. ARRL’s partners at the Federal Emergency Management Agency (FEMA) are sharing tips to help you be prepared. They are centered around the theme of “Start a Conversation”.

ARRL Director of Emergency Management Josh Johnston, KE5MHV, is starting the conversation with radio amateurs to help make sure you, your station, and your family are ready for whatever may come your way. “It’s important that we take steps to ensure that not only are we ready to provide assistance to our served agencies, but that we have a plan for our families as well,” he said.

Over the month of September, ARRL will share best practices to help prepare you, your station, your family, and your local ARES® group to thrive in times of emergency. “There are times when hams may be activated to serve when all aspects of your life, your station, and your environment are under stress. That’s not the time to start planning or to discover short comings,” said Johnston.

Johnston encourages any radio amateur who is interested in participating in ARES® to check out the “Join ARES” flyer, then reach out to their local ARRL Emergency Coordinator. If you don’t know who that is, find your local ARRL Affiliated Club, or reach out to your ARRL Section Manager or Section Emergency Coordinator, whose contact details you can find on page 16 of QST or on www.arrl.org/sections.

Find resources for ARES® at www.arrl.org/ares and tools to help plan your family’s resilience at www.ready.gov.

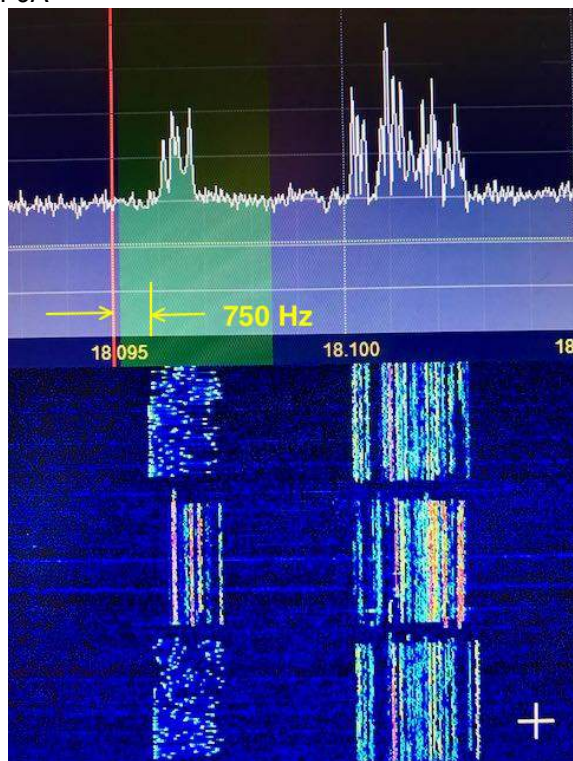
TECHNICAL

Did you work N5J or CY9C using FT8 Super Fox (SF) recently? Initially, there seemed to be a lot of confusion on how to do it, especially in this part of the world where the signals from N5J were often weak or non-existent.

Below is a photo of the spectrum and waterfall of a few SF transmissions (left) and regular FT8 transmissions (right) on the 17m band. The frequency of your receiver must make the left (lower frequency) edge of the Fox’s digital signal demodulate to 750 +/- 100 Hz. This

shouldn't be a problem if you use operating frequencies published on the DX station's web site. As a Hound, you can call the DX station on any frequency within the normal 3kHz channel using regular FT8 modulation, transmitting during the odd time slots.

Of course, you may hear many stations calling, during the odd numbered transmit periods and never hear or see the DX station during the even numbered time slots. Keep in mind, the SF's digital signal may be hard to see on the WSJT-X waterfall display if the signal is really weak. Enable the SF mode anyway. Sometimes it'll decode when you can't even see the signal. --AF9A



WSJT-X Super Fox signal, 18.095MHz (left) and normal FT8 signals 18.100MHz (right)

SHORTS

W1AW to QSY on 17 Meters for CW – Beginning on Friday, September 6, 2024, Maxim Memorial Station W1AW will begin using a new 17-meter frequency for its scheduled CW transmissions due to increased activity near the current bulletin frequency. In order to reduce the possibility of interference, W1AW will move to 18077.5 kHz.

Candidates Named for Central Division ARRL Director and Vice Director Elections The ARRL® has announced that the candidates for the 2024 ARRL Central Division elections are now official. In the Central Division, Declared Elected without Opposition, current Vice Director Brent Walls, N9BA, will be the next Director having served as Vice Director since 2021, and candidate Josh Long, W9HT, will be the next Vice Director. --ARRL

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.
