



RCA Amateur Radio Club

Indianapolis, IN



ARRL Affiliated Club
www.w9rca.org

AUGUST 2024

MONTHLY NEWSLETTER

THE NEXT MEETING OF THE RCA AMATEUR RADIO CLUB WILL BE TUESDAY, AUGUST 13, 6:30 PM AT NORTH SIDE EVENTS, FORMERLY THE KNIGHTS OF COLUMBUS, 2100 EAST 71ST, INDIANAPOLIS, IN

RCA ARC NEWS

JULY MEETING SUMMARY – Thanks to all who attended the July meeting. Field Day this year was hot with some rain overnight. Propagation conditions were pretty good on Saturday, but not so good on Sunday. We may not have equaled last year's score, but it'll be close! The GOTA station was impressive as always. We had a total of 15 YL operators. Overall the operation was pretty successful. Otherwise, there are no repeater problems to report. KF9UH's ADSB receiver at the repeater site was discussed.

AMATEUR RADIO LICENSE TEST SESSION

Date: Saturday, August 10, 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 NCVET 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

Aug 10 Hendricks County Tailgate Fest, Avon United Methodist Church,
6850 E. US Hwy 36, Avon, IN 46123, Kenneth A Kayler , KC9SQD

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

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

SUSAN HALL

Susan Hall, librarian at the Thomson Technical Library and avid supporter of the RCA ARC, has passed away at St. Vincent Hospital in Indianapolis. She felt unwell that morning, and ended up being admitted to St. Vincent. Susan's sister Kathy was with her while waiting to be discharged when Susan collapsed and was unresponsive. They were unable to revive her. Believe it was an embolism.

She was planning to travel to California to help her brother George and his family while he was recovering from surgery. The family will announce a funeral service at a later date, since they want Susan's brother George to recover from his surgery and be able to attend the service from California.

Susan started at Thomson as a librarian, hired by Jim McDonald who was looking for a librarian with a technician background. Susan had a medical background and was used to working with medical documents.

With the move to the Thomson complex in Carmel, Susan was given the responsibility for the new technical library and it became one of the best in state allowing for computer patent and document search, which was unheard of at the time.

Her responsibilities grew to include engineering personnel, contractors, and budgets.

The space for the Club station had to be justified each year and it was Susan who supported us with this until 2003. With space in the building being rented out it became impossible to justify. She also helped us obtain the stuff donated to the club and getting the passes.

She was a member of the Technical Excellence Committee which was responsible for the TEC Annual Awards Dinners, continuing education classes and weekly lunch talks.

Susan had a cheerful and outgoing personality, always willing to help anyone. --Jim K9RU

HAM RADIO DURING HURRICANE SEASON

The ARRL encourages all amateur stations to prepare for what the [National Hurricane Center](#) (NHC) has predicted will be a [busy hurricane season](#). In addition to readying equipment to function during and after a storm's impact, local [Amateur Radio Emergency Service® \(ARES®\)](#) nets are encouraged to participate in hurricane reporting and relief nets.

Stations do not need to be in a coastal zone to participate –propagation often shifts well inland, meaning ham radio operators throughout the continent can serve in times of need. “Monitoring and relaying traffic is a way to help with the nets and get real time information to the NHC, where it can be shared with NWS, FEMA, and other emergency response organizations to aid in a more rapid response and recovery,” said ARRL Director of Emergency Management Josh Johnston, KE5MHV.

Amateur radio plays a critical role in the warning and recovery process of hurricanes. From providing surface observations which give forecasters at the National Hurricane Center ground truth, to providing communications when infrastructure is damaged, ham radio is as vital as ever.

The Nets – There is a robust ecosystem of communications networks that all work in tandem to provide coverage anytime a named storm is within a few hundred miles of land. These separate, but partner, volunteer organizations serve much of the Western Hemisphere on many different bands and modes.

Much of the focus is to get information to and from the National Hurricane Center in Miami, Florida. Hurricane specialists rely on having an [amateur radio station at the center, WX4NHC](#). Julio Ripoll, WD4R, is the Amateur Radio Assistant Coordinator for the station. “These surface reports can be weather data or eyewitness reports (or heard on local VHF/UHF) are very valuable to the hurricane specialists at NHC, as they fill in gaps of data that they may not have from other means, such as government weather stations, satellites, Hurricane Hunter aircraft, etc.,” explained Ripoll.

The NHC would like more hams to provide information if they are in an affected area. There are many ways to do it. The simplest is over high frequency (HF) amateur radio bands. There, you’ll find a dedicated team running the [Hurricane Watch Net](#). The net, which uses 14.325 MHz and 7.268 MHz, depending on propagation, is usually active any time a hurricane is within 300 statute miles of a populated landmass, or at the request of NHC.

More information: <http://www.arrrl.org/news/ham-radio-during-hurricane-season>

ARRL BOARD COMPLETES 2024 SECOND MEETING, APPROVES REPORT TO ADVANCE A 3-YEAR STRATEGY

ARRL President Rick Roderick, K5UR, gaveled in the 2024 Second Meeting of the ARRL Board of Directors on Friday, July 19, in Windsor, Connecticut.

The Board unanimously accepted a report establishing a 3-year strategy for ARRL, and recognized the efforts of the Strategy Working Group. They authorized CEO David A. Minster, NA2AA, to proceed with further planning.

The report included a revised mission statement: **ARRL’s mission is to promote and protect the art, science, and enjoyment of amateur radio, and to develop the next generation of radio amateurs.**

The complete minutes of the 2024 Second Meeting of the ARRL Board of Directors is on the ARRL website.

The next meeting of the ARRL Board of Directors will be January 17 - 18, 2025

ARRL TEACHERS INSTITUTE ON WIRELESS TECHNOLOGY ADDS THIRD LEVEL

ARRL continues to develop the highly successful ARRL Teachers Institute on Wireless Technology. Much as is done with new equipment in the amateur radio hobby, a prototype is being tinkered with this week: TI3. The third phase of the program is centered around space. Teachers who have each been through the previous versions of the program are at ARRL Headquarters in Newington, Connecticut, to test the program.

Teachers from around the country gathered to help test the third level of ARRL Teachers Institute on Wireless Technology. Photos by Eliza Croarkin, KC1TAP

ARRL Education and Learning Manager Steve Goodgame, K5ATA, said having the experienced educators on hand to test out the new training is invaluable. “This is really about taking it a step further – providing a highly specialized form of training. We’ve developed a good program, but you never know how well something is going to work in practice until you try it.”

The educator-hams of this first cohort couldn’t be happier to experiment with it.

“I like that it’s a small group and that it’s laid back and that we’re all in it knowing it is a beta group – so if something doesn’t go exactly as planned, the people that are here are very flexible in changing what we’re doing,” said Megan Tucker, KQ4MAM, Dean of Curriculum/STEAM Specialist at Hillsborough Charter Academy in Hillsborough, Virginia.

Tucker earned all three levels of amateur license since last October. “For me, as someone who has been very dialed in to aerospace, it’s nice to get into something that is a little more technical. I was petrified coming in and the best part about this is that, once you’re here and you’re with other people, you see that everyone had different strengths and that is possible.”

The educators have built and released pico balloons, antennas for radio astronomy, and other more advanced projects within amateur radio. The cohort will cap off the week with a field trip to the Massachusetts Institute of Technology Haystack Observatory.

The ARRL Teachers Institute on Wireless Technology is funded entirely by gifts to the ARRL Education Fund. --ARRL Letter

GENERATIONAL LEGACY CARRIED ON IN ARRL TEACHERS INSTITUTE

As ARRL continues to empower teachers to bring amateur radio and radio technology into their classrooms through the ARRL Teachers Institute on Wireless Technology, many generous donors have stepped up to enable the work.

Parents can make all the difference in someone’s success. David Ginsberg, N3BKV, knows that well. His parents, Hy and Mimi Ginsberg, supported his passions, “Whether it was my mom driving me to the planetarium for weekend classes that allowed me to learn about the universe to my father taking me to my first hamfest and his support of this hobby, they saw my passion for amateur radio and how it gave me a focus to learn about science, computers, and electronics through it,” he wrote.

David knew he wanted to pay that forward. To honor his parents’ dedication to fostering curious minds while also supporting the future of amateur radio, he chose to establish the Hy and Mimi Ginsberg Educator position within the ARRL Teachers Institute on Wireless Technology.

The program equips teachers to incorporate amateur radio and wireless technology into science, technology, engineering, and mathematics (STEM) curriculum. The TI is funded entirely by donor contributions through the ARRL Education Fund. Teachers pay an application fee, but all other costs of transportation, lodging and course materials are covered. It costs \$4,000 to send a teacher through the program.

David Ginsberg wanted that to happen in the name of his parents. “They knew the power of knowledge and believed in supporting teachers when they were both alive through many charitable endeavors,” he said.

The first Hy and Mimi Ginsberg Educator is Danielle Adler, Ed.D., K6FIN. She is the founder of San Diego Youth Science, an organization that partners with many schools to advance youth involvement in marine sciences.

2024 USA AND IARU REGION 2 RADIO ORIENTEERING CHAMPIONSHIPS SET FOR OCTOBER

There is still time to register for the 2024 USA and IARU Region 2 Radio Orienteering Championships to be held in Chelsea, Michigan, on October 5 - 13. The regular registration deadline is August 15, and the late registration deadline is September 15. A direct link to registration is available here: [EventReg | Radio Orienteering USA Championships 2024](#).

All radio transmitter hunters, from beginners to experts, are invited to participate in a full week of radio orienteering (amateur radio direction finding) competition and other fun events. There will be competitors from the United States, Canada, Australia, and China. The schedule includes:

- 2-day training camp coached by course designers Charles & Nadia Scharlau the weekend of October 5 - 6
- 2 practice days October 8 - 9
- Cultural / social outings to Henry Ford Museum & Ford F-150 factory on October 7, cider mill and German restaurant visit on October 10, among other opportunities
- Informational meeting, guest speaker & casual dinner on Wednesday night October 9.
- 4 days of challenging championship-level racing, including prior USA orienteering champs and team trials venues on October 10 - 13.
- Sprint, Foxoring, and 2m & 80m Classics October 10 - 13.
- A search and rescue exhibition team contest October 12.

This year's event director is Joseph Burkhead, KE8MKR. He is a 2018 World ARDF Championship bronze medalist, 2019 144 MHz Classic M40 national champion, and has competed as an athlete for the USA Radio Orienteering Team. He also competed on the Armed Forces USA Orienteering Team at the 2013 World Military Orienteering Championships in Eksjo, Sweden. Burkhead is a member of the Southern Michigan Orienteering Club.

AMATEUR RADIO PARTICIPATES IN WORLD'S LARGEST NAVAL EXERCISE

"Partners: Integrated and Prepared" is the theme for [Rim of the Pacific \(RIMPAC\) 2024](#), the world's largest international military maritime exercise, which began June 27, and came to a close on August 1. Conducted from Joint Base Pearl Harbor – Hickam, Oahu, Hawaii, the exercise encompasses many islands in the Hawaiian chain.

The event included 29 nations, 40 surface ships, three submarines, 14 national land forces, over 150 aircraft, and more than 25,000 personnel, including amateur radio operators working with health care facilities.

The amateur radio portion of the exercise has been completed. ARRL Assistant Section Manager and State Government Liaison Michael Miller, KH6ML, said 36 amateur radio operators from Hawaii volunteered to demonstrate the value of amateur radio in emergency preparedness and response.

"It turned out very good," said Miller. "Some of hospitals, staff and administrators involved had their first experience with amateur radio. The operators were able to blend their skills using public service radios, satellite phones, as well as amateur radio."

Miller pointed out that hospitals on the smaller islands don't usually have a fulltime communications officer so working with amateur radio gives them experience for future emergencies. The amateurs worked with [Health Comm Hawaii](#) which provides amateur radio communications to health care associations in Hawaii during emergencies and disasters.

"Health Comm Hawaii really needs 100 more operators for backup and to build skill sets through monthly exercises," Miller added.

Vice Adm. John Wade, commander, U.S. 3rd Fleet and RIMPAC 2024 Combined Task Force (CTF) commander, said the Rim of the Pacific exercise has grown over the years to be the world's largest and premier joint combined maritime training opportunity. "The exercise's purpose is to build relationships, to enhance interoperability and proficiency and, ultimately, contribute to the peace and stability in the vitally-important Indo-Pacific region."

Many of the volunteers participating in RIMPAC 2024 are also members of other vital emergency communication groups, such as Amateur Radio Emergency Service®(ARES®), Radio Amateur Civil Emergency Service (RACES), and Community Emergency Response Team (CERT).

CELEBRATING SOFTWARE DEFINED RADIO

At Ham Radio 2024, the International amateur radio exhibition, last week in Friedrichshafen, Germany, the Software Defined Radio Academy (SDRA) celebrated its 10-year anniversary. Founded in 2014, the SDRA has become a new platform for the exchange of knowledge surrounding software defined radio. In the early years, the academy's lectures were recorded with primitive camera technology, but today a video team takes the recordings to a completely different level. The SDRA's YouTube channel now has 150 uploads, 4850 subscribers, and many more views of the videos.

The winners of the Ulrich L. Rohde Award, created in 2022 for innovative research in the field of software defined radio, were also announced:

The **GNU Radio project for its good software solutions for software defined radio (SDR) technology**. GNU Radio is a [free software](#) development toolkit that provides signal processing blocks to implement [software-defined radios](#) and [signal processing systems](#).

The **DARC-AJW team for the SDR questions in the new questionnaire and the standardization of education**. According to group leader Matthias Jung, DL9MJ, posting on X, the team's work "focused on integrating SDR into the German amateur radio exam and educational materials."

Rob Robinett, AI6VN, with Paul Elliot, WB6CXC, for their fundamental work and influence on scientific research in other areas.

Christoph V. Wüllen, DL1YCF, with Laurence Barker, G8NJJ, for fundamental work on stations.

Dr. Rohde, N1UL, has been an avid amateur radio operator holding several licenses in the United States and Germany. He has been licensed since 1956 and involved in technology and systems and has received worldwide recognition. In 2015, he won first place in the ARRL DX Contest in the Northern New Jersey Section. He also operates N1UL/MM on his yacht, the Dragonfly, and is Trustee of the Marco Island Radio Club, K5MI. --ARRL

TECHNICAL

Stub Filters Demystified – Unless you hold a First Degree RF Wizard rating, chances are good that coax stubs seem a bit baffling to you. They look for all the world like short circuits or open circuits, and yet work their magic and act to match feedline impedances or even as bandpass filters. Pretty interesting behavior from a little piece of coaxial cable.

If you've ever wondered how stub filters do their thing, [\[Fesz\] has you covered](#). His latest video concentrates on practical filters made from quarter-wavelength and half-wavelength stubs. Starting with LTspice simulations, he walks through the different behaviors of open-circuit and short-circuit stubs, as well as what happens when multiple stubs are added to the same feedline. He also covers a nifty online calculator that makes it easy to come up with stub lengths based on things like the velocity factor and characteristic impedance of the coax.

It's never just about simulations with [Fesz], though, so he presents a real-world stub filter for FM broadcast signals on the 2-meter amateur radio band. The final design required multiple stubs to get 30 dB of attenuation from 88 MHz to 108 MHz, and the filter seemed fairly sensitive to the physical position of the stubs relative to each other. Also, the filter needed a little LC matching circuit to move the passband frequency to the center of the 2-meter band.

via Blog – Hackaday <https://hackaday.com/2024/07/21/coax-stub-filters-demystified/>

ON LINE THIS MONTH

Not ham radio but, we commented on this at the last meeting... John, KF9UH, has installed an [ADSB](#) receiver and Raspberry Pi at our W9RCA repeater site just off I-465 on the west

side of Indy. The receiver is connected to one of the unused 800MHz antennas on the top of the tower, at 200 ft. That gives the receiver a range of about 325NM for high flying aircraft!

All the data from this and other ADSB receivers around the world are aggregated by the website <https://globe.adsbexchange.com/>. It appears it is not possible to separate John's receiver data from everyone else's at the ADSB Exchange web site. However, the web site <https://globe.adsbexchange.com/leaderboard/> ranks all the stations (16K plus of them), using several parameters, and identified by "receiver name." John's receiver name is "ADSBX_SDR_1549911." Hint, it's very close to the top of the list.

SHORTS

New Emergency Communication Courses from ARRL – ARRL Director of Emergency Management Josh Johnston, KE5MHV, joins the podcast to share details about ARRL's updated Emergency Communication courses, which have been broken into three successive levels — Basic, Intermediate, and Advanced. The courses are available free of charge at the ARRL Learning Center.

During the 2024 Summer Olympics in France, which runs through August 11, amateur radio operators can contact a special event Olympic station. Special callsign TM24PRS, from Chatillon, France, will be active by Franck Menard, F4DTO, and Patrick Menard, F4GFE, on all HF bands and special award QSL cards will be available in 4 categories:

Bronze -- 3 bands QSO

Silver -- 4 bands QSO

Gold -- 5 bands QSO

Platinum -- 6 bands QSO

The awards are free, only by sending a request to f4dto.franck_f4gfe.patrick@orange.fr or via mail to Franck Menard, P. O. Box 61, Chatillon cedex 92321, France. Also, after the 2024 Olympic Games, there will be a special event station for the 2024 Paralympic Games, August 11 through September 8. TM2024JPP will be active on all bands from 0000Z - 2359Z. For additional information visit: <https://log-et-qsl.associations-radioamateurs.org/wp>.

Professor Theodore "Ted" S. Rappaport, Ph.D., N9NB, has been elected to the Institute of Electrical and Electronics Engineers (IEEE) Vehicular Technology Society's (VTS) Hall of Fame. The IEEE VTS Hall of Fame recognizes individuals whose truly outstanding leadership and contributions have had a significant impact on the technologies represented by the fields of interest of the IEEE VTS. The VTS is one of the oldest societies in IEEE.

Dr. Rappaport is a tenured professor in the New York University (NYU) Electrical Engineering Department in the Tandon School of Engineering, Courant School of Mathematics and the NYU Grossman School of Medicine. He has co-authored over 300 papers and 20 books, including the most-cited books on wireless communications, adaptive antennas, wireless simulation, and millimeter-wave communications, which have been translated into eight languages.

Dr. Rappaport was first licensed in 1975 and joined ARRL that same year. He now holds an Amateur Extra class license. He has been an ARRL Life Member since 1983 and received an ARRL scholarship to help complete his doctorate at Purdue University.

ARRL joined The Weather Channel on Thursday, July 11, 2024, for a live chat about the value of amateur radio during hurricane season and beyond. ARRL's Bob Inderbitzen, NQ1R,

talked about how radio helps inform the warning process through surface observations relayed through the [Hurricane Watch Net](#) and other nets to [WX4NHC, the amateur radio station at the National Hurricane Center](#).

Viewers were told how local ARRL volunteers serve their local agencies through the [Amateur Radio Emergency Service® \(ARES®\)](#) and how they could get licensed through ARRL materials and become a part of it. [Check it out](#)

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.
