



RCA Amateur Radio Club

Indianapolis, IN

ARRL Affiliated Club

www.w9rca.org



OCTOBER 2023

MONTHLY NEWSLETTER

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

RCA ARC NEWS

SEPTEMBER MEETING SUMMARY – President Jim, K9RU, announced the Club had purchased a CD (certificate of deposit). A repeater problem occurred during the past month which required John, KF9UH, to make a trip to the site. The repeater was “locked up” in transmit mode likely because of the heat. Apparently the air conditioner reset to OFF, maybe the result of a momentary power interruption. Normally we could have turned the power off to the transmitter remotely, but the Internet controlled power switch couldn't be contacted. Reboot! This happened one other time. Jim, K9RU, said Walmart has window air conditioners on sale for \$111. John, KF9UH, can give us the dimensions for the space we have. A lengthy discussion about the FCC's proposed rule making about high speed stock trading stations being licensed in the 2 to 22 MHz frequency range. The ARRL and about 900 others have filed comments on that rulemaking. Most of us present at the meeting thought the stock traders will get some or all of what they as there are big \$\$\$ involved. Jim, AF9A, brought a screen shot of a suspicious 25 kHz wide signal in the 30m ham band. This is probably not one of the for mentioned stock trading stations but likely an OHR (over the horizon radar) transmission. Amateurs are not primary users of the 30m band. Also, for those not familiar with FT8, that mode was discussed in some detail.

AMATEUR RADIO LICENSE TEST SESSION

Date: Saturday, October 14, 2023
Time: Starting at Noon **by appointment only.**
Location: Salvation Army EDS Training Facility, 4020 Georgetown Rd
Indianapolis, IN 46254-2407
Contact: Jim Rinehart Ph: (317) 721-1458
Email: testing@indyradioclub.org
Required: FCC FRN and a completed NCVEC 605 license application form. **Laurel**
VEC test sessions: <https://www.laurelvec.com/?pg=exams>

HAMFESTS, OPERATING EVENTS, VOLUNTEER OPPORTUNITIES

Salvation Army Open Net, Thursday, 7PM, W9RCA repeater, 146.88 MHz, tone 88.5 HZ

Oct 28-29	CQ Worldwide DX Contest, phone
Nov 4-6	ARRL SS CW http://www.arrl.org/sweepstakes
Nov 18 -19	Ft Wayne Hamfest http://www.acarts.com/hfmain.htm
Nov 25-26	CQ Worldwide DX Contest, CW

Dec 1-3 ARRL 160 Meter, CW Contest <http://www.arrl.org/160-meter>
Dec 9-10 ARRL 10 Meter Contest <http://www.arrl.org/10-meter>

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

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

NOT EVERY RESTORATION STORY ENDS HAPPILY – And, some are a constant "work in process." That's the case with this very rare RCA television dating from about 1976. Former Thomson/RCA engineer Ed Milbourn has been helping trying to get this unusual set back in operating condition. It wasn't working -- then it was, and then not, and then it was, and now it's not again!

In the middle 1970's RCA was a big defense contractor and consumer electronics company and owner/operator of the NBC TV network. Ed remembers that a contract with the country of Iran called for RCA to deliver several (a dozen?) very "mod" ball televisions to the Shah's home base in Tehran based on the latest modular TV design. Electronics from the RCA CTC81 chassis were jammed into a fiberglass ball. The sets were apparently built in Canada. But the political environment soured in Iran. The Shah developed cancer and was allowed into the U.S. for treatment. The Iranian Hostage Crisis erupted shortly thereafter (in part because of America's deference to the Shah) and the RCA sets were never sent to Tehran.

So what to do now? The clever RCA marketing machine had an answer -- dress the unusual 1976 sets as football helmets and award them to famous quarterbacks. RCA invited American Airlines passengers to vote, and a few sets were given away. An Indianapolis TV station ended up with one in its lobby. The one I inherited was the last one left in storage and a little worse for the wear -- likely as a "parts" set used for repairs.



Ed Milbourn and 1970's TV repair expert Danny Sertich have been helping to bring this icon back to life. In addition to moving the set around the country as we attempted repair, I also tracked down a donor TV set owned by a collector in Alabama (for key missing parts.)

And we DID get her working -- briefly -- but she's again on the fritz. For now. If nothing else, I'm learning patience and marveling at this link to "mod" history. – Dave Arland, Ed Milbourn on FaceBook

2023 SET EXERCISE TO TEST SKILLS AND EMERGENCY PREPAREDNESS

The ARRL Simulated Emergency Test (SET) is scheduled for October 7 - 8, 2023.

The SET is ARRL's annual national emergency exercise designed to assess the skills and preparedness of Amateur Radio Emergency Service® (ARES®) volunteers, as well as those affiliated with other organizations involved in emergency and disaster responses. The SET is open to all radio amateurs and partner organizations, in addition to national, state, and local officials. Besides ARES volunteers, those active in the National Traffic System (NTS), Radio Amateur Civil Emergency Service (RACES), National Weather Service's SKYWARN® Storm Spotter program, Community Emergency Response Team (CERT), and a variety of other allied groups and public service-oriented radio amateurs are needed to fulfill important roles in this nationwide exercise.

During the exercise, volunteers can assess equipment, modes, and skills under simulated emergency conditions and scenarios. Individuals can use the time to update a go-kit for use during deployments and to ensure their home station's operational capability during an emergency or disaster.

To get involved, contact your local ARRL Emergency Coordinator or Net Manager.

SET guidelines and report forms can be found at:

[ARRL Simulated Emergency Test \(SET\) Guidelines+](#)

In addition to the ARRL SET exercise, as part of their communications interoperability outreach to the amateur radio community, the US Department of Defense (DOD) will be conducting a DOD COMEX 23-4 exercise. During the week of October 16, they'll conduct a series of high-power HF information transmissions on 60 meters and channel 1 (5330.5 kHz). This event will coincide with the ARRL SET.

SOLAR ECLIPSE QSO PARTY SEEKS AMATEURS AND RADIO ENTHUSIASTS FOR GLOBAL EXPERIMENT

ARRL is proud to partner with HamSCI to help promote participation in the Solar Eclipse QSO Party (SEQP). SEQPs are a series of global experiments -- and you can be a part of them. Solar eclipses will pass across the continental United States on October 14, 2023, and April 8, 2024.

During these celestial events, you can join thousands of fellow amateurs as part of the largest crowd-sourced event for ham radio scientific exploration. The SEQP is part of the Festivals of Eclipse Ionospheric Science and is for learning more about how the ionosphere works.

All radio amateurs need to do is operate using any mode and any band for all or part of the day, then upload their logs. Participation can be from anywhere; you don't need to be near the path of the eclipse to contribute valuable data. You don't even have to be a licensed ham to participate in the experiment (only to transmit).

- For SEQP contest and rules, visit www.hamsci.org/contest-info.
- For information on the Gladstone Signal Spotting Challenge using CW, WSPR, and FST4W, go to www.hamsci.org/contest-info.
- If you're an SWL or AM DXer, you might be interested in the Medium Wave Recording Event. Go to www.hamsci.org/mw-recordings/ for more information.

Or just get on the air and help provide data to better understand the ionosphere.

The first SEQP is on Saturday, October 14, 2023, from 1200 - 2200 UTC, and participants may use any band or mode (except WARC bands). Researchers will take the submitted logs and work to derive meaningful observations from the data.

ARRL members can find out more about the SEQP by reading "The Solar Eclipse QSO Party: A Fun Way to Support Radio Science" in the September/October 2023 issue of *On the Air* magazine.

The On the Air podcast will feature the article's author, Gary Mikitin, AF8A, talking about the event. The episode will go live on October 12.

STUDENTS WANTED: TALK TO AN ASTRONAUT VIA AMATEUR RADIO IN 2024!

There's an opportunity for STEM education via amateur radio that will put students in contact with astronauts. The Amateur Radio on the International Space Station (ARISS) program is seeking formal and informal education institutions and organizations, individually or working together, to host an amateur radio contact with a crew member aboard the International Space Station (ISS). ARISS anticipates that the contacts will be held between July 1 and December 31, 2024. Crew scheduling and ISS orbits will determine the exact contact dates.

To maximize these radio contact opportunities, ARISS is looking for organizations that will draw large numbers of participants and integrate the contact into a well-developed education plan. The voice-only radio contacts are approximately 10 minutes long and allow students to interact with the astronauts through a question-and-answer session. Students also have an opportunity to learn about satellite communication, wireless technology, and radio science.

The deadline to submit a proposal is November 10, 2023. Proposal information and more details, such as expectations, proposal guidelines, and the proposal form, can be found at www.ariss.org. An ARISS proposal webinar session will be held on October 5, 2023, at 7 PM ET. Visit <https://ariss-proposal-webinar-fall-2023.eventbrite.com> sign up.

ARISS is a cooperative venture of international amateur radio societies and the space agencies that support the ISS. In the US, participating organizations include NASA's Space Communications and Navigation program (SCaN), the ISS National Laboratory -- Space Station Explorers, ARRL, and AMSAT.

Additional information is available at ARISS.org.

UPDATE ON BOB HEIL, K9EID

KI9A: "I had a few guys ask how Bob is doing, and since he is a buddy of mine (and we live less than 1/2 mile apart), I've been in contact often with him.

Spend about 3 hours today hanging out with him at the rehab facility he's in. Long story-short, he's doing great!

He had some nerve issue that really did a number on his legs and even hands. Happy to say, he is rocking thru rehab, standing on his own, playing some tunes on an organ in house for some folks, and working on getting home. Heard some stories of rock and roll I haven't heard from him ever. Some great stories about Keith Moon, Slash, it's a blast! The man is a huge wealth of knowledge.

He wanted me to relay his thanks for the well wishes, and absolutely how much it means to him that people are thinking of him.

He said his pal Joe Walsh even called 3-4 times asking if he needed to come out and help with anything. That says a lot about Joe! And, Bob does a great Joe imitation BTW.

IF anyone wants to send a QSL with some well wishes, send them to my Callbook address listed below. I'd be thrilled to bring him an envelope from the KI9A buro! – K9EID via KI9A

CELEBRATING 50 YEARS OF THE ARRL FOUNDATION

Thursday, September 21, 2023, marked 50 years since the ARRL Foundation was formed. As a partner with ARRL, the ARRL Foundation stewards philanthropic support for amateur radio through [scholarships](#), [club grants](#), and other programs to ensure a strong and vibrant future for the

amateur radio avocation.

The total assets of the nonprofit entity measured nearly \$8M at its most recent [annual audit](#), but it grew from humble beginnings. In September 1973, several members of the ARRL Board of Directors worked to establish the charity. Larry Shima, W0PAN, was the Director of the ARRL Dakota Division at the time and did a lot of work to get the Foundation started. Shima is very pleased with the Foundation's success, stating, "We started off with \$1,000, and just look at it now!"

Shima says the original intent was to support future generations of radio amateurs. At the time, space and satellite communications were cutting-edge, and they were the focus of ARRL Foundation activities, though scholarships were also high on the list. "I was thrilled when I got the recent issue of *QST* that had the photos of the scholarship recipients in it. That is exactly what it was intended to do; we wanted to provide scholarships for young people," he said.

Gifts from generous donors support The ARRL Foundation, but it also works to help other charitable groups extend their reach. In an address to donors delivered over the summer, ARRL Foundation President David Norris, K5UZ, highlighted a recent grant the Foundation received. "The recent support the Foundation has received from Amateur Radio Digital Communications, or ARDC, has been transformational. We have been able to dramatically increase the funding of scholarships through their generosity and are working through a program of club grants, where more than \$500,000 was distributed to clubs looking to take on new projects or sustain their organizations - and to share their learning with others," he told the crowd.

Shima was just 35 when the ARRL Foundation was formed. He is the only surviving founding member of the Foundation Board. Fifty years later, he believes that hams who have done well in life have an obligation to support amateur radio by giving generously to ARRL and the ARRL Foundation. Ongoing financial support enables ARRL to promote and protect amateur radio while the Foundation supports the future generations of hams.

That generous support will have a tangible reach. More than 100 scholarships, ranging from \$500 to \$25,000, will be awarded in 2024. Thank you to the many donors for making this work possible, and congratulations to the numerous scholarship recipients who have benefited from their generosity.

To learn more about the ARRL Foundation, please visit the Foundation website at <http://www.arrl.org/the-arrl-foundation>. To learn how to make amateur radio a part of your charitable giving, contact the ARRL Development Office at <http://www.arrl.org/contact-us>.

ANNA GOMEZ CONFIRMED AS FCC COMMISSIONER

The US Senate confirmed Anna Gomez as the fifth commissioner of the Federal Communications Commission on September 7, 2023.

Gomez thanked President Biden for the nomination and the Senate for her confirmation.

"I am grateful for the opportunity to serve," she said in a statement on her LinkedIn page.

Gomez is an attorney with decades of experience in domestic and international communications law and policy. She served for 12 years in various positions at the FCC, including Deputy Chief of the International Bureau and Senior Legal Advisor. She most recently served as a Senior Advisor for International Information and Communications Policy in the State Department's Bureau of Cyberspace and Digital Policy, where she has been leading US preparations for the month-long World Radiocommunication Conference 2023 (WRC-23) that will commence on November 20 in Dubai, United Arab Emirates.

Steve Lang will replace Gomez as head of the US delegation to WRC-2023. Lang is a longtime state department official serving as Deputy Assistant Secretary for International Information and Communications Policy. Lang has been working closely with Gomez on US WRC-2023 delegation preparations.

[ARRL The National Association for Amateur Radio®](#) has represented the interests of US radio amateurs in preparation for the conference, and ARRL Technical Relations Specialist Jon Siverling, WB3ERA, has been appointed to the US delegation for WRC-23. ARRL also actively supports the work of

the [International Amateur Radio Union](#) (IARU), which, as a member of the International Telecommunication Union (ITU) Radiocommunication Sector, participates in conference preparatory work and whose representatives will also attend WRC-23 by invitation as observers in an advisory capacity.

AMI JAMBOREE SCHEDULED FOR NOVEMBER

The 2023 [Amplitude Modulation International \(AMI\) Jamboree](#) will be held over the Thanksgiving weekend, starting at dusk on November 24 and ending at dawn on November 27.

AMI Executive Director John C. McGrath, N9AMI, said the jamboree is not a contest but rather an AM-only operating event. "Everyone is

welcome to participate, and there is a certificate available for those who contact 25 stations and submit a log," said McGrath. "Each class winner will receive a certificate, and a short biography will be posted on the AMI website. While the age of the equipment doesn't matter, there must be an AM mode selection on the radio," he added.

The preferred AM bands for operation are:

1. 160 meters: 1.885, 1.900, 1.945, 1.985
2. 80 meters: 3.870 to 3.890
3. 40 meters: 7.175, 7.290, 7.293, 7.295
4. 20 meters: 14.286 and the upper end of 20 meters

According to the club's history, AMI was formed in 1993. The name was taken from a west coast amateur radio club that was no longer in operation. AMI is now dedicated to the enjoyment, promotion, and preservation of AM. Club memberships include numbered membership certificates, an organization of 10 regions with directors, annual operating events, local club support, and the monitoring of activities that affect AM operations. While the FCC reduced the peak-envelope power measurement for AM, they also issued a statement in support of continuing the mode's important place in amateur radio.

More information is available on the [AMI](#) website.

TECHNICAL

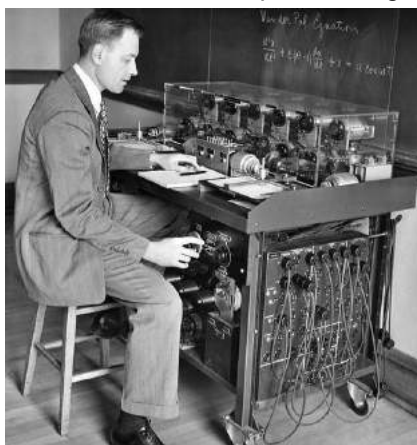
DIGIRIG INTERFACE WITH AUDIO AND CAT CONTROL for digital modes and how to set it up for the FT-891 <https://www.youtube.com/watch?v=SBdWvOdkaq4>

END-FED HALF WAVE - the perfect antenna for your POTA or Field Day station
<https://www.youtube.com/watch?v=YwffN-qZzhY>

WHO REMEMBERS SELSYN MOTORS? (Besides Bob, W9KVK) These became popular with hams in the 1950s and 60s for antenna position indicators. They were readily available on the surplus market. (60Hz versions are still available at Fair Radio) Read "NORDSIECK'S DIFFERENTIAL ANALYZER" below:

NORDSIECK'S DIFFERENTIAL ANALYZER (1950) — American theoretical physicist **Arnold Nordsieck** built this analog computer at the *University of Illinois* from \$700 worth of surplus electronic parts left over from World War II. It was modeled on the mechanical differential analyzers built since the 1930s but with a key difference, it used electrical connections instead of mechanical shafts. Nordsieck's differential analyzer used synchros (**selsyn motors**) a type of motor whose primary-to-secondary coupling may be varied by physically changing the relative orientation of the two windings. These were used to convert angular motion of the disk-and-wheel integrators to electric current. Also visible are the two plotting tables that can be used for input or output.

His **electromechanical differential analyzer**, like mechanical analyzers that preceded it, **solved differential equations**, thus providing a powerful tool for engineering, rocketry, physics, and other disciplines that needed to model complex real world conditions. In the early 1960's, ship's servo synchros and resolvers, just like those, were powered by 400 cycle power and used to solve angle and speed problems in Fire Control systems which took inputs from Sonar or Radar systems and did the math to point the gun, tube torpedo, or rocket thrown torpedo the right direction.



They were fascinating - and the speed of calculation was instant - at the speed of electrons. There would be a whole bunch of them all turning and altering the firing solution as the ship turned or rocked and rolled. To hear the hydraulics as those things kept a gun barrel "Stabilized to the deck plane," meaning the ocean's surface, was truly amazing. And faster than our digital stuff at the time.

Copies of his machine became the first computers at the **Lawrence Livermore National Laboratory** and **Purdue University**. On the blackboard is the *Van der Pol equation*, a non-linear second-order ordinary differential equation that can be used to model a nonlinear oscillator. For example his machine could mathematically model a generator on a triode for a vacuum tube with a cubic characteristic. The equation is also used to model chaotic behavior when sinusoidal forcing is involved. --Facebook, Michel Talbot, P.J. Roche

SHORTS

[SWAINS ISLAND, W8S](#) Another highly publicized DXpedition is about to begin.

ARRL HAS ANNOUNCED THAT CERTIFICATES ARE NOW AVAILABLE FOR NEW CLUB-LEVEL AWARDS. These awards are for clubs and individual members and recognize hams for their personal achievements. The new [First Contact Award](#) commemorates a ham's first contact. The new [Mentor Award](#) recognizes amateurs who have helped newly licensed club members to get on the air. Both certificates are available as PDF documents, and they can be downloaded and printed as necessary. ARRL Field Services Manager Mike Walters, W8ZY, said "More certificates are coming, and we want to give the clubs and individuals a way to have fun with new hams and maybe create some fun for the many of us that are not so new."

Steve Lang will become head of the U.S. delegation to the World Radiocommunication Conference (WRC-2023). He replaces Anna Gomez, who last week was confirmed by the U.S. Senate for a seat on the Federal Communications Commission (FCC). Lang is a longtime State Department official currently serving as Deputy Assistant Secretary-International Information and Communications Policy. Lang has been working closely with Gomez on U.S. WRC-23 Delegation preparations. A [biography of Lang](#) may be seen on the State Department website. WRC-2023 will convene in Dubai on November 20. Of particular concern to radio amateurs in the upcoming conference agenda is continued Amateur access to the 1.2 GHz band. More information here: <https://www.iaru.org/no-agreement-in-itu-r-wp4c-on-the-measures-needed-to-protect-the-rnss-in-the-23cm-band/>

ARRL was represented at the 2023 National Championship Air Races and Air Show for the "Final Flag at Reno." The [Reno Air Races](#) have been a tradition in Nevada since 1963 but will have a new home (location to be determined) in the future. Terry Griffin, NL7BI, and Bob Miller, WA6MTY, had a booth at the Reno-Stead Airport to greet race fans with a message about amateur radio. Steve Thompson, N7TX, a pilot and [STOL Drag](#) official, stopped in between races for a photo. STOL Drag [combines a short takeoff and landing competition with a drag race](#). It has become increasingly popular in recent years as backcountry aviation rises in popularity, similar to the rise in outdoor operating seen in amateur radio through programs such as [Parks on the Air](#).

The Amateur Radio Club at Indiana State University (ARC@ISU) has won grant funding from the ARRL to participate in the ARRL Collegiate QSO Party on October 7-8. The club is using the grant to purchase radios, power supplies, antennas, and headsets. They are looking for help getting everything set up. Contact ARC@ISU club president Rowan Eggert WO1P at reggert@sycamores.indstate.edu if you'd like to help.

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.
