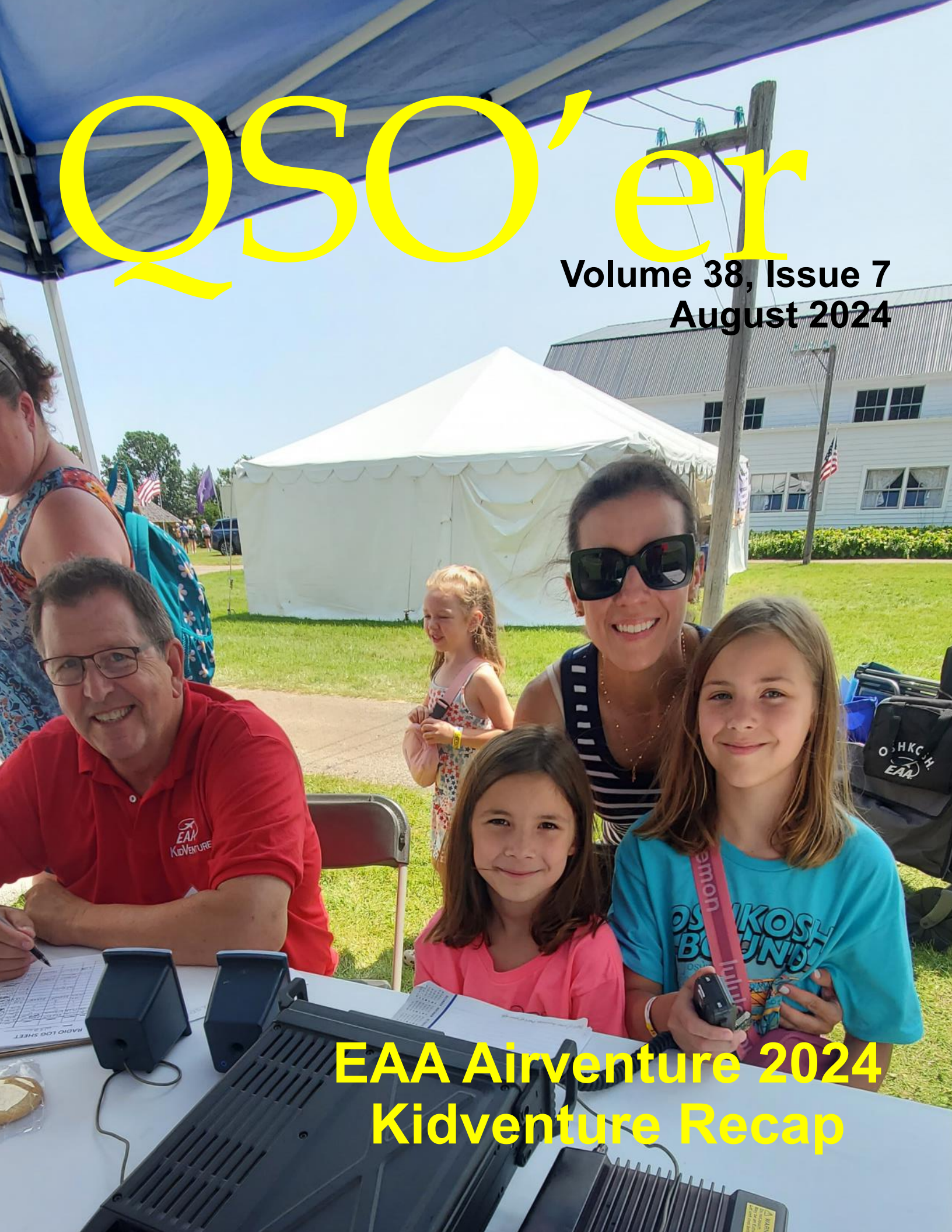
QSO'er

Volume 38, Issue 7
August 2024



EAA Airventure 2024 Kidventure Recap

QSO'er
August 2024 | Volume 38 Issue 7

FEATURES

EAA Kidventure Recap In Pictures (page 5-8)
EAA was a huge success for FCARC. There were not a lot of photos taken through the week, but a few of them highlight some of the great work of our ham radio ambassadors that volunteered their time for this 7-day event.

Solar Cycle 25 Producing Record High Sunspot Numbers (page 10)
This reprinted article from ARRL highlights the highly active sun this month.

Learning Morse Code (page 12-13)
Read about a simple 3-step process for learning Morse Code.

Resonance (page 14-15)
This short reprinted article from On the Air explains what resonance means.

IN EVERY ISSUE

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A plea to participate in this part of the newsletter.

Hamfests Across Wisconsin (page 18)

Lending Library Catalog (page 20)
Need something for a short period use? Check out the FCARC lending library. It may just have what you need.

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QSO'er

A publication of the
Fox Cities Amateur Radio Club
P.O. Box 2346
Appleton, Wisconsin 54912
www.fcarc.club

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Technical Director— Larry Peterson (WA9TT)

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Brian Miller (N9BAM)

Rudy Reynebeau (KD9RPW)

Mike Miller (KD9QHQ)

On the cover: The FCARC once again sponsored a ham radio station at EAA Airventure 2024 in the Kidventure area. Each day volunteer operators demonstrated various aspects of ham radio to youth and parents as they walked through the displays. Joel (WI4WD) demonstrates his radio set on 20 meters to a wonderful family who stopped by to visit our booth.

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Message From the Editor

We Are All Ambassadors For Ham Radio

By Gene Wall (KE8KWF)
FCARC Secretary and QSO'er Editor

In my previous life I had the opportunity to meet and work with abassadors that worked for the US State Department. The term ambassador to me was the title I used when addressing these men and women representing the United States overseas. I never paused to look up a definition for that an ambassador
actually is.

The Oxford dictionary offered two definitions. For the purpose of this edition of QSO'er, I'm choosing to use the following: *"a person who acts as a representative or promoter of a specified activity."*

Let's apply this to something other than diplomats. What about ham radio? I submit that ham operators are by definition ambassadors of the hobby, the service, and science of communication. Let me offer a few pieces of evidence to support this claim.

First, we just completed a successful week at EAA where we demonstrated the capabilities of ham radio operations to attendees of all ages. We encouraged the youth who visited to get on the radio and try to make a contact. Adults who know about ham radio had questions answered about the hobby. If you were at EAA talking to visitors, you were an ambassador for the hobby. You were promoting, educating, and acted on behalf of operators around the world as their representative.

Next, what about your vehicles? Do you have so many antennas on your vehicle that going through an automatic car wash is no longer an option for you? What about personalized plates with you callsign? All of these items promote a healthy amount of curiosity by those you pass on the road or park next to at the store. Just being visible as an operator makes you an ambassador.

If someone walked up to you and asked about your antennas, or license plate, could you give them an elevator speech (i.e. a 1-2 minute overview) to answer their questions, or will you launch into an extended discussion about wave propagation and solar storms? As an ambassador to the hobby of ham radio and the science of communications, we all might consider thinking about what to say when these opportunities to represent the ham community unexpectedly present themselves. I would offer the following starting point that I picked up from Bob (K0NR):

> "The Universal Purpose of Amateur Radio is *to have fun messing around with radios*. Of course, this takes many different forms: public service, emergency communications, chasing DX, chasing counties, competing in contests, building kits, running QRP…to name just a few."

Let me know what you think of this short explanation of what we do, and why we do it. I hope you enjoy this months edition of QSO'er and as always, please let me know what I can do to help you get published.

73,
Gene

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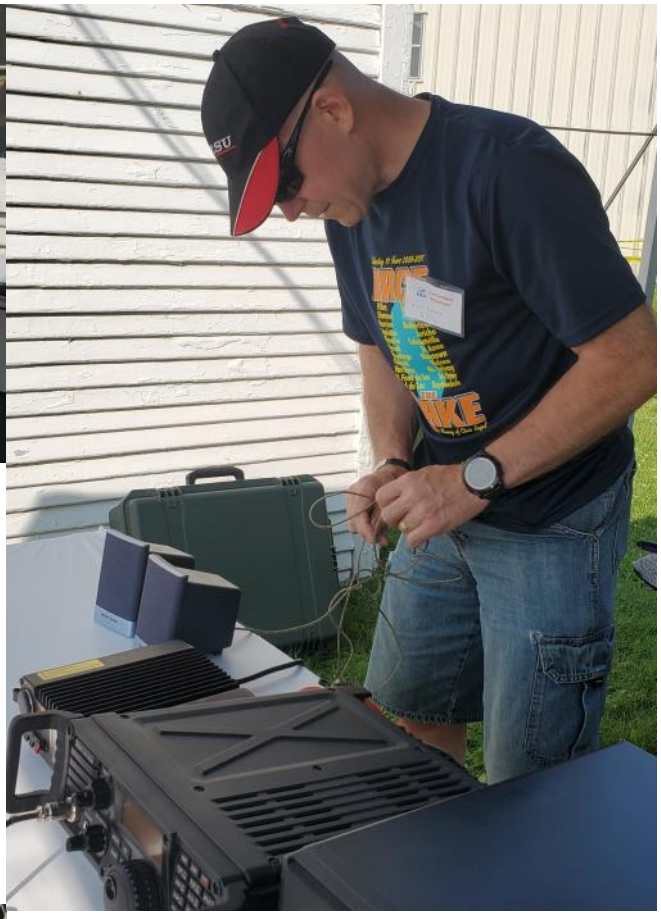
EAA Kidventure 2024 Recap



(***Above***) Joel (WI4WD) was very persistent on 20-meters despite having poor atmospheric conditions during the day, all week. (***Right***) Andy (AJ9L) prepares to open the HF station in the morning. (***Bottom Right***) Terry (A9AOT) and Andy (AJ9L) take a break from the demonstrations for some camaraderie and taking in the wonderful weather. (***Bottom***) Jon (AB9AH) and Roger (AK4MI) await the opening of Kidventure at the CW demonstration.

Over 460 volunteer hours were donated by FCARC members and other ham operators from around the country.

165+ contacts were logged during the week-long event

Over 350 visitors stopped by the CW and/or HF station to talk with our operators during the 7-day event.

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EAA Kidventure 2024 Recap

(***Left***) Andy (AJ9L) assisted the young lady at the microphone make her first contacts of the day. Behind her is her grandfather who was just as excited about our demonstration than his granddaughter.

(***Below***) Joel (WI4WD) walks a young operator through a short script to call CQ with the hopes of making a 20-meter contact.

(***Left***) This young lady spent over three hours at our HF station trying her best to make contacts. She said this was "the best" activity in Kidventure. Here, she is showing her younger sister and cousin how to call CQ.

(***Bottom Left***) The young lady turns over the mic to her little brother and helps him read the script to call CQ.

(***Bottom Right***) Our youngest Elmer was our young lady pictured here. She had no problem helping any youth that stepped up to the radio to get on the mic and call CQ.

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EAA Kidventure 2024 Recap

Ham radio is just as much of a family activity as it is an individual hobby. We appreciated all of the parents who stopped by and encouraged their children to talk with us about ham radio.

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(***Top***) Andy (AJ9L) helps a visitor to the CW station spell out his name in Morse Code. (***Top Right***) Mike (KD9QHQ) works the 40-meter station. In addition to 40-meters, he also had 2-meter and 6-meter radios up and running. (***Right***) Rick (WJ9K) attends to the CW station while Mike (KD9QHQ) looks on from behind.

(***Below***) The group photo of an afternoon shift. (***Standing L to R***) Mike (KD9QHQ), Rick (WJ9K), Steve (KD9WYC), Andy (AJ9L), Joel (WI4WD). (***Seated L to R***) Jon (AB9AH), Valerie (Jon's wife).

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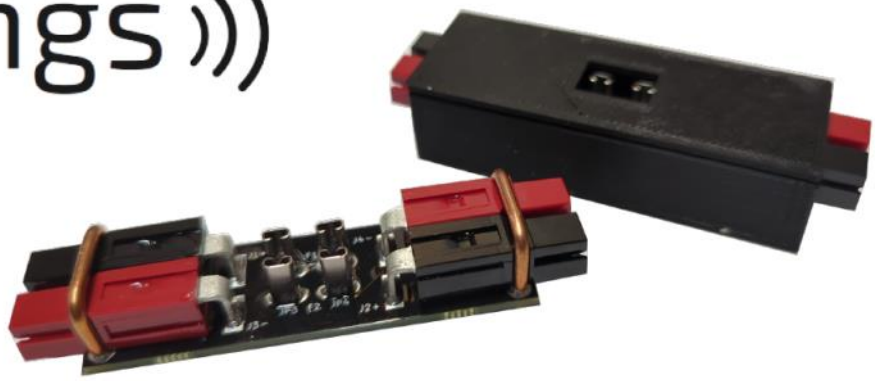
Member Spotlight

Unfortunately we do not have a member spotlight for August. It appears we are all just a little modest. This section is intended to help us get to know one another. Don't be embarrassed or afraid to provide Gene some biographical information for this section of the newsletter. He will ensure that you are introduced properly and protect your vital information.

If you would like to share your own story, or recommend someone else for the member spotlight, contact Gene Wall at ke8kwf@gmail.com to arrange for publication in a future edition. These stories are meant to help us get to know each other and inspire others based on our past experiences.

HamThings



Chris N9CVR is selling Powerpole Fuse Blocks. They are designed for mini APM/ATM blade fuses, up to 30 amps. Each Fuse Block weighs only 0.8oz!

Club member pricing: $13 for a kit, $9 for an enclosure; $29 for a complete Fuse Block.
Talk to Chris, good on QRZ, or HamThingsLLC.etsy.com,
Use promo codes W9ZLCLUBPRICE and W9ZLHANDDELIVER

The next FCARC General Membership meeting will be on Monday, September 16, 2024. The meeting starts at 7:00 pm at Maplewood Middle School.

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Solar Cycle 25 Producing Record High Sunspot Numbers

By: Frank Donovan, W3LPL

ARRL 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.

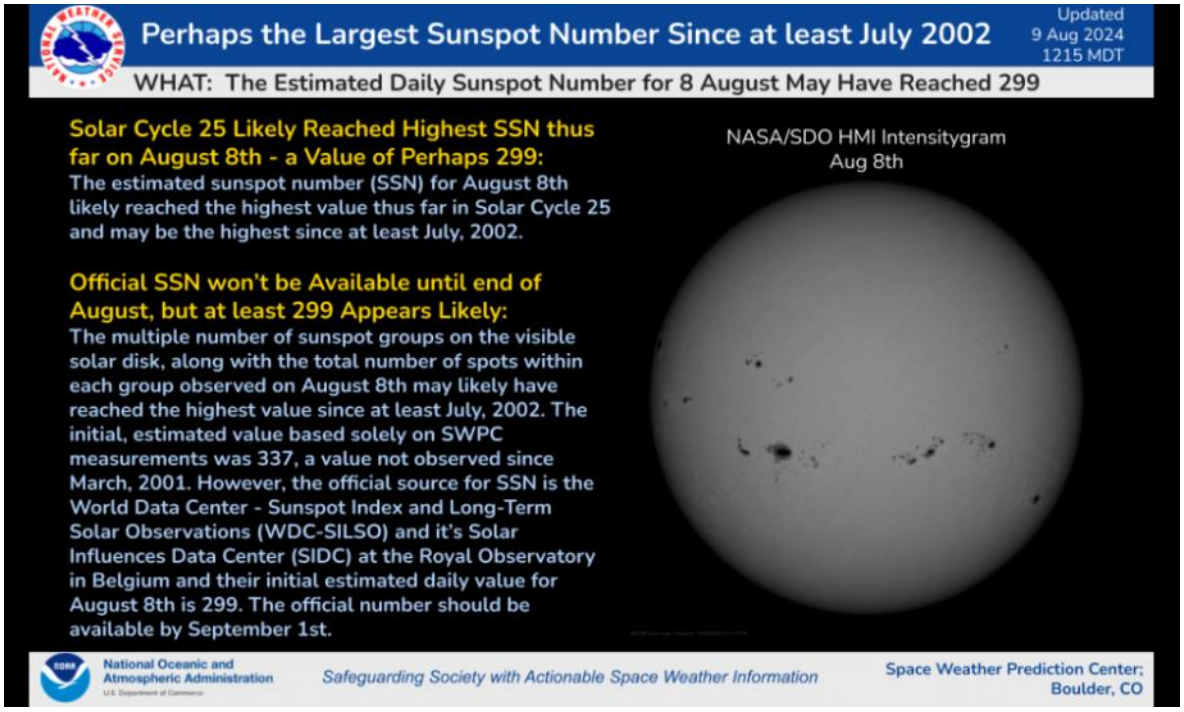
According to the NOAA Space Weather Prediction Center (SWPC), Solar Cycle 25 likely reached its highest sunspot number yet of at least 299 on August 8th.

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.



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Rohn Tower For Sale

The exact height is unknown, but based on the photos it is estimated at 20-30 feet. The Yagi on the top is for television. The new owner of the home will not be using the antenna.

The location is Lowell, Wisconsin

Interested parties can contact Holly Cobb at (414) 736-2538 or email at 4uholl@gmail.com to discuss price.

60’ Rohn Tower For Sale

Tower comes with rotor plate and thrust bearing.
Location is in the Appleton, Wisconsin.
Asking $900

Contact Rick Kosiorek, WJ9K, for more information.

Not familiar with a Rohn tower? Here are some facts.

The ROHN 45G is a true multi-use structure that provides excellent strength for applications up to 300'. It is offered with heavy steel round legs to satisfy a variety of needs under varied conditions

*Completely hot-dipped galvanized after fabrication.
*Built on a 16-3/4" equilateral triangle design
*High strength tubular legs joined by Zig-Zag® cross members
*Continuous solid round steel bracing

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Reprinted from *On the Air* Magazine

A Step-by-Step Approach to Learning Morse Code

TJ Johnson, K9KJ

There is probably no better time to learn Morse code than right now — there are so many apps, videos, and other resources to help you learn. This article provides a plan for learning this valuable, classic ham skill.

My high-game plan for learning Morse code might sound too simple, but the devil is in the details. We will look at how to integrate apps, videos, and even on-air practice into this game plan, which consists of the following steps:

Learn the characters ⇨ Add complexity ⇨ Increase speed

Each step will take quite a while to master, but if you practice consistently, you'll make progress and improve.

1

Learn the Characters

The first step requires you to focus solely on recognizing letters, numbers, punctuation, and *prosigns* (sets of two letters that are run together with no space between them, that signify something — for example, the prosign "SK" means "end of contact" by their sound.

The ARRL website has a great collection of software and online training tools at arrl.org/learning-morse-code. Elsewhere on the internet, you'll find great tools such as "Learn CW Online" (lcwo.net/), "Morse Code Ninja" (morsecode.ninja), and "RufzXP" (rufzxp.net/) to get you started. For those that wish to be portable, try the MFJ-418 Code Tutor.

When using training tools and software, set the code speed at 18 words per minute (wpm). This speed is fast enough to prevent you from counting individual dots (dits) and dashes (dahs), a beginner tactic that only slows you down. After hearing a character, I like to repeat it by humming the dit/dah pattern, and then I send it with a *code practice oscillator*, a Morse code key that will produce an audible tone without being on the air.

You want to focus on the sound a whole character makes, rather than counting dits and dahs. Listen to an individual character — for example, an L — over and over until you hear it as a rhythm (in this case, "di-dah-di-dit") rather than needing to spend time thinking about how many dits and dahs you heard, and in what order. Repeated listening is the way to begin recognizing individual characters by their rhythm.

Dedicate 20 to 30 minutes a day to listening to a few letters over and over, and then send them using a code practice oscillator. Make sure you take breaks. Learning is a fatiguing process, and learning Morse code is no different.

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2

Add Complexity

After you learn the characters, you can add some complexity by decoding letter groups. Some of the resources mentioned above will send you two or three characters at a time. You can eventually work your way up to 5-character groupings. To start, set your speed to 18 wpm, and the *Farnsworth spacing* (the spacing between the character groupings) to 5 wpm. This will give you a good amount of space between the character groupings, to ready your mind to start sending the next characters that you hear. Start with character groupings that are just letters, and once you are comfortable, add numbers, then punctuation, then prosigns.

While you are practicing groups of characters, add call signs. Tools like the MFJ-418 and software like G4FON (g4fon.net/) have methods of sending call signs. This is a good way to copy letters and numbers. Next, configure it to see if you can pick out words. Start out with common words that might appear in a short contact such as "CQ," Q-codes such as "QSL," abbreviations such as "TU" ("thank you"), and your call sign — you should spend a fair amount of time learning to recognize the sound of your call sign as quickly and readily as you recognize your own name.

Three of the many sites where you can learn and practice Morse code (from left): Morse Code Ninja, Learn CW Online, and RufzXP.

3

Increase Speed

Gradually increasing your copying speed is an important aspect of having confidence in copying Morse code. Some of the tools mentioned above can certainly be used to help with this. Don't forget that sending is just as important. Some hams find they can send faster than receive, so combining both strategies will help.

Continuing with your speed at 18 wpm and spacing at 5 wpm, decrease the spacing by two until you get good at that character rate. Doing it this way will help you continue to recognize letters at the faster 18 wpm speed, and gradually decreasing the spacing will force you to get faster at copying characters. You will eventually want to make it to a spacing of 18 wpm, matching your speed.

As you practice, it's okay to test yourself at higher speeds such as 20 wpm with a wide spacing such as 5 wpm, gradually increasing your speed and decreasing the spacing. It's fun to experiment with different speeds and spacings.

Fire up your rig and try to copy the code practice transmissions that ARRL sends from their Hiram Percy Maxim Memorial station (arrl.org/code-transmissions). They are set at 18 wpm and include punctuation marks and pro signs. Even if you can't copy the whole bulletin, take it slow and try it in chunks. ARRL also offers code practice in the form of MP3 files at arrl.org/code-practice-files.

Next, try your hand at a CW contact! Answering a CQ can be daunting, but keep in mind that every CW operator was once in your shoes and will slow down and help make the contact a great experience. Lastly, don't discount the value of contesting as opportunities to get on the air, have fun practicing, and make some contacts. Keep look for ones that focus on slower speeds such as the K1USN Slow Speed Test (k1usn.com/sst.html), the Medium Speed Test (internationalcwcouncil.org/mst-contest), or one of the Straight Key Century Club (skccgroup.com) events. Keep in mind that in some of these contests, many folks are speeding along at wpm rates in the 30s and even in the 40s, so don't get discouraged, just pick the right contest or operating event for you.

Conclusion

I would be remiss if I didn't mention some of the great programs put on by CWOps (cwops.org) with their CW Academy as well as the Long Island CW Club (longislandcwclub.org). These are great ways to learn if you are interested in a program with structure, goals, and camaraderie. Everyone learns differently, and to some, code comes easier. Pick the tools that seem most comfortable for you, and an approach that makes sense for your schedule and lifestyle.

Thomas Johnson, K9KJ, aka "TJ", enjoys operating CW and can be found in contests, ragchewing, and even CW mobile! He has taken his love of Morse code to YouTube, where he provides resources for learners.

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Reprinted from *On the Air* Magazine

Resonance

Steve Ford, WB8IMY

When most people think of resonance, they think of sound, such as how a bell resonates when a clapper strikes it. The tone the bell creates is the result of resonant vibration at a particular frequency, which results in expanding waves of air pressure that we perceive as sound.

But when hams speak of resonance, the meaning is quite different, and to explain the difference, we must introduce the concept of *impedance*. Read on to learn more.

If you've been reading *On the Air* for a while, you might recall our discussion of "Impedance in the Real World," that was published in the November/December 2021 issue. The short definition of impedance is that it is opposition to the flow of electrical energy. The impedance value (expressed in ohms) is comprised of three components: *inductive reactance*, *capacitive reactance*, and *resistance*.

Capacitive reactance is opposition to a radio frequency (RF) signal created by capacitive effects in a circuit. Inductive reactance is opposition to the same signal created by inductive effects. Don't worry about the deeper meanings of capacitive and inductive reactance. For now, just keep in mind that they are forms of opposition to an RF signal.

But what about resistance? That's easy. Resistance is just good-old-fashioned opposition to the flow of any kind of electrical energy. When the elements of your toaster become red hot, that's resistance in action. The toaster elements are resisting the flow of electricity and converting a substantial portion of that energy into heat.

Resonance and Impedance

Think of an antenna that is designed for 146 MHz. This antenna will have a specific impedance value at the point where the coaxial cable connects (its *feed point*). It exhibits this impedance value because it is built from metal elements that have been trimmed to specific lengths.

If you feed RF energy at a frequency of 146 MHz to this antenna, most of the inductive and capacitive reactances will cancel each other, and all you'll have left at the feed point is pure resistance. Congratulations: this antenna is considered *resonant*, and it will radiate much of the energy into the air with as little loss as possible. If you have a standing wave ratio (SWR) meter in your station, it will probably read 1:1, or something close to it.

Resonance and SWR

Many hams believe that whenever an antenna's SWR is 1:1, it is perfectly resonant. Well...sort of.

A 1:1 SWR generally means that the impedance of the antenna system and the transceiver are perfectly matched, and that RF energy is flowing with the greatest efficiency possible. However, some amateurs have been led to believe that *only* a resonant antenna can achieve this blissful condition.

This is not true. An antenna can be nonresonant, have a high SWR at the feed point, and still be a perfectly usable radiator.

Resonant vs. Nonresonant Antennas

In Figure 1 you'll see a typical ground-plane antenna that has been designed for the 2-meter amateur band (144 to 148 MHz). Like the antenna we just discussed, it is resonant at 146 MHz. At that frequency the feed-point impedance is approximately 50 ohms, which is a good match for the 50-ohm coaxial cable that connects it to the radio. As a result, the SWR at the radio will be close to 1:1.

This antenna is easy to install, and it works well. However, the drawback is that it can only be used on the 2-meter band. As you apply RF at a frequency too far above or below 146 MHz, the antenna won't be completely resonant and the SWR will begin to rise. If the SWR increases above 1.5:1, losses in the feed line will increase and your radio may also begin to reduce its output power.

Now consider the *nonresonant* antenna shown in Figure 2. A nonresonant antenna is not tuned to a specific frequency. The one in Figure 2 is an HF dipole, and it is fed with a type of low-loss cable known as *windowed ladder line*. Unlike the ground plane in Figure 1, this antenna is not designed for a particular frequency. It is merely made as long as space allows.

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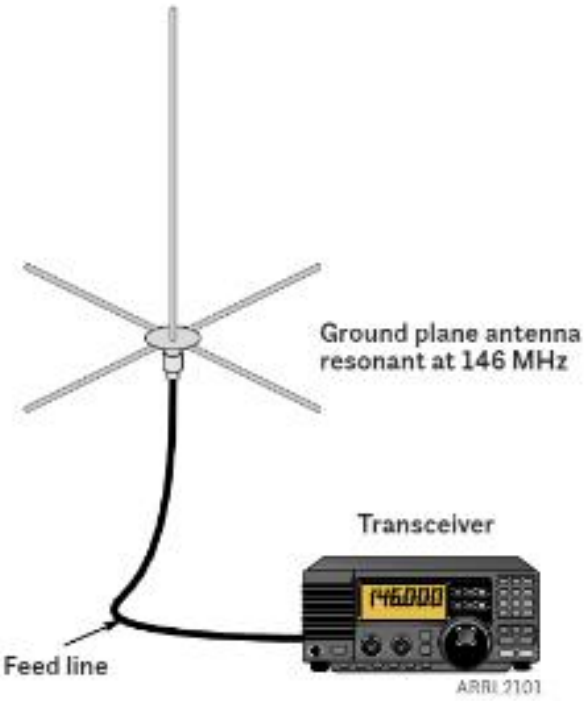

Figure 1: This ground plane antenna is resonant at 146 MHz, so it will exhibit a low SWR at and near this frequency. It never needs adjustment after it is installed. No other devices such as antenna tuners are necessary, either.

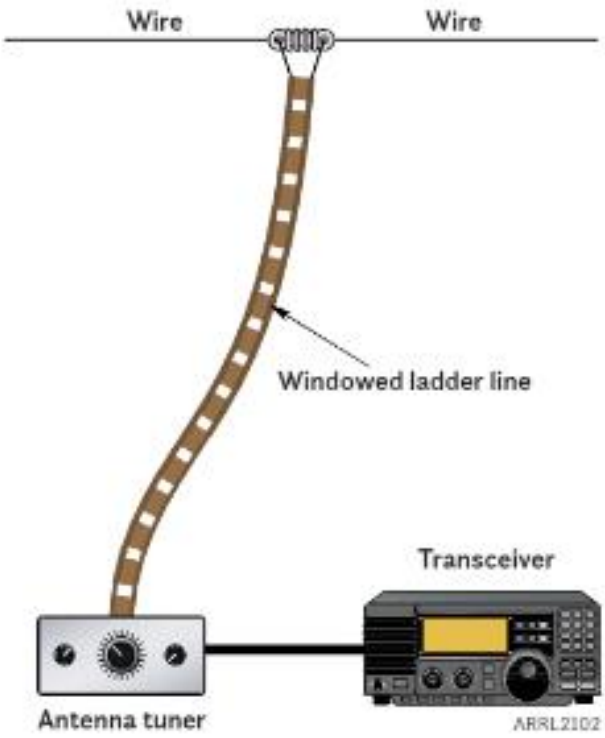

Figure 2: This HF dipole antenna is *nonresonant*. That is, it is not designed for a specific frequency. Instead, the antenna tuner at the station provides the impedance match for the radio, and the windowed ladder line keeps any SWR losses to a minimum. The advantage of this antenna is that it can be operated at many different frequencies.

The impedance of this antenna at the feed point will vary considerably depending on the operating frequency, and the SWR can sometimes be quite high as a result. You deal with this situation by using an antenna tuner to create an impedance close to 50 ohms for your transceiver. An antenna tuner won't change the impedance (or the SWR) between itself and the antenna, but you don't worry too much about that. Thanks to the ladder line, any energy that's lost because of the high SWR is minimal.

The advantage of a nonresonant antenna like this one is that it can be used at many different frequencies, and it is even simpler to build than a resonant antenna. The drawbacks of a nonresonant antenna are expense and operating convenience.

For the kind of antenna shown in Figure 2, you'll need to invest in a low-loss feed line and an antenna tuner. And every time you change frequencies, you will need to adjust the tuner (unless you've purchased an automatic antenna tuner that performs the adjustment for you). If you plan to operate at high power levels, you will need an appropriately rated tuner, and these can be somewhat expensive.

There are some nonresonant antenna designs that do not require antenna tuners, but they are usually limited to just a few frequency bands. One common design is the so-called off-center-fed dipole. It is built to a specific length, fed at a precise location along the wire, and it uses a balanced-to-unbalanced transformer (*balun*) at the feed point to provide acceptable SWRs.

The Bottom Line

If you want an antenna system that you will never have to adjust after installation, one or more resonant antennas (single or multi-band varieties) are best. Hams who have plenty of money and acreage often erect several separate resonant antennas for various frequency bands. Their antennas are ready for use at a moment's notice without resorting to tuners or any other matching devices.

On the other hand, if you have limited space and want just one antenna that you can use on many different frequencies, consider a nonresonant design. While a nonresonant antenna may come up short when it comes to operating convenience, it compensates with excellent flexibility.

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Social Saturday
September 7, 2024
9:00 am

How many hams does it take to make a Social Saturday? Just 2, although we'd love to have more!

Our next Social Saturday is only a few weeks away. Enjoy some great conversation, mentorship, and live ragchew, with great food as a bonus.

Golden Corral
1169 North Westhill Blvd.
Appleton, WI 54914

FCARC Club Gear

On sale now at http://www.jse-repair.com

Contact Jeff on his website for information on items that you don't see, but would like. He stocks and makes a wide variety of POTA clothing and flags, hats, club shirts, as well as radio covers.

Optional Name and Callsign Shown

Optional Back of Jacket Embroidery

JSE Est 2009 Custom Embroidery & DTG Printing Hats - Jackets - Shirts

FCARC welcomes your donations in support of our mission to serve amateur radio. As a 501(c)(3) organization, your donations are tax-deductible. You can go to the FCARC website and click on the "Donate" button.

Donate

GOT QUESTIONS? CALL our Google Voice Information Phone Number
920-358-0118

If you have an item, rig, QSL card, or anything related to Amateur Radio and want to share it with club members, bring it to the club meeting for **SHOW AND TELL**.

A 2-3 minute section put into the agenda for fellow hams to share items they find useful or promotes Amateur Radio.

Meeting Information

Maplewood Middle School
1600 Midway Road
Menasha, WI

Community Room
Enter thru Door 17
Meetings start at 7:00 PM

Meetings are held on the third Monday of each month. Check the FCARC calendar for details.

The FCARC Board of Directors meets on the *second Monday* of each month at Maplewood Middle School. Club members are welcome to attend.

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Looking to prevent unwanted signals on HF frequencies?
Stop by Our Booth

C3
ELECTRONICS, LLC.

We are a New Vendor selling Bandpass Filters!

Get Ready for Field Day or POTA

Find Our Booth at these Hamfests:

C3 Electronics, LLC.

(920) 915-8960

WOLF RIVER COILS LLC
Silver Bullet Antenna

From the guys who brought you misfit coils, Wolf River Coils LLC now has misfit collapsible whips.

102 inch collapsible SS whips $15.00 or 3 for $40

213 inch collapsible SS whips $25.00

Now that Wolf River Coils LLC has incorporated a CNC Milling machine for coil production their supply of misfit coils is dwindling as we no longer create a misfit. So if you ever wanted to purchase a misfit SB1000 or SB Mini now is the time because when they're gone, they're gone.

SB1000 sells for $20.00 and the SB Mini sells for $15.00.

Next FCARC Ham Exam

September 14, 2024

Registration starts at 8 am and ends at 9 am. Preregistration is encouraged. A government issued picture ID is required along with proof of your current license. Please see the ARRL.org website for license information and other forms of acceptable ID. The application requires a **Federal Registration Number** and a valid **email address**. FRN's can be obtained free of charge on the FCC.gov website in the ULS section.

Details on each testing date will be posted on the FCARC website.

Cell phones must be silenced and put away during exams. Non cell phone calculators are permitted. Programmable calculator memories must be cleared and are subject to examination by a VE. Cost of the exams are set by our VEC, the ARRL, at $15.

If you fail an exam you may take a different version, time permitting, but you will be charged another $15. If you are successful you may take the next element during that session with no charge.

If you have any questions concerning FCARC Exams or to preregister contact Rick Kosiorek at (920) 809-1010 or WJ9K.mail@gmail.com

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Wisconsin Hamfest Schedule

08/24/2024 - Circus City Swapfest
Location: Baraboo, WI
Sponsor: Yellow Thunder Amateur Radio Club
Website: http://yellowthunder.org

09/07/2024 - ORC Annual Regional Fall Swapfest
Location: Cedarburg, WI
Sponsor: Ozaukee Radio Club (ORC)
Website: http://www.OzaukeeRadioClub.org

09/20/2024 - 09/21/2024
HRO Superfest
Location: Milwaukee, WI
Sponsor: Ham Radio Outlet

10/19/2024 - Hidden Valleys Amateur Radio Club 1st Annual Hamfest
Location: Lancaster, WI
Sponsor: Hidden Valleys Amateur Radio Club

11/02/2024 - Wisconsin ARES/RACES Conference 2024, ARRL Wisconsin State Convention
Location: Wisconsin Rapids, WI
Sponsor: WeComm Ltd
Website: https://wi-arrl.org/

03/16/2025 - Tri-County WI HamFest 2025
Location: Fort Atkinson, WI
Sponsor: Tri-County Amateur Radio Club
Website: https://www.W9MQB.org

ARRL Student Membership

ARRL Student Membership was established to increase youth participation and long-term involvement in amateur radio. Student members can access ARRL membership benefits including the digital versions of ARRL magazines, and the extensive courses and training materials available through the ARRL Learning Center.

Please note: ARRL requires age verification for all student members. Parental/Guardian consent is required for applicants under 18 years of age. Student memberships are not eligible for add-on printed membership magazine subscriptions. Student membership benefits are subject to other restrictions and exclusions.

Student Membership options:

Option 1: **Full Student Membership.** Dues rate $30 per year. This low-cost membership option is available to US Amateur Radio licensees under the age of 26 years. Applicant must be a resident of the US, its possessions, or Puerto Rico. A full member may vote in ARRL elections for Division Director, Vice Director, and Section Manager. Other restrictions and exclusions may apply.

Option 2: **Free Student Membership.** This no-cost, Associate membership option is available to full-time students aged 21 years or younger. Applicant must be a resident of the US, its possessions, or Puerto Rico. Free Student Membership excludes access to the ARRL E-mail Forwarding Service, and Associate members may not vote in ARRL elections. Other restrictions and exclusions may apply.

Join Now

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The Ozaukee Radio Club presents its 45th Annual Spring Indoor

Amateur Radio, Electronics & Computer

SWAPFEST

featuring TOWER ELECTRONICS!

Saturday, April 26, 2025

8 AM to 12 PM

Ascension Columbia St. Mary's Center (Milwaukee Curling Club)
W67N890 Washington Ave., Cedarburg, WI 53012

Talk-in: 146.97 MHz – PL 127.3 Hz
Door Prizes! Free WIFI

Food sold by Cub Scout Pack 516

Admission: $7.00 at the gate
Children 12 and under FREE, with a paid adult admission
6 ft. Tables: $12.00 in advance, $15.00 at the door, if available

Use the Order Form below, email, or call Tom Trethewey, KC9ONY at 262-421-6351
Email: swapfest@ozaukeeradioclub.org
More information: http://www.ozaukeeradioclub.org/ or http://www.facebook.com/orcwi

Save the date for **2026**: April 25, 2026 !!

For Advance Tickets and Tables, send check with a **SASE** (Business-Size #10 envelope) to:
Tom Trethewey, KC9ONY- W69N905 Evergreen Ct N, #202, Cedarburg, WI 53012-1170

Name: _____ **Call sign:** _____

Address: _____

Phone number: _____ **Email:** _____

No. of Tickets: _____X $7 = _____ **(Advance tickets are double stub)**

No. of Tables: _____X $12 = _____ **Electricity:** Yes (Add $5) _____No _____

Total Amount: _____ **(Please make checks payable to ORC)**

Tickets and flyers printed by Mequon Copy Master https://mequoncopymaster.com/

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FCARC Lending Library

Chris Reitz, N9CVR
Head Librarian

The FCARC lending library is a repository of references, equipment, and supplies that club members are willing to loan out to other club members. If you would like to borrow an item from the lending library contact the owner and arrange to borrow the item. If you have something you would like to list in the lending library, contact Chris Reitz (N9CVR) to have your item listed.

Library Catalog

Current As Of 8/16/24

Item	Make	Model	Owner	Notes
Coax / Powerpole crimper			N9CVR	contains all required tools for crimping coax and power-pole ends, except wire stripper for powerpoles
Power Meter	Diamond	SX-200	KD9UHZ	
RF Preamp	Ameco	PT-3	KD9UHZ	
Manual Antenna Tuner	MFJ	MFJ-945E	KD9UHZ	
TDR pulse generator	-	-	N9CVR	For Time Domain Reflectometry
TDR potentiometer	-	-	N9CVR	For finding characteristic impedance of TX line. Broken as of 2023.01.29, working on fixing.
75m/40m NVIS dipole	-	-	N9CVR	Requires a tree or pole and some open space to deploy
2m/70cm tape measure			N9CVR	Portable, directional antenna. SO-239 connection. Good
offset attenuator	KC9ON		N9CVR	for fox hunting
20ft fishing pole			N9CVR	Good for portable installations where trees don't exist
misfit 213in whip	Wolf River Coil		N9CVR	Misfit whip - skinniest section doesn't go up (~6in). 3/8"-24 threaded base
Microbit v2 (x2)	BBC	Microbit	N9CVR	USB/Bluetooth Microcontroller with 2.4GHz radio capability and access to library of programs for it
Antenna Analyzer	MFJ	208	WI9MMM	2m Only Antenna Analyzer
2m mobile radio	Yaesu	FT-1500M	N9CVR	2m / Analog FM / 50W + WX.
Code Practice Oscillator	Pacific Antenna	CPO	N9CVR	From club build day. There are 3 in my household, so feel free to borrow one!
2m wattmeter/SWR meter	Shurecom	SW33	KD9TXA	SMA connectors
2m J-pole antenna	-	-	KD9TXA	SO239 connector
Cable tester			KD9TXA	For RJ45 and RJ-11 modular cables
Modular connector crimper			KD9TXA	For RJ45 and RJ-11 modular cables
Coax crimper			KD9TXA	For RG6 (75 ohm cable company coax)
Tripod stand for J-pole			KD9TXA	Ideal for field day. About 6ft height
800W generator			KD9TXA	Gasoline powered

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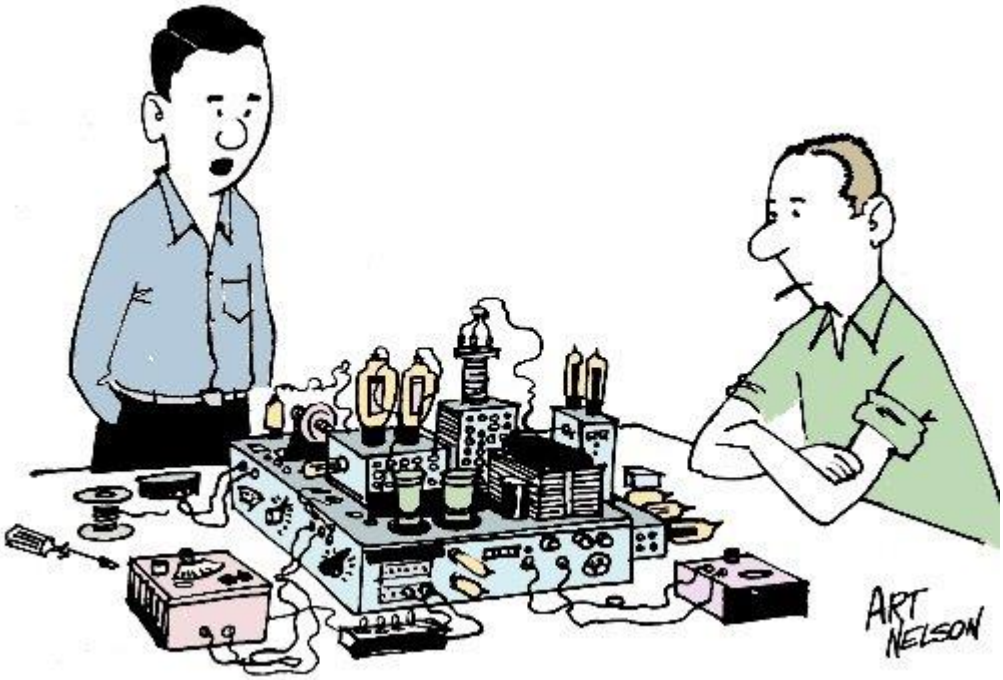
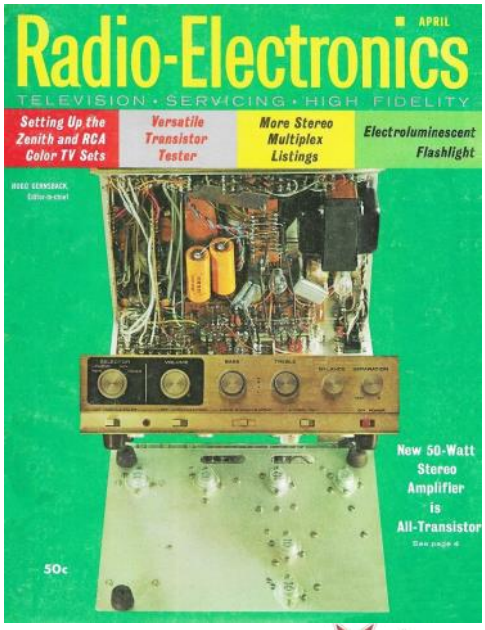


"I worked on it until I finally forgot what it was I started to build."

The comic to the left was taken from the April 1962 edition of “Radio Electronics”



HAM Radio Trivia

Try your luck at answering these HAM trivia questions. The answers are at the bottom.

What is MOPA?

A) A slow cw operator. B) A mechanical printer aid. C) A printer appliance.
D) A master oscillator, and power amplifier.

2. What is the grace period during which the FCC will renew an expired license?

A) 2 years B) 5 years C) 10 years D) There is no grace period

3. The common nickname for a Wullenweber HF/DF antenna is

A) Bird nest B) Birdcage C) Elephant cage D) Sterba curtain

4. Winding coils in the old days, sometimes we used a copper wire that was called DCC. What does DCC mean?

A) durable copper compound B) double cotton covered C) double copper core
D) dynamic copper compound

5. What type of receiver are most 1926 Atwater-Kent radios ?

A) TRF B) Superregenerative C) Direct Conversion D) DDS

1. D) A master oscillator, and power amplifier. | 2. A) 2 years | 3. C) Elephant cage | 4. B) double cotton covered | 5. A) TRF

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Ham Radio Glossary (A-M)

T U E L E C T R O N S H A R M O N I C S
U R G J F Z W G P Z N B A T T E R Y F D
Y G W A Z G Y R K G A R P M B S K T U Y
E I M P E D A N C E L O Q L D C A Z S E
L W N F Z S Y P I R T A J Y L A M D E L
D J G I O U A L C N E D U M P P M D A M
B A P N K Q H Z U K R C M U F A E U B E
E I N D U C T O R P N A P L I C T P X R
G R O U N D R O D J A S E T L I E L L M
Z A M C R A J F B C T T R I T T R E I Y
T C O T M V H M A A I I E M E A N X M A
A H D A O D E I L P N N M E R N D E I N
U I U N D I R C U A G G I T G C A R T T
T R L C U R T R N C C E S E B E T V E E
O P A E L E Z O J I U M S R Z O A C R N
P E T Q A C N P I T R S I A C F C K K N
A M I T T T T H M O R M O R K N A H J A
T P O Y E O L O P R E E N I O Z X E M I
C F N R K R Q N N G N Z B L S B F Y S Z
H N X F Y I N E B I T J T B L T Z C T J

Alternating current	Broadcasting	Microphone
Inductance	Capacitance	Autopatch
Modulation	Multimeter	Capacitor
Ground rod	Impedance	Duplexer
Electron	Director	Modulate
Inductor	Filter	Harmonics
Balun	Limiter	Emission
Ammeter	Battery	Antenna
Jumper	Chirp	Elmer
Hertz	Data	Fuse

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Elmer's Contact List

This is a listing of HAMS who are willing to help other HAMS out in special areas. Feel free to contact these fellow HAMS with any questions.

Call / Name	Specialty Area	Phone
N9LVS - Dan	FCC Personal Da-	205-4899
WA9TT- Larry	SSTV (analog)	915-4499
N9AOT -Terry	Wires X / Digital	572-2937
KB9AIT - Gary	Wires X	
KC9YL- Anne	CW	682-7978
W1GCS - Greg	Net Control Oper-	740-9408
WJ9K - Rick	Getting on the Air	809-1010
KG9JP - KC	Contesting	602-999-7341

If you are interested in helping other hams and being an Elmer please contact a board member.

Logging Software For Your Shack

N3FJP
http://www.n3fjp.com/

N1MM Logger
https://n1mmwp.hamdocs.com/

WriteLog
https://writelog.com/

TR Log
http://www.trlog.com

WinTest
http://www.win-test.com/

SI by EI5DI
http://www.ei5di.com/

DX Keeper
http://www.dxlabsuite.com/dxkeeper/

FCARC Repeaters

Frequency	Offset	Tone	Remarks
145.330	- 0.600 MHz	100.0	System Fusion
146.760	-.600 MHz	100.0	
146.760	-.600 MHz	107.2	This is a receiver station at Oneida Heights.
443.650	+5.000 MHz	100.0	

FCARC Member Repeaters

Frequency	Offset	Tone	Remarks
224.500	-1.6 MHz	100.0	

FCARC Nets

Net Name	Frequency	Schedule and Extra Information
2-Meter	146.760	Wednesdays at 8:00 pm. Contact John (KC9TFM) if you can be a net control operator.
2-Meter Digital	145.330	First Tuesday of the month at 8:00 pm. You can also use the FCARC's Fusion Room 40216, the W9ZL room. Contact Terry (N9AOT) if you can be a net control operator.
2-Meter SSTV	146.760	Second Sunday of the month at 6:00 pm. Contact Larry (WA9TT) if you can be a net control operator.
222	224.500	2nd Tuesday of the month. Contact Dave (KB9RPH) if you can be a net control operator.
6-Meter	52.550	Third Tuesday of the month. Contact Larry (WA9TT) if you can help be a net control operator.
Morning Coffee Klatch	146.760	Monday, Wednesday, Friday at 9:30 am.

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FCARC Club Calendar

August 2024
3 - Social Saturday
6 - 2 meter digital net (WI9MMM) 8 pm
7 - 2 meter net (WA9TT) 8 pm
11 - 2 meter SSTV net (WI9MMM) 6 pm
12 - Board of Directors meeting 7 pm
13 - 220 Mhz Monthly Net 8 pm
14 - 2 meter net (WI9MMM) 8 pm
17 - FCARC Picnic & Fox Hunt 11 am
20 - 6 meter net 8 pm
21 - 2 meter net (KC9THF) 8 pm
28 - 2 meter net (W9SJO) 8 pm

September 2024
2 - Labor Day
3 - 2 meter digital net (AB9AH) 8 pm
4 - 2 meter net (KE8KWF) 8 pm
7 - Social Saturday & Fox Hunt
9 - Board of Directors meeting 7 pm
10 - 220 Mhz Monthly Net 8 pm
11 - 2 meter net (WI4WD) 8 pm
14 - Amateur Radio License Exam
15 - 2 meter SSTV net (WI9MMM) 6 pm
16 - General Membership Meeting 7pm
17 - 6 meter net 8 pm
18 - 2 meter net (KC9TFM) 8 pm
21 - WIPOTA
25 - 2 meter net (WA9TT) 8 pm

October 2024
1 - 2 meter digital net (WI4WD) 8 pm
2 - 2 meter net (WI9MMM) 8 pm
5 - Social Saturday & Fox Hunt
8 - 220 Mhz Monthly Net 8 pm
9 - 2 meter net (KC9THF) 8 pm
13 - 2 meter SSTV net (WA9TT) 6 pm
14 - Board of Directors meeting 7 pm
16 - 2 meter net (W9SJO) 8 pm
21 - General Membership Meeting 7pm
22 - 6 meter net 8 pm
23 - 2 meter net (KE8KWF) 8 pm
30 - 2 meter net (WI4WD) 8 pm
31 - Halloween

November 2024
2 - Social Saturday
3 - Hamfest
3 - Amateur Radio License Exam
5 - 2 meter digital net (WA9TT) 8 pm
6 - 2 meter net (KC9TFM) 8 pm
10 - 2 meter SSTV net (KB9YUC) 6 pm
11 - Board of Directors meeting 7 pm
12 - 220 Mhz Monthly Net 8 pm
13 - 2 meter net (WA9TT) 8 pm
18 - General Membership Meeting 7 pm
19 - 6 meter net (WI4WD) 8 pm
20 - 2 meter net (WI9MMM) 8 pm
21 - Thanksgiving
27 - 2 meter net (KC9THF) 8 pm

December 2024
3 - 2 meter digital net (KB9AIT) 8 pm
4 - 2 meter net (W9SJO) 8 pm
7 - Social Saturday & Fox Hunt
8 - 2 meter SSTV net (WI9MMM) 6 pm
9 - Board of Directors meeting 7 pm
10 - 220 Mhz Monthly Net 8 pm
11 - 2 meter net (KE8KWF) 8 pm
16 - General Membership Meeting 7 pm
17 - 6 meter net (KB9AIT) 8 pm
18 - 2 meter net (WI4WD) 8 pm
25 - Christmas
31 - New Year's Eve

January 2025
1 - New Year's Day
1 - 2 meter net 8 pm
4 - Social Saturday & Fox Hunt
7 - 2 meter digital net 8 pm
8 - 2 meter net 8 pm
7 - Social Saturday & Fox Hunt
12 - 2 meter SSTV net 6 pm
13 - Board of Directors meeting 7 pm
14 - 220 Mhz Monthly Net 8 pm
15 - 2 meter net 8 pm
20 - General Membership Meeting 7 pm
21 - 6 meter net 8 pm
22 - 2 meter net 8 pm
29 - 2 meter net 8 pm

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FOX CITIES AMATEUR RADIO CLUB, INC.

FCARC, PO Box 2346, Appleton, WI 54912
920-415-2ham (2426) - www.fcarc.club - fcarcw9zl@gmail.com

Membership Application

Date _____ ☐ New member ☐ Renewal

☐ Full / Associate / Retired ☐ Student

Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No

Name _____ Phone _____

Address _____

City _____ State _____ ZIP _____

Email _____

$20.00	_____	Full, Associate (non ham), Retired
$10.00	_____	Student School_____
Free	_____	New Ham (FCARC VE certificate required)
$5.00 each	_____	Additional Family Members
	_____	Donation (Optional)
Total	_____	

My Family Member is Joining or Renewing:

☐ New member ☐ Renewal

Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No

Name _____ Phone _____

Email _____

☐ New member ☐ Renewal

Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No

Name _____ Phone _____

Email _____

Note: Family members must reside at the same address

Note: Please see the treasurer for an ARRL dues form. Our club will receive a portion of those dues if you sign up or renew through us.

Fox Cities Amateur Radio Club, Inc. is a 501(c)3 non-profit corporation.
Your contribution supports our community service and public safety activities.
All donations are tax-deductible to the fullest extent of the law. Please consult your tax advisor.

Treasurer Use:

Amount Paid $_____
Check # or method of payment _____
Paid through 12/31/_____
Date Deposited _____

QuickBooks Updated _____
Website Updated _____
HamClubOnline Updated _____

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