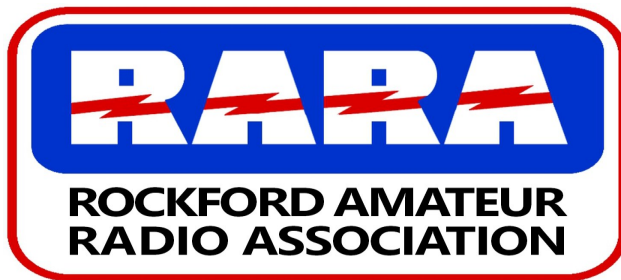


# HAMIRAG

Visit our website for more club and area ham information at <http://w9axd.org>, or join us on Facebook at this [LINK](#)



## RARA Mission Statement

A member association with common interest of public service to the community through the use of amateur radio.

## July 2023

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## Presidents Message

Hello Everyone,

Thank you to everyone who made our 2023 Field Day a great time and success! I think everyone had a good time and learned a bit about operating and preparing for a portable setup in times of emergencies.

One bit of sad news is learning of the passing of Jim Hall, AE9EE, and also Mark Broman, N9CNW. Both were RARA members and we will miss them and their contributions to RARA. Our thoughts and prayers go out to their families and friends.

The meeting this Friday is about planning for the future.

We are looking for someone to take over being the webmaster for the RARA website. If you have some experience in web design and upkeep, please email me at [kurt.eversole@gmail.com](mailto:kurt.eversole@gmail.com).

I hope to see everyone Friday night! Please let me know if you have any questions. 73, Kurt Eversole - KE9N

## Friends Remembered

James "Jim" Byron Hall passed away at OSF Saint Anthony Medical Center on July 6, 2023, at the age of 81. Jim was born in Rockford, Illinois in 1942. He graduated from Harlem High School in 1960, and after four years in the U.S. Navy, he went on to earn an Associates Degree from Rock Valley College in 1967. Memorial service will be held at 9:30 AM Friday, July 14, 2023, in Honquest family Funeral Homes with Crematory-Mulford Chapel, 4311 N. Mulford Rd., Loves Park, with a memorial visitation from 8:30 AM until the time of service.



Mark Wayne Broman, 70, of Rockford IL, met with our Lord and Savior surrounded by his loving family at home. He was a member of the local amateur radio club. Long time member of the NWI chapter of the National Railway Historical Society where he served as secretary for 40+ years. Involved with Boy Scouts since 1994 filling several positions. His dedication to kids extended to Trinity Lutheran Church as a youth leader for over 20 years. Fondly known as "Mr. B", Mark was a small family business owner of Awards By Mr. B since 1972. Memorial services will be held at 12:00 p.m. on Wednesday, July 12, 2023 at Trinity Lutheran Church, 200 N. 1st St., Rockford with Reverend Jay Quinn officiating.

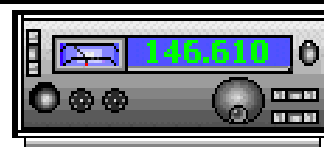


## NEXT MEETING

**FRIDAY**  
**July 14, 2023**  
**7:00pm**

**"Planning for the Future"**

**Location:**  
**OSF St. Anthony**  
**Medical Center**  
**5666 East State Street**  
**Rockford, IL 61108**  
**Foundation Room**



## Local Events and Information

### UPCOMING EVENTS

**July 14, 2023 RARA Membership Meeting 7:00pm at OSF**

July 26, 2023 RARA Board Meeting at 7:00pm on Google Meet

August 11, 2023 RARA Membership Meeting 7:00pm at OSF

August 23, 2023 RARA Board Meeting 7:00pm on Google Meet

### 2023 RARA Officers and Board

#### Officers:

President - Kurt Eversole, KE9N, 815-389-2784, [kurt.eversole@gmail.com](mailto:kurt.eversole@gmail.com)

Vice President - Tom Shouler, N9VJU, 815-633-0089, [n9vju@comcast.net](mailto:n9vju@comcast.net)

Secretary - Larry McFall, KD9HKX, 815-900-1820, [lpmcfall@charter.net](mailto:lpmcfall@charter.net)

Treasurer - Gordon Seaman, KC9NEX, 815-262-0294, [kc9nex@gmail.com](mailto:kc9nex@gmail.com)

#### Directors:

Kevin Puckett, N9EGF, 815-218-1551, [krpuckett@gmail.com](mailto:krpuckett@gmail.com)

Ron Callahan, N2RON, 608-289-0198, [ron.n2ron@gmail.com](mailto:ron.n2ron@gmail.com)

Larry Lisle, K9KZT, 815-397-9595, [l.lisle@usa.net](mailto:l.lisle@usa.net)

Repeater License Trustee - Gordon Seaman, KC9NEX, 815-262-0294, [kc9nex@gmail.com](mailto:kc9nex@gmail.com)

Hamrag Editor/Repeater Chairman - Kurt Eversole, KE9N, 815-389-2784, [kurt.eversole@gmail.com](mailto:kurt.eversole@gmail.com)

Webmaster - Position Open

### Local Net Information

**Mon** - 7:00pm - RARA Info. Net & CW Lesson, 146.610 (-) offset, pl 114.8  
8:00pm - McHenry Cnty. RACES Net, 146.835 (-) offset, pl 91.5

**Tues** - 7:00pm - Health & Tech Net & CW Lesson, 146.610 (-) offset, pl 114.8  
7:00pm - Rock County Public Service Net, 145.450 (-) offset, pl 123.0

**Wed** - 7:00pm - Stephenson Cnty. ARES Net, 147.390(+) offset, pl 114.8  
7:30pm - Greater Beloit Radio Net, 147.120 (+) offset, pl 123.0

**Thurs** - 7:00pm - Northern Illinois Skywarn Training Net, 147.195 (+) offset, pl 114.8, with the Health & Tech Net & CW Lesson following.

**Fri** - 8:00pm - Friday Night Fun Net, KC9GCR, 146.610 (-) offset, pl 114.8

**Sat** - 8:00pm - Saturday Ragchew Net, 146.610 (-) offset, pl 114.8  
9:00pm - Saturday Night Fun Net Milw., 146.910 (-) offset, pl 127.3

**Mon. thru Friday** - 8:00am to 9:00am - Senile Net, 14.287 (HF USB)

## Field Day and Beyond

I'm deeming Field Day a huge success. Who said I could? Nobody, but as a writer I can take such liberties, and if the editor doesn't like it, he can take it out. Somehow, I don't think that will happen since everyone I talked to at the event has said it was a great event. First let me thank Kurt, Kevin and Matt for all that they did to make this a success. I got there around noon Saturday, and was surprised to see about 25 people at the pavilion, and when I went to the motor home a little later found another 5 or so in there, and everyone seemed to be enjoying themselves. People were at the GOTA station (Get On The Air) making their first ever contacts on ham radio. In fact, at one time early in the day, the GOTA station actually had more contacts as W9AXD than the K9E Field Day station. I don't know if they got an early start or what, but they were racking up the calls, and with high fives around for first contacts ever. Seven handheld Baofengs were distributed and as I understand it only two went to Hams already in the club.

**WE ARE WORKING TO GET A LICENSE CLASS TOGETHER SOON**, but if you want to get started before hand, I'll tell you how by using the internet and a computer or cell phone. First, I know of three different guys that have put classes on the internet on what is needed to get a ham radio license. I'll give you the internet addresses or "URL'S" so that all you have to do is copy them and paste them on your search engine to try them out. I believe all three of these sites are free, so you will have no expense or money out of your pocket to use these on the internet. When you think you are ready for the test contact us, and we'll let you know where the next nearest test will be given. The club is currently working on getting a testing group ready to give the tests, but if it hasn't been ready by the time you are ready, we will let you know where you can take it, and we may even bring them to Rockford. Don't hold me to that, but we are going to do all we can to make it easy for anyone to take the test that wants to become a Ham.

First, anyone that wants to become a ham, or increase to a different license class, I strongly suggest that you get on a computer and go to "HamStudy.org" and sign up for the license class that you want. For those of you who are new to ham radio, the first license is the Technician license. This allows them to track your progress for you and use an algorithm that will give you tests that will help you pass the test when you go for your license. This sight was built by Icom and turned over to a not for profit organization. There is no charge for it's use and you can take the test on line as many times as you want. The test is made up from questions out of the pool of questions used by the FCC for the test you will take to get your license, so you will no doubt see questions that you will recognize when you take the test.

Larry, K9KZT, and myself are working to put a class together, and at this time we have about half a dozen guys interested in taking the class and going for their license. Anyone else that would like to get a ham radio license, or helping with the class, just let us know. My email address will be at the end of the article. We will get back to you as soon as possible. In the meantime, I'll give you some things you can do to help you study. We have decided that we are going to use the ARRL License Manual for the technician License. It is available through the ARRL, Ham Radio Outlet, or Amazon and yes, there is a Kindle version of the book. Here are a few of the sites on YouTube.com that can help you study.

ARRL's Dave Cassler has put together classes for all three Ham tests. The explanations of test questions follow the License Manual, and Dave does a great job presenting the Material. Also, there is a podcast called HamRadio 2.0 put on by a ham in Texas. He also has classes for all three ham radio licenses. The one that caught my eye for Technician is set up with a format for a single day class. It is divided into about 2 hour chunks. It seems to do a great job at covering the material. If you go to his site, be sure to pick the "all day" session.

The third site is put on by KI6NAZ. Josh is an engineer and has picked out the questions that people have had the biggest problems with in the testing, and that is where he spends the most time. He got the information from the tests that have been given on line this past couple of years.

All of these sites are FREE, and if you follow any of them you will be a step ahead and possible ready to take the test. The Technician class license just give you a test on the basic electronics of Ham radio. The very basics. If you stay with ham radio you will find that it will open a lot of doors for you, and give insights into things that you had never thought about.

We hope to get an email out to anyone interested in becoming a ham. In the meantime, if you have any questions or just want to sign up for a class send me a note.

73, Larry AC9GO,  
[larry.schubert@gmail.com](mailto:larry.schubert@gmail.com)



## Solar Power

By: Kevin Puckett, N9EGF

### Solar Set-up for Field Day

For those of you asking about the solar power setup we used for field day, I've put together some information on what was used and how it worked for its maiden run. I've enjoyed learning and researching this topic during the past few months as I put together my system. If you have any questions, please feel free to contact me.

### Components:

- 1 - 120W portable solar panel
- 1 - 200W portable solar panel
- 2 - Bioenno 20-amp LiFePO 4 solar controllers
- 1 - Oupes 1200W portable power station with pure sine wave inverter and LiFePO 4 batteries
- 1 - Bioenno 12 Ah LiFePO 4 battery
- 1 - Bioenno 20 Ah LiFePO 4 battery
- 1 - Kenwood TM 221A, 2M, 25-watt transceiver
- ! - Kenwood 940S HF transceiver (Get On The Air-GOTA station)
- 1 - SetPower FC20 12v portable refrigerator/freezer

While we found that the 20 Ah battery wasn't needed, we used the 12 Ah battery to power our 2M talk in radio. It was kept topped off with the 100W solar panel running through the solar controller. The 200W panel was fed into the Oupes power station and depending upon the sunshine at the time, pumped up to 180 watts back into the power station to keep up with the wattage being pulled from it by the HF transceiver. Additionally, the power station also topped off some cell phones through its USB ports and ran the portable fridge/freezer that we had on the picnic table to keep our refreshments cold during the hot day!

### Advantages of Lithium Iron Phosphate (LiFePO 4) batteries

LiFePO4s have a longer lifespan than any other battery and only one-third the weight of lead acid batteries! A deep-cycle lead acid battery may go through 100-200 cycles before its performance declines and drops to 70-80% capacity. On average, lead-acid batteries have a cycle count of around 500, while lithium-ion batteries may last 1,000 cycles. In comparison, the LiFePO4 battery has a cycle life of 3,000+ before performance drops to 80% of its original capacity. They will still function well after this period but at a slightly lower capacity.



*(continued)*

# Solar Power

## Improved Safety

LiFePO<sub>4</sub> is a safer technology when compared to Li-ion and other battery types. Specifically, they don't have the issues of toxic fumes and off-gassing associated with Lithium-ion and lead-acid. LiFePO<sub>4</sub>s have improved the technology to avoid these dangerous issues, using a non-flammable electrolyte as part of the battery's chemistry.

Li-ion batteries may experience thermal runaway, overheating, and combustion. Lead acid batteries may produce toxic fumes, such as hydrogen sulfide. These issues are hazardous to safety and health.

LiFePO<sub>4</sub> batteries do not emit gas like lead-acid batteries do. You can safely store and operate LiFePO<sub>4</sub>s in sheds, garages, or inside your home.

LiFePO<sub>4</sub> batteries also don't use toxic chemicals or heavy metals in their chemistry, which allows for safer handling and disposal. Lead-acid batteries can leak harmful liquids without proper care.

## Summary

This system ran the field day operations mentioned above effortlessly! While we didn't have constant, contest style transmissions from the HF rig (50/50 duty cycle), the power station never dropped below 87% while running the fridge and the HF radio. The 12 Ah battery never dropped below 96%. Of course, there was only .25A draw from the 2M rig during stand by and we didn't have heavy talk-in traffic. All-in-all, I'm convinced that this type of setup would run an emergency communications system for quite a long time, providing there is some sunshine during the day to top off the batteries.

73, Kevin Puckett, N9EGF





## Your Password

We all use passwords online. So do passwords. A password is no different than a key. Locks and keys vary in quality. A poor-quality lock is like no lock at all. The same is true for bad passwords. Everyone will generally agree that their personal banking password is paramount. There can be no doubt about that. So how *good* is your banking password? Do you have any idea?

People typically try and create passwords that only they understand. For example, a dog owner might say, "I love my puppy in 2022", expressed as "ilmp2022". Can anyone tell me how good that password is?

Folks try to choose passwords that other people will find hard to guess. I could never guess "ilmp2022" if I tried. On the other hand, a computer could guess it quite quickly, in less than 5 minutes. Any 8-character password can be guessed in less than five minutes by a computer, regardless of how many punctuations, letters, numbers, and symbols are in it! Yes, this means that any password of 8 or fewer characters is garbage. Passwords consisting of all numbers are useless, regardless of their length!

Look at the chart below and figure out which box your password fits into. Hopefully, yours is in a green or light yellow box. If your password falls into a red or purple zone, you effectively don't have a password.

### TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD IN 2023

| Number of Characters | Numbers Only | Lowercase Letters | Upper and Lowercase Letters | Numbers, Upper and Lowercase Letters | Numbers, Upper and Lowercase Letters, Symbols |
|----------------------|--------------|-------------------|-----------------------------|--------------------------------------|---|
| 4                    | Instantly    | Instantly         | Instantly                   | Instantly                            | Instantly                                     |
| 5                    | Instantly    | Instantly         | Instantly                   | Instantly                            | Instantly                                     |
| 6                    | Instantly    | Instantly         | Instantly                   | Instantly                            | Instantly                                     |
| 7                    | Instantly    | Instantly         | 1 sec                       | 2 secs                               | 4 secs  |
| 8                    | Instantly    | Instantly         | 28 secs                     | 2 mins                               | 5 mins  |
| 9                    | Instantly    | 3 secs            | 24 mins                     | 2 hours                              | 6 hours                                       |
| 10                   | Instantly    | 1 min             | 21 hours                    | 5 days                               | 2 weeks                                       |
| 11                   | Instantly    | 32 mins           | 1 month                     | 10 months                            | 3 years                                       |
| 12                   | 1 sec        | 14 hours          | 6 years                     | 53 years                             | 226 years                                     |
| 13                   | 5 secs       | 2 weeks           | 332 years                   | 3k years                             | 15k years                                     |
| 14                   | 52 secs      | 1 year            | 17k years                   | 202k years                           | 1m years                                      |
| 15                   | 9 mins       | 27 years          | 898k years                  | 12m years                            | 77m years                                     |
| 16                   | 1 hour       | 713 years         | 46m years                   | 779m years                           | 5bn years                                     |
| 17                   | 14 hours     | 18k years         | 2bn years                   | 48bn years                           | 380bn years                                   |
| 18                   | 6 days       | 481k years        | 126bn years                 | 2tn years                            | 26tn years                                    |

 [Learn how we made this table at hivesystems.io/password](https://hivesystems.io/password)

(continued)

## Your Password

So, how do you create a million or billion-year password? First, there is no reason to make it difficult! Most browsers and computers now will offer to choose a strong password for you. It usually looks awful and is impossible to memorize. My computer's Chrome browser created "d6nw5v1X2pc7st9!" as a suggested password. According to the chart, this could take as long as 5 billion years to guess! Note that in the chart above, all values represent the *average* time it would take to guess an unknown value.

The password **d6nw5v1X2pc7st9!** is classified as "Sixteen Characters, with numbers, upper and lower case letters, and symbols (it's in the last column on the right). It could take five billion years to guess this!

I don't use "computer gibberish" passwords, however. Consider the password "Funny4GasolinePickle.Bat". Twenty-four characters, Upper and Lower case, Numbers, and Symbols. It's off-the-chart secure and challenging to guess. It would take (statistically) *trillions* of years to guess using a fast computer!

Next, I'll ask you to memorize both **d6nw5v1X2pc7st9!** and **Funny4GasolinePickle.Bat**. Then, in five minutes, I'll ask you to write each one on a piece of paper from memory. Which one do you think you can correctly memorize in 2 minutes? How about an hour later from now?

### Password Strategies

I've just shown you how to create a super strong yet easy-to-remember password. Some may love this idea and start using this new, super-strong password for all their accounts. That, however, is a terrible thing. When you use the same password on multiple websites, you open yourself up to serious fraud. Suppose that you have a very strong password and you use it everywhere. You use it on your banking site, you use it at work, and you use it on the gaming sites and on Craigslist. Everything is fine until one day; your bank account has been drained. What happened?

What happened is that your super-secure password was compromised at a less-than-stellar website, and even though the website had no particular value, your password was the prize. They win this round, and you lose. For this reason, *It is absolutely essential that you have a different password for every website you frequent.*

Yes, creating an easy-to-remember password was easy, but how do you create one for every website in a manner in which you will remember them without using a cheat sheet? I can create 20 easy-to-remember passwords quickly, but I can't keep 20 such passwords in my head. It's just too difficult. What you need is a password strategy.

Here's a strategy that I use. I have a standard phrase that I use, along with a modifier that is unique to each website. Suppose the standard part of my password was "Taco2Tortilla." All I have to do is add something to this standard part that is based on the place where I'm using it. I like to use something from the address bar. Here's an example:

Suppose that I'm at ebay.com. My "Taco2Tortilla." password will be **bravoTaco2Tortilla**. Here's how that works. In my strategy, I've decided to use the second letter of the site name as a key. The second letter of eBay is 'B', so I use that to generate the key. B is Bravo in the phonetic alphabet, so that's my password: BravoTaco2Tortilla. I could also decide to do it another way, such as Taco2Tortilla.Bravo, or even Taco2BravoTortilla. The positioning of the standard key and the site key in your password only needs to be consistent so that you'll remember it. If you put the modifier (Bravo) at the end of the word, then always put it at the end. The strategy is a method that you use in your mind, and so you must commit to it. Once you have the strategy memorized, you will already know what password to use, even before you visit. You will seldom have to write anything down because *it's memorized*.

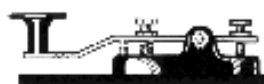
Your goal is to create a password strategy that you will remember every time, yet outsiders will have an extraordinarily difficult time guessing it. This strategy accomplishes that. Some may ask, "What if two websites have the same second letter?" You can use the same rule and password as you do on another site without much risk but don't use the same password on ALL sites! You can also make up your own rule for that, as long as you can remember it. You're in charge because you're the user of the information.

We see extraordinarily bad passwords all the time. No call sign makes a good password. You need to be more creative than that. Protecting your online identity begins with taking steps like these.

# KARSFEST 2023

39th ANNUAL HAMFEST

THE KANKAKEE AREA RADIO SOCIETY



W9AZ

# Sunday JULY 16th



**AMATEUR RADIO - HAM FEST - ELECTRONICS SHOW**  
*Forum Presentations - ARRL - VE Testing*

For more info visit the KARS web site at  
**www.w9az.com**

Air Conditioned Indoor Exhibits  
Huge outdoor Flea Market  
Outdoor Flea Market Paved  
ARRL VE Radio License Testing  
Time: 10AM to 12PM

(TICKETS and TABLES)  
Double Stub ADVANCE TICKETS \$8  
Single stub tickets \$10 at the gate

*Vendor tables are the  
least expensive of all the  
Hamfests in the area!*

(INDOOR SALES)  
Indoor Tables \$10 for the first table, \$8 thereafter  
(Tickets and Tables are purchased Separately)  
INDOOR VENDORS SET-UP Sat 6-8:00 PM - Sun 6-8:00 AM  
BUILDING OPEN TO PUBLIC Sunday 8:00 AM for INDOOR SALES

(OUTDOOR FLEAMARKET SALES (FREE))  
GATES OPEN TO PUBLIC and TAILGATERS Sunday 6:00 AM  
Free Overnight (Saturday evening) Parking, \$20 with Electric

E-Mail Questions to K9XI at  
[karsfest@gmail.com](mailto:karsfest@gmail.com)  
Vendors / Tickets  
Ph: (815) 348-7752

For Ticket and Table Requests  
Send Request and SASE To:  
ART REIS K9XI  
308 EASTGATE CT  
NEW LENOX, IL 60451  
Please ensure mailed requests  
are received by July 6th

**ARRL  
Representatives  
In Forum, 9AM**

## Will County Fairgrounds



LARGE AIR CONDITIONED BUILDING—FREE TAILGATING  
Easy to reach I-57 to Peotone Exit 327 (East)

# Peotone, IL



# 2023 Radio Expo

## Northern Illinois' Largest Hamfest

### Sunday

### September 24th, 2023

Dealers!  
Radios!  
Computers!  
Electronics!  
Raffles!

Boone County Fairgrounds  
8791 IL-76, Belvidere, IL 61008

Indoor Market 8am-3pm  
Flea Market 6am-3pm  
Breakfast - Lunch  
Bring The Family  
Hourly Drawings

**Talk-In Repeaters**

146.760 - 107.2 CFMC



**VEC Testing 9am-Noon**

RV's or Motor Homes  
Camping  
Water-Electric \$45



### MAKING HAM RADIO FUN

Advance Tickets - \$8.00 - At the Gate - \$10.00 - Kids under 12 Free Tickets required with Tables

Name & Call \_\_\_\_\_ # of Tickets \_\_\_\_\_ x \$8 = \_\_\_\_\_

Address \_\_\_\_\_ # All tables \_\_\_\_\_ x \$18 = \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_ \$10.00 - Inside Electric \_\_\_\_\_ Outside Electric \_\_\_\_\_

For event questions: Call 773-614-4733  
Email [wa9orc@gmail.com](mailto:wa9orc@gmail.com)

Make Check payable to:  
Chicago FM Club  
3619 S. 54TH CT.  
CICERO, IL. 60804  
Total \_\_\_\_\_

Flyer on website <http://www.chicagofmclub.org>

CFMC reserves the right to make any necessary changes required

Vendor setup is Saturday, September 23RD from 9:00 AM - 4:00 PM with security overnight.

## W1VCM Receives Grant for the Vintage Radio and Communications Museum

The amateur radio club of the [Vintage Radio and Communications Museum of Connecticut](#), W1VCM, has received a grant to design and implement new antennas that cover frequency ranges available to US radio amateurs and add Earth-space capabilities to their shack.

"These new capabilities will allow club members to show the full range of technologies that make amateur radio the unique lifetime hobby it is," said club President Bob Allison, WB1GCM. "Over the years, these demonstrations have encouraged more than a few visitors to pursue their amateur radio licenses. These improvements will allow our visitors to better engage with technologies that impact their everyday lives," he added.

The museum is run by volunteers and it opened in September 1990. It is dedicated to the preservation of old-time communications equipment and to educating the public about communication systems of the past. The new functionality will include computer-controlled tracking, a high-gain antenna system, and a new satellite transceiver that allows communications to the International Space Station and several low-Earth orbit amateur satellites.

Vintage Radio and Communications Museum of Connecticut Director John Ellsworth emphasized the importance of the amateur radio club as part of the story of communications, stating, "During our docent-led tours, we discuss the history and development of radio and television. Having a working radio station available reinforces many of the topics discussed." The grant was awarded by [Amateur Radio Digital Communications](#).



### ARRL Audio News

Listen to [ARRL Audio News](#), available every Friday. ARRL Audio News is a summary of the week's top news stories in the world of amateur radio and ARRL, along with interviews and other features.

The On the Air podcast is available on iTunes (iOS) and Stitcher (Android). The On the Air podcast and ARRL Audio News are also on blubrry -- [On the Air | ARRL Audio News](#).



### Editors Note

If you would like to have something published, please call me, or email me at [kurt.eversole@gmail.com](mailto:kurt.eversole@gmail.com)

**Cut-off for the August 2023 Hamrag will be Thursday, August 3, 2023**

Kurt - KE9N, Editor

### FRIDAY MORNING BREAKFAST

Meets every Friday morning from 8:00 am until about 9:30 am. An informal gathering of ham folks, no affiliations necessary, good food and good company.

*Everyone is welcome to attend.*

***"The Spring Garden Family Restaurant"***

***4820 N. 2nd Street  
Loves Park, IL 61111***



## The K7RA Solar Update

07/07/2023

The average daily sunspot number for June, 2023 was the highest in 21 years, according to Spaceweather.com.

From a July 3 email alert from Spaceweather.com:

"SUNSPOT COUNTS HIT A 21-YEAR HIGH: It's official: The average sunspot number in June 2023 hit a 21-year high. Solar Cycle 25 has shot past its predecessor, Solar Cycle 24, and may be on pace to rival some of the stronger cycles of the 20th century." Could we see another Cycle 19, the biggest in recorded history, even back before the birth of radio?

Not too long ago, we heard that this cycle should peak in summer 2025. Later that was revised to 2024. Now I am seeing occasional references to a cycle peak at the end of this year.

From my own records, average daily sunspot numbers for April through June 2023 were 93.7, 125.8 and 143.9, a nice upward trend.

Some popular news outlets seem confused by the difference between sunspot number and number of sunspots, and have quoted another higher average.

Here is the difference. If they are just counting the total number of sunspots for the month, this is far different from average daily sunspot numbers. The sunspot number is somewhat subjective, but it gets ten points for each sunspot group, and one point for each sunspot in those groups. But I stand by my numbers. They are all from NOAA and appear at the end of each bulletin. But they may be referencing International Sunspot Number, which may be different from the SESS numbers from NOAA.

Here is an example of confusing sunspot numbers with number of sunspots: <https://bit.ly/3NCQCAI>

This one is also confusing, saying there were 163.4 sunspots in June. <https://bit.ly/3PMu6Ym>. But what does this mean? It could be either 163 or 164 sunspots, but not a fractional number, unless it expresses an average. The minimum sunspot number is 11. This would be one sunspot group containing one spot. They are always whole, not fractional integers. There was one new sunspot region (group) on June 30, three more on July 1, one more on July 2, another on July 4, and one more on July 5.

Sunspot and solar flux data again this week did not track together. Average daily sunspot number declined from 170 to 126.1, while average daily solar flux rose slightly from 160.3 to 164.5. Geomagnetic indicators were lower, with average daily planetary A index declining from 10.7 to 7.3, and middle latitude averages from 9.9 to 8.

Predicted solar flux is 155 on July 7, 150 on July 8 to 10, then 155 on July 11, 160 on July 12 to 13, 175 on July 14 to 18, 170 on July 19 to 21, 160 on July 22 and 23, 155 on July 24 and 25, 160 on July 26 and 27, 165 on July 28 and 29, then 170, 170 and 165 on July 30 through August 1, 155 on August 2 to 6, then 160, 165 and 170 on August 7 to 9, and 175 on August 10 to 14.

Predicted planetary A index is 5, 12 and 8 on July 7 to 9, 5 on July 10 and 11, then 20 and 30 on July 12 and 13, 8 on July 14 to 22, 5 on July 23 to 30, 8 on July 31 through August 1, then 5 on August 2 to 4, 12 and 8 on August 5 and 6, then 5, 20 and 30 on August 7 to 9, and 8 on August 10 to 18.

Note those big numbers are about one solar rotation apart, which is about 27.5 days.







website: [w9axd.org](http://w9axd.org)  
email: [w9axdrara@gmail.com](mailto:w9axdrara@gmail.com)

# 2023 RARA Membership\* Form

## Dues are \$25.00

*(This is an editable PDF Form. Fill in the information with your keyboard, then save the PDF, and then attach it to an email to: [w9axdrara@gmail.com](mailto:w9axdrara@gmail.com). See below for mail in information and/or PayPal information)*

Date: \_\_\_\_\_ (mm/dd/yyyy)

Name: \_\_\_\_\_ Callsign: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Phone - Home: \_\_\_\_\_ Cell: \_\_\_\_\_

Can we release your e-mail and phone number to members only? Yes \_\_\_\_\_ NO \_\_\_\_\_

Are you a member of the ARRL (American Radio Relay League)? Yes \_\_\_\_\_ NO \_\_\_\_\_

What things do you like to do with ham radio?

\_\_\_\_\_

What things do you want to do, but need more information to do so?

\_\_\_\_\_

Would you be available to make a presentation on some part of our hobby and what?

\_\_\_\_\_

Do you have any questions that we can help you with presently? If so, explain below.

\_\_\_\_\_

**Mail In:** Please fill out all the information on the form and mail it with \$25.00 to the following address:

Rockford Amateur Radio Association  
P.O. Box 8465  
Rockford, IL 61126

Make your check payable to: Rockford Amateur Radio Association.

**For Internet application and payment:**

To use PayPal, click on the link below. After clicking "Send" and then logging in, enter \$25.00 in the "Dollar Amount", and click "Send", to complete your payment to RARA. Also, **DON'T** forget to email your completed form to: [w9axdrara@gmail.com](mailto:w9axdrara@gmail.com) for your membership application. *Thank you for your support!*

PayPal Link:



\*Membership is based on approval of the RARA Board. The membership fee will be returned if you are not approved.