



# ARCOVER

March 2023



The Official Newsletter of the Fox River Radio League  
98 Years of continuous service to our communities

1924  2023

## Who We Are

**President:**

Terry Todd W9AUV

**Vice President:**

Eve Schneider W9EVE

**Secretary:**

Art Shuter NN9I

**Treasurer:**

Dan Harmon WA9YKK

**Director 1: NETS / RPTR'S**

Ruben Noceda K9ARN

**Director**

John Greusel KC9OJV

**Director**

Paul Mitchell KC9SEB

**Director**

Jim Brady W9JB

**Past President:**

Gordon Dailey KW0E

**Programs:**

Gordon Dailey KW0E

**Education / VE:**

Dennis Barfuss W9HI

**License Trustee (W9CEQ):**

**Kermit Carlson**, W9XA

**License Trustee (W9NE):**

**Denny Barfuss** W9HI

**Newsletter Editor / PR:**

Jerry Chapman N9JLC

**Webmaster:**

Mark Van Daele K9MEV

**Membership Database:**

Chris Kennell, KC9BKS

**Net Coordinator:**

Curt Sauer, W9YNP

## About Us

The Fox River Radio League, Inc. is a general interest Amateur Radio club serving the central Fox River Valley area in Illinois. Club records indicate the club has been in existence since at least 1924, and it has functioned continuously ever since. We are an ARRL Special Service Club, an Illinois not-for-profit corporation, and a 501(c)(3) tax exempt organization as specified in Federal IRS Statutes.

We sponsor training classes for those seeking a new or upgraded Amateur Radio license, license examination sessions, and participation in various local Public Service events. Our membership covers a broad variety of interests - if you have a specialized amateur radio interest, you will likely find camaraderie with one or more of our club members.

We meet on the 2nd Tuesday of every month at Bethany Lutheran Church, located at 8 S. Lincoln St. in Batavia, Ill. The meeting begins at 7:30 PM and includes a short business portion, social time and a program presentation of interest.

Meetings are open to the public. Anyone interested in the amateur radio hobby are invited to attend. Family members are welcome.

### Fox River Radio League



March 2023

### Fox River Radio League

Mailing Address:  
P. O Box 673  
Batavia, IL 60510-0673

Email: [info@frrl.org](mailto:info@frrl.org)

Website: <http://www.frrl.org>





From  
*the desk*  
 of....

The Esteemed  
 *Terry Todd*

Have you ever wondered how this DMR thing works? Now is your chance to find out. Patrick Brod has volunteered to give a presentation on how DMR works and how to use it at the upcoming meeting.

I look forward to seeing everyone at the March meeting on the 14th.

***Terry W9AUV***

**W  
E  
L  
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## New Members

Call Sign	Name	License Type
WX9SPL	Michael Bingham	General
KD9WJP	Michael Lencioni	General





# ARC OVER

## FOX RIVER RADIO LEAGUE MEMBERSHIP MEETING MINUTES

FEBRUARY 14, 2023

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Minutes of the Regular Meeting of the General Membership of the Fox River Radio League (FRRL)  
an Illinois not-for-profit Corporation

The February 14, 2023 meeting of the Fox River Radio League was conducted at Bethany Lutheran Church in Batavia, IL. There were 28 members in attendance and 2 members attended via Zoom.

The meeting was called to order at 1930 CST by President Terry Todd, W9AUV

### Board Members and Directors Present

President, Terry Todd WA9AUB

Vice-President, Eve Schneider W9EVE

Secretary, Art Shuter NN9I ox

Treasurer, Dan Harmon WA9YKK

Director 1, NETS/RPTR'S Ruben Noceda N9ARN

Director 2, Jim Brady W9JB

Director 3, John Greusel KC9OJV

Additions to the Agenda: No Changes to the agenda.

Minutes: Acceptance of the January 10, 2023 Membership Meeting minutes as printed in the ArcOver were approved by

the membership. Motion: Bob Naegele W9MZ, 2<sup>nd</sup>: Harry Jones K9DXA Motion passed

Director 1 RPTR'S: Ruben N9ARN and Kermit W9XA: Ruben expressed thanks for all donations that were received for purchase and installation of 220 repeater.

Kermit: UHF system was low on receive and that has been fixed.

Installation of the 220 repeater has been accomplished at a temporary location with reduced power.

VE Update: Denny W9HI: Classes are going well. Next VE session March 9, 2023.

New Business: Eve W9EVE: brought candy for all. She also talked about needing volunteers for help with the 100 year celebration.

Harry K9DXA: Report from 2023 ARRL Board meeting:



The February 14, 2023 meeting continued:

Harry K9DXA: Report from 2023 ARRL Board meeting:

- Less than 25 percent of newly licensed Amateur Radio operations will utilize their licenses
- The ARRL resolved to develop a video on line training program for six and ten meters

Harry K9DXA: Moved the following motion: I move that the FRRL Board of Directors be directed to consider the development of a program to encourage FRRL members, especially new Tech Class licensees to create a six and or ten meter station and be active on those frequencies and modes. The FRRL Board of Directors will provide a report of the status of this motion not later than the April, 2023 FRRL Member Meeting.

2<sup>nd</sup>: Allen Lanham K9AML Moton passed

Adjournment:

The meeting was adjourned at 20:15 CST motion to adjourn Dean KC9EOQ, 2<sup>ND</sup> Kermit W9XA

Respectfully submitted,  
**Art Shuter – NN9I**  
FRRL Secretary

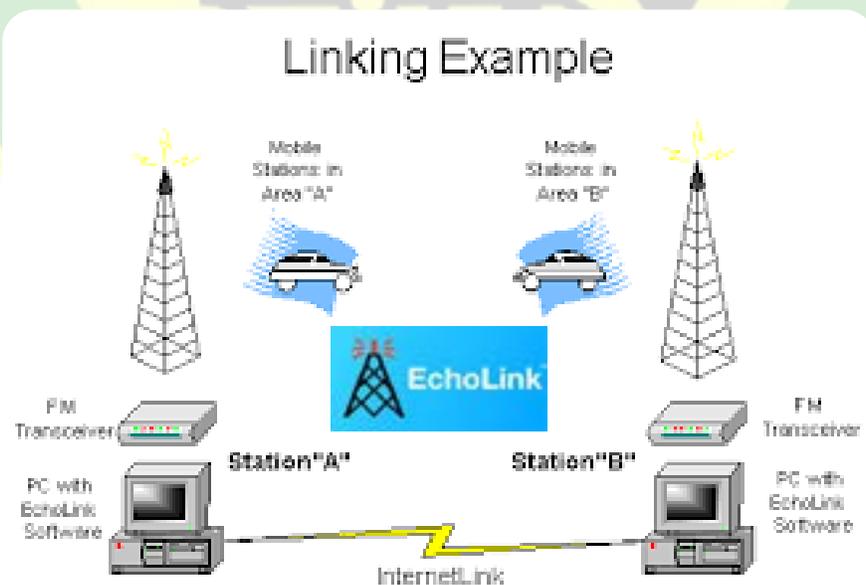
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The FRRL 220 repeater is now on Echolink (node 978680)

Please use W9CEQ-L to connect on 220 and W9CEQ-R for 2 meters I will link 220 to 2 meters during the Tuesday Nite net

If you try connecting, please let me know if you have any issues.

**73, Curt W9YNP**



# FOX RIVER RADIO LEAGUE



# March 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
 <b>MARCH 20TH</b> <i>Deadline</i>			1	2	3	4
5 <b>INFORMAL ALL OPR NET 1900</b>	6 CW NET 28.150 2000  SSB NET 28.720 2030	7 <b>1900 FRRL BOD Meeting</b> 1930 FRRL 2m Net	8	9	10	11
12 <b>INFORMAL ALL OPR NET 1900</b>	13 CW NET 28.150 2000  SSB NET 28.720 2030	14 <b>1930 FRRL Membership Meeting No Net</b>	15	16	17 	18
19 <b>INFORMAL ALL OPR NET 1900</b>	20  <i>Spring begins</i>	21 1930 FRRL 2m Net	22	23	24	25
26 <b>INFORMAL ALL OPR NET 1900</b>	27 CW NET 28.150 2000  SSB NET 28.720 2030	28 1930 FRRL 2m Net				
 <b>March 12th 2am</b> 			<b>MEMBER MEETING BETHANY LUTHERAN CHURCH 8 SOUTH LINCOLN ST. BATAVIA IL</b>			
 <b>WCRA</b> 2m Net 8pm 145.31 -6 107.2	 <b>VARA</b> 2m Net 8pm 146.79 -6 107.2	 <b>FRRL</b> 2m Net 7:30pm 147.21 +6 103.5	 <b>Kane County ARES</b> 2m Net 6:30pm 145.47 -6 103.5	 <b>Northern Illinois ARRL</b> 70cm Net 7:30pm 444.875 +5MHz, 114.8	 <b>CW Net 28.150, Monday 8PM</b>  <b>SSB Net 28.720, Monday 8:30PM</b>	

# ARC OVER

NEWS AND INFORMATION CENTER

*Local - National - International*

Terry W9AUV Presents The Kenwood TM-V71A To Raffle Winner - Bob W9MZ



Photo Courtesy  
of  
Kermit Carlson W9XA

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## Scientists Steer Lightning with High-Powered Laser

Researchers at Institut Polytechnique de Paris successfully diverted lightning using a high-powered laser in the first demonstration of the technique outside a laboratory. Scientists believe the technology could eventually help control lightning strikes, potentially reducing the thousands of fatalities and \$3 billion in damages each year resulting from the phenomenon.

Traditional metal lightning rods only cover an area as wide as the rod is tall, limiting their application on large sites. To test covering a wider area, the researchers created a virtual lightning rod using a laser pulsing 1,000 times per second near a 400-foot tower in Switzerland. During storms in the summer of 2021, the laser's rapid beams heated a path of charged air near the tower, ultimately steering four lightning strikes through the ionized channel over 6 hours.

You can read the full article at [Science News](#).

-Thanks to Brian Moran, N9ADG



## Blocking Radio Waves and Electromagnetic Interference with the Flip of a Switch

Researchers at the Drexel University College of Engineering have developed a thin film device, fabricated by spray coating, that can block electromagnetic radiation with the flip of a switch. The breakthrough, enabled by versatile two-dimensional materials called MXenes, could adjust the performance of electronic devices, strengthen wireless connections and secure mobile communications against intrusion.

You can read the full article in the [Drexel News](#).

- Thanks to Brian Moran, N9ADG

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North Coast Contesters have announced that the 29th Annual Dayton Contest Dinner will be held on Saturday, May 20, 2023, at the [Hope Hotel](#) - Wright Patterson Air Force Base, Ohio. Tickets are now on sale at <http://contestdinner.com>. This year's Master of Ceremonies is Contest Hall of Fame member and CQ World Wide Contest Director, John Dorr, K1AR. The keynote speaker is youth contester, Bryant Rascoll, KG5HVO.

- Thanks to Tim Duffy, K3LR

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## Registration Open for the 2023 QSO Today Virtual Ham Expo

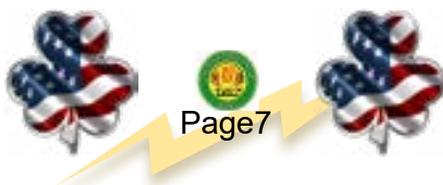


The 2023 QSO Today Virtual Ham Expo will be held on March 25 - 26, and registration is now open.

The event is a fully interactive virtual ham radio convention offering new content, networking opportunities, and more than 50 amateur radio presentations on a wide variety of subjects.

There is still time to participate in the event as a presenter. You can submit an application to present a video on a topic of your choice. The deadline for submission is February 15, 2023. Tickets are \$15, and registration information can be found at the QSO Today Virtual [Ham Expo website](#).

-- ARRL is a QSO Today Expo Partner.





In Search Of

I'm in search of an Astron Linear power supply of at least 30A continuous current, more is perfectly acceptable. Prefer fixed instead of variable voltage, desktop instead of rack mount form factor, and panel meters but all those are optional.

Can pick up local in Batavia-ish or at the next meeting.

If you have one collecting dust you'd like to part with please email me the details and price directly. Else I'll prolly order a new one.

Mark - K9MEV



I have for sale a Motorola XPR4550 UHF DMR mobile radio.

I am the second owner and it was used mobile. Everything works as it should!

Comes with:

- Radio
- Face separation kit
- Face plate mounting bracket
- I believe I have the radio bracket
- Plastic face plate removal tool
- And anything else I can find associated with the radio!



I am asking \$300 or I would consider trading it toward \$\$ off a purchase if anyone has the following for sale:

A Yaesu C4FM mobile such as FTM-200DR or 400DR

Or a Yaesu HT FT5DR or 3DR

Or a dependable mobile HF rig that I could either use for mobile or portable operations.

I have included photos.

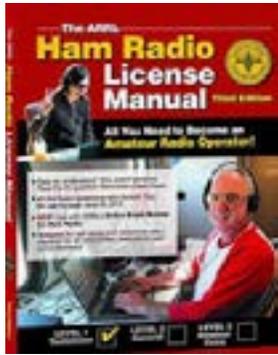
Thanks for considering!  
Jason NX9Y



Contact Jason NX9Y  
At: [nx9y@pm.me](mailto:nx9y@pm.me)

Regarding my add in this months newsletter (for sale section) ....  
  
I'd be willing to part with it for \$275 if you want to buy it outright.  
  
Or \$275 off in consideration of the radios listed that I'd be interested in.  
  
Let me know if that price range tickles your fancy!

## Technician/General Classes:

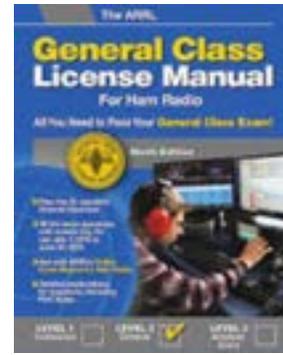


### Technician Class

Wednesday Evenings  
6:30 P.M. to 9:30 P.M.

Start: January 11, 2023  
End March 8, 2023

Location: Zoom Meeting  
[Link to be distributed prior ]



### General Classes:

Thursday Evenings  
6:30 P.M. to 9:30 P.M.

Start January 12, 2023  
End: March 9, 2023

Location: Zoom Meeting  
[Link to be distributed prior ]

The Fox River Radio League (FRRL) presents regular training classes focused toward new Amateurs interested in gaining their Technician class license or upgrading to the General and Extra class licenses.

These are free courses where you will learn everything you need to receive or upgrade to the appropriate FCC radio license.

The textbook for the class will be the official ARRL License Manual. Books are available for purchase via the club at a discounted rate by emailing [education \[at\] frrl.org](mailto:education[at]frrl.org).

Classes are instructor-led, and you can expect engaging conversations to ensue around the topics of discussion.

In addition to our regularly scheduled bi-monthly testing we will be scheduling a dedicated VE session after discussing best availability with the class participants. For more information on VE sessions, please see [VE Test Sessions](#).

We are in need of

**Instructors**

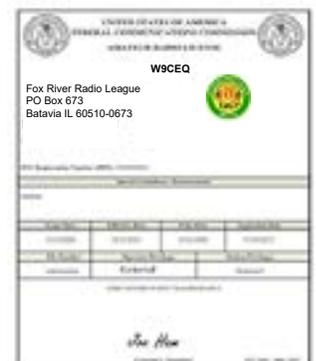
If you are willing to teach a section or two contact [education@frrl.org](mailto:education@frrl.org)

Please Note that classes are 9 weeks long..

You can contact Dennis Barfus at:

[W9HI@arrl.net](mailto:W9HI@arrl.net)

if you have any questions



# VE Testing

The FRRL, in conjunction with the ARRL VEC, sponsors regular amateur examinations the third Thursday of every March, April, May and June. Ad-hoc sessions are planned during major events and will be added to the schedule here as well.

Upcoming Testing Schedule:

January 12, 2023  
March 9, 2023

Testing Location:  
Geneva Lutheran Church  
301 S 3rd St,  
Geneva, IL 60134



No Walk-ins. All events subject to COVID-19 venue availability and restrictions.  
Please pre-register by [emailing](#) or calling Dan Harmon 630-272-1768

Please also be sure to bring:

- Photo identification
- Your FCC generated FCC Registration Number (FRN).
- The fee of \$15.00. (The FRRL receives no portion of this fee.)
- If upgrading bring your original FCC HAM Radio License (or the documentation you received) and a photocopy of your license.

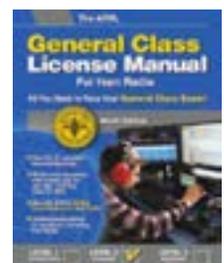


If you have questions about the testing program, please email the Chairman at: [ve@frrl.org](mailto:ve@frrl.org)

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## **The General - Class Element 3 Question Pool Errata has been released.**

The National Conference of Volunteer Examiner Coordinators, NCVEC, Question Pool Committee has released the latest errata for the 2023 - 2027 Element 3 General question pool, which goes into effect on July 1, 2023. Nine questions were modified (G1B01, G1C01, G1C02, G5C02, G7C10, G9B05, G9C09, G9D09, and G9D10) and two questions (G9C06 and G9D13) were withdrawn from use. The pool is available as a Microsoft Word document and PDF. These changes are reflected in the new General Pool download file, dated February 1, 2023.





March 3 - 4 | [BirmingHamfest](#), hosting the ARRL Alabama Section Convention, Trussville, Alabama



March 3 - 4 | [Greater Houston HamFest](#), hosting the ARRL Texas State Convention, Rosenberg, Texas



March 18 | MARC St. [Patricks Day Hamfest](#), hosting the ARRL West Texas Section, Midland, Texas



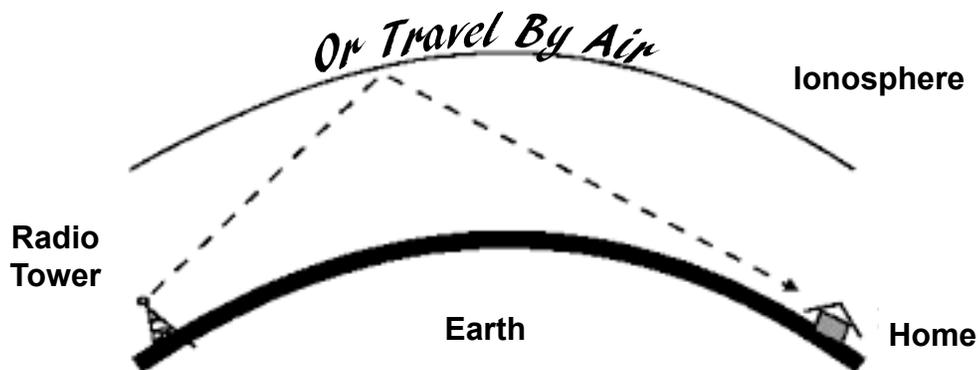
March 18 | [Charleston Area Hamfest](#), hosting the ARRL West Virginia Section Convention, Charleston, West Virginia



March 24 - 25 | ARRL [Maine State Convention and Hamfest](#), Lewiston, Maine



March 25 - 26 | [QSO Today Virtual Ham Expo](#) (online)





# Wabash Valley Amateur Radio Association, Inc.

# 2023 Hamfest & Computer Expo with Commercial Vendors Saturday March 11, 2023

Indoor Event – Rain or Shine!

## 8:00 AM to 12:00 PM EST

Vendor setup begins at 6:00 AM

## Clay County 4-H Fairgrounds 6550 North State Road 59 – Brazil, IN (39° 29' 03" N, 87° 07' 30" W)



Talk-In: K9IKQ/R – 146.685 MHz – PL 151.4 Hz

Admission \$10.00 (12 and under free)

# FREE TABLES



Hourly drawings for Door Prizes

Breakfast Served – DXCC/VUCC/WAS Card Checking

More information: <http://w9uuu.org> or contact [hamfest@w9uuu.org](mailto:hamfest@w9uuu.org)





## Sterling-Rock Falls Amateur Radio Society

### 61th ANNUAL HAMFEST

**\* Sunday \* March 19, 2023 \***  
**Sauk Valley College Gym \***  
***NEW Location:***  
**Rt 2 \* Dixon**  
**\*\*\* Just East of Sterling \*\*\***

Large indoor flea market, radio, electronic, and hobby items. Free parking on both sides of the building. All tables with or without electricity **\$9.00**. IT IS NECESSARY TO BRING YOUR OWN DROP CORDS AND CARTS. **Setup Saturday 4-8PM. and Sunday beginning at 6AM.** Doors open to public at 7:30AM Sunday. Venders enter east side; public west side. **Biscuits & Gravy, Rolls, Coffee and Soda** will be available in eating area.

Advance Tickets **\$7.00**

At The Door Tickets **\$8.00**

For advance tickets and tables write to S.R.F.A.R.S. PO Box 521 Sterling IL. 61081, E-mail [w9mepclub@hotmail.com](mailto:w9mepclub@hotmail.com). Make sure all checks are payable to the Sterling-Rock Falls Amateur Radio Society (SRFARS). Advance ticket orders to be received by Feb 25, 2021. Please send SASE. Talk in 146.850 W9MEP repeater, PL 114.8. Visit our website at [www.w9mep.com](http://www.w9mep.com) for information and registration.

**Due to problems in the past there will be NO SALES before 7:30am Sunday morning.**



# All Operators Net



“EVERY” Sunday for “EVERY” Operator

New or experienced...ALL are Welcome

1900 hrs (7pm) local time

147.21 103.5PL +600

On the FOX VHF Repeater



Feel free to share your thoughts, experiences, recipes and hobbies etc.

“It does not have to be about radio to talk on the radio!”

For more info about the NET contact:

Mike K9FE 630-327-5164 [K9FE@yahoo.com](mailto:K9FE@yahoo.com)

## *Calling all newly licensed hams.*

Remember the old Radio Shack slogan “You’ve got questions, We’ve got answers”?

Well, I know new hams have a lot of questions and those of us that have been hams for a while have the answers.

I will be adding a new segment to our Tuesday Night Net called “ask Elmer” If you have a question about ham radio, ask it on the air and someone will give you the answer over the air.

Now, for this to work properly we need lots of questions and lots of people who know the answers.

Don’t be afraid to ask a simple or “stupid” question, we all had them when we started. Would you like to be an “Elmer” without getting out of your chair? Well, this is the opportunity you have been waiting for.

I want to invite all the club members to check-in to the net and either ask a question or provide an answer.

You never know what you might learn or what fun you will have if you don’t join the net. For those who may need a reminder, The net meets on our club 2-meter repeater (147.21 MHz, 103.5 Hz PL tone) Every Tuesday at 7:30PM except on our meeting nights.

Hope to hear you on the net soon.

73, Curt W9YNP



T5B01  
How many milliamperes is 1.5 amperes?

- A. 15 milliamperes
- B. 150 milliamperes
- C. 1,500 milliamperes
- D. 15,000 milliamperes

T5B02  
What is another way to specify a radio signal frequency of 1,500,000 hertz?

- A. 1500 kHz
- B. 1500 MHz
- C. 15 GHz
- D. 150 kHz



T5B03  
How many volts are equal to one kilovolt?

- A. One one-thousandth of a volt
- B. One hundred volts
- C. One thousand volts
- D. One million volts

T5B04  
How many volts are equal to one microvolt?

- A. One one-millionth of a volt
- B. One million volts
- C. One thousand kilovolts
- D. One one-thousandth of a volt

Answers on Page  
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## Dealing with QRM - Loop-on-Ground (LoG) Receive Antenna

by Tom Lebryk, KD9NPR

There are a number of ways Ham's deal with local noise. QRM has been increasing year-by-year, so multiple solutions might be useful for suburban Hams who cannot escape neighborhood noise. One idea is to use a Loop-on-Ground (LoG) receive only antenna. This can help reduce local noise compared to your transmit dipole or vertical antenna. It requires the use of a receive jack on the back of your transceiver. Many low-end transceivers do not have such a receive jack, although supposedly, there is a mod kit for the popular Icom 7300. However, you would have to install this mod yourself or find a friend to do it for you. Having a dedicated receive antenna may also help you hear stations not heard on the transmit antenna. If you cannot hear it, you cannot know if you can work them!

Matt Roberts (KK5JY) has a good article including some antenna theory and measurements, you can find it here: <http://www.KK5JY.net/LoG/>

Other conditions to meet. There has to be enough flat ground away from people or pets (or lawn mowers!) who would get tangled in the wire on the ground (you can push it 1/4-inch below ground and let the grass grow over it). The wire should be as close to the ground as possible (raising the loop makes it lose its favorable signal-to-noise ratio, KEEP IT ON THE GROUND). The loop of wire can vary in circumference from about 20 feet to 150 feet (the shorter length will stay in an omnidirectional pattern higher in frequency but lower in signal pickup and vice-versa for the longer length). The wire needs to be insulated (Landscape wire is outdoor rated for long term use and cheap at Home Depot or Menards). You need a 9:1 balun at the antenna feed point (you can make a cheap one since you will never transmit through it). You really should use an RF Choke at both the transceiver end and antenna feedpoint to keep noise on the coax shield getting into the low-noise antenna. That's about it!

I don't understand all the electrical interrelationships but a long posting at RadioReference.com had a great discussion about creating a 160-20 meters LoG receive-only antenna. It is 11 pages long but is worth reading how "nanZor" experimented with various parameters for general use. Kudos to him for documenting the findings as the design changed over time. You can find it here:

<https://forums.radioreference.com/threads/160-20m-log-loop-on-ground.370110/>

nanZor basically boils it down to a few guidelines.

1. Keep it on the ground. Lifting the wire more than an inch or two decreased the lower angle signal reception greatly.
2. Calculate the optimal length for one full wavelength of wire at the highest target frequency, say for example, the top of the 20 meter band (14350 kHz).  $936/14.350 \text{ MHz} * 0.9$  velocity factor of simple insulated wire = 58.7 feet. You can round up to 60 feet. The antenna should have a predictable reception pattern from 1/10<sup>th</sup> wavelength up to 1 full wavelength. Outside that range, the pattern gets "squirrely".
3. Using a 9:1 balun seemed to be a little better than a 4:1 balun at the antenna feedpoint (rising impedance as a loop gets closer to ground level).
4. Make sure to use an RF Choke at BOTH sides of the feedline coax cable. He was adamant that the loop can get easily unbalanced and allow noise into the antenna and/or feedline and so it must be isolated and the ground allowed to "float" in his words.

Dealing with QRM - Loop-on-Ground (LoG) Receive Antenna continued:

As mentioned before, if you do not have a receive antenna jack on your transceiver, you may have to resort to using a dedicated shortwave receiver as your station monitor. In that case, I would recommend getting a "Receiver Guard" to protect your receiver from high RF energy since you will be tuned to the same frequency and no way to avoid receiving what your transmit antenna is emanating. This one from DX Engineering is highly rated: <https://www.dxengineering.com/parts/DXE-RG5000HD>

Other resources for investigating this idea:

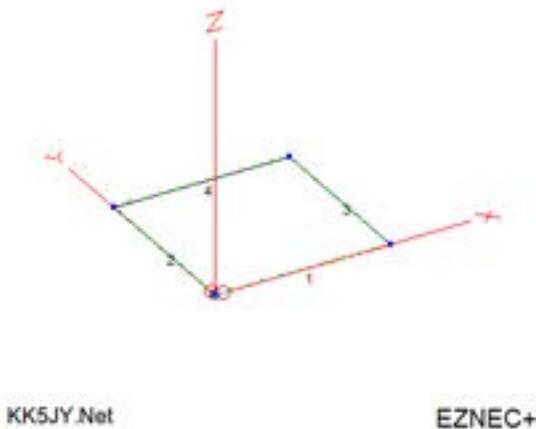
Callum (M0MCX) of DXCommander builds and demonstrates a 60 feet LoG:  
<https://www.youtube.com/watch?v=jDcaltDUKnl>

Scott (WX0V) describes his LoG installation:  
<https://www.youtube.com/watch?v=wMb8i5QajW0>

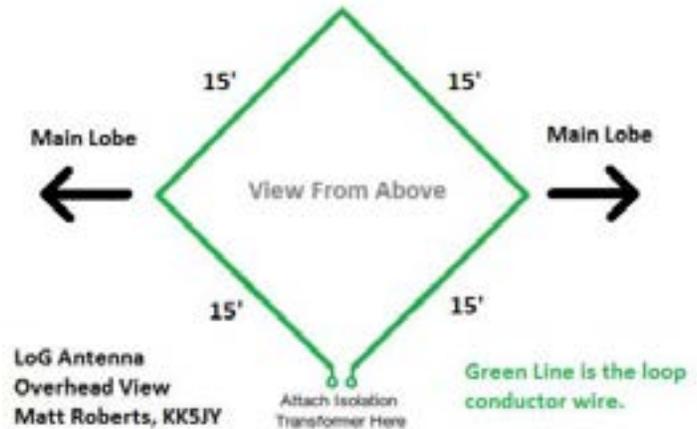
Ian describes his LoG build:  
<https://www.youtube.com/watch?v=l0m4uronvh8>

Roly (ZL1BQD) discusses his LoG experiment:  
<https://www.youtube.com/watch?v=GxYC-c7ef3M>

How I personally use a LoG for shortwave listening in a park (I use a smaller version now than this):  
<https://swling.com/blog/2021/01/loop-on-ground-antenna-part-2-tom-upgrades-his-low-profile-low-noise-portable-dxing-antenna/>



**EZNEC Antenna Model (3D View)**



**Antenna Diagram (Overhead View)**

# The Radio Amateur's Code

The Radio Amateur is...

**CONSIDERATE...** He never knowingly operates in such a way as to lessen the pleasure of others.

**LOYAL...**He offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in his country through which Amateur Radio in his country is represented nationally and internationally.

**PROGRESSIVE...** He keeps his station up to date. It is well build and efficient. His operating practice is above reproach.

**FRIENDLY...** He operates slowly and patiently when requested; offers friendly advice and counsel to the beginner; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.

**BALANCED...** Radio is a hobby, never interfering with duties owed to family, job, school or community.

**PATRIOTIC...** His station and skills are always ready for serice to country and community

...adapted from the original Amateur's Code, Written by Paul M Segal, W9EEA, in 1928

© John Devoldere 0N4UN and Mark Demeuleneere 0N4WW

Taken from: [Ethics and Operating Procedures for the Radio Amateur.](#)

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## BRING BACK "RADIO IN THE PARK"

Harry Jones K9DXA" started "Radio in the Park" years ago. His idea was take your radio out to a local park and set it up and operate. Since we can't have any thing big, just take your rig, wear your mask, set up an antenna, radio and have fun.



The idea of this is bring ham radio to the public. Make a small sign with your name, call sign, and please add FRRL also. Would like some photo of your operation. May get someone to take a picture of you operating. Will try to get your picture into the news letter. Please send a short report to me at my FRRL address. [Director3@frrl.org](mailto:Director3@frrl.org)

Dave K9wdb



There are plenty of volunteer organizations that could use your radio skills.



Consider volunteering  
you can make  
the difference !!



American Red Cross



The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

## ARES

Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES.

### ARES Resources

- [Download the ARES Manual \[PDF\]](#)
- [ARES Field Resources Manual \[PDF\]](#)
- [ARES Standardized Training Plan Task Book \[Fillable PDF\]](#)
- [Emergency Communications Training](#)

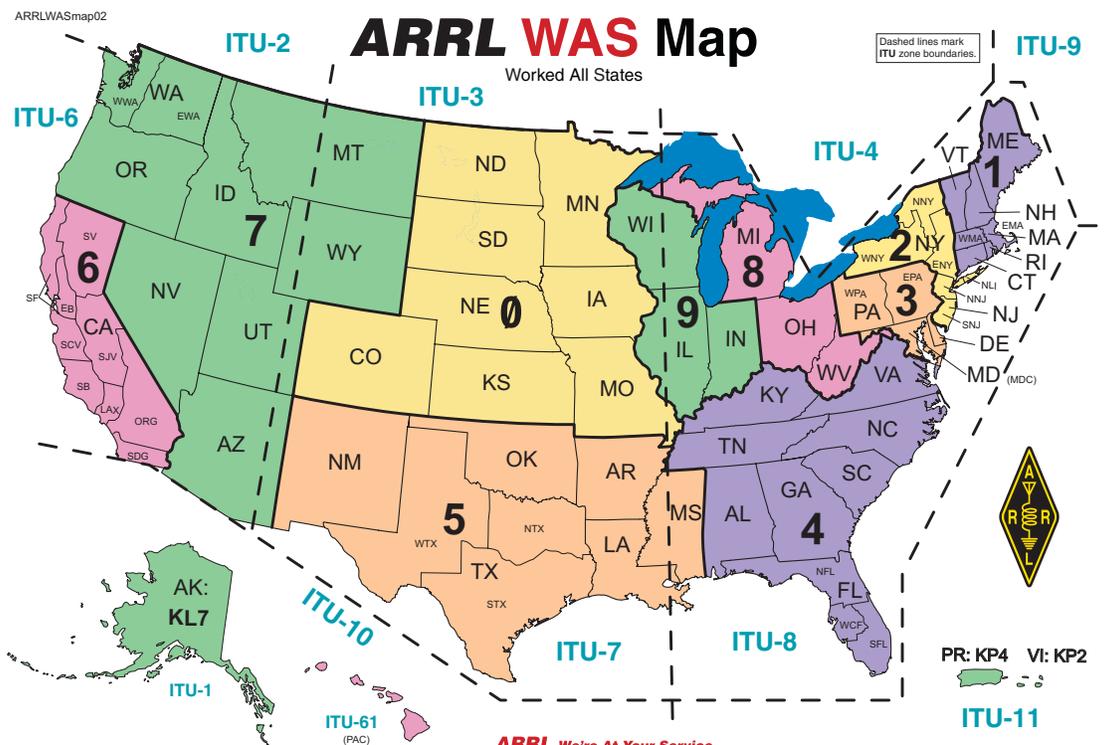
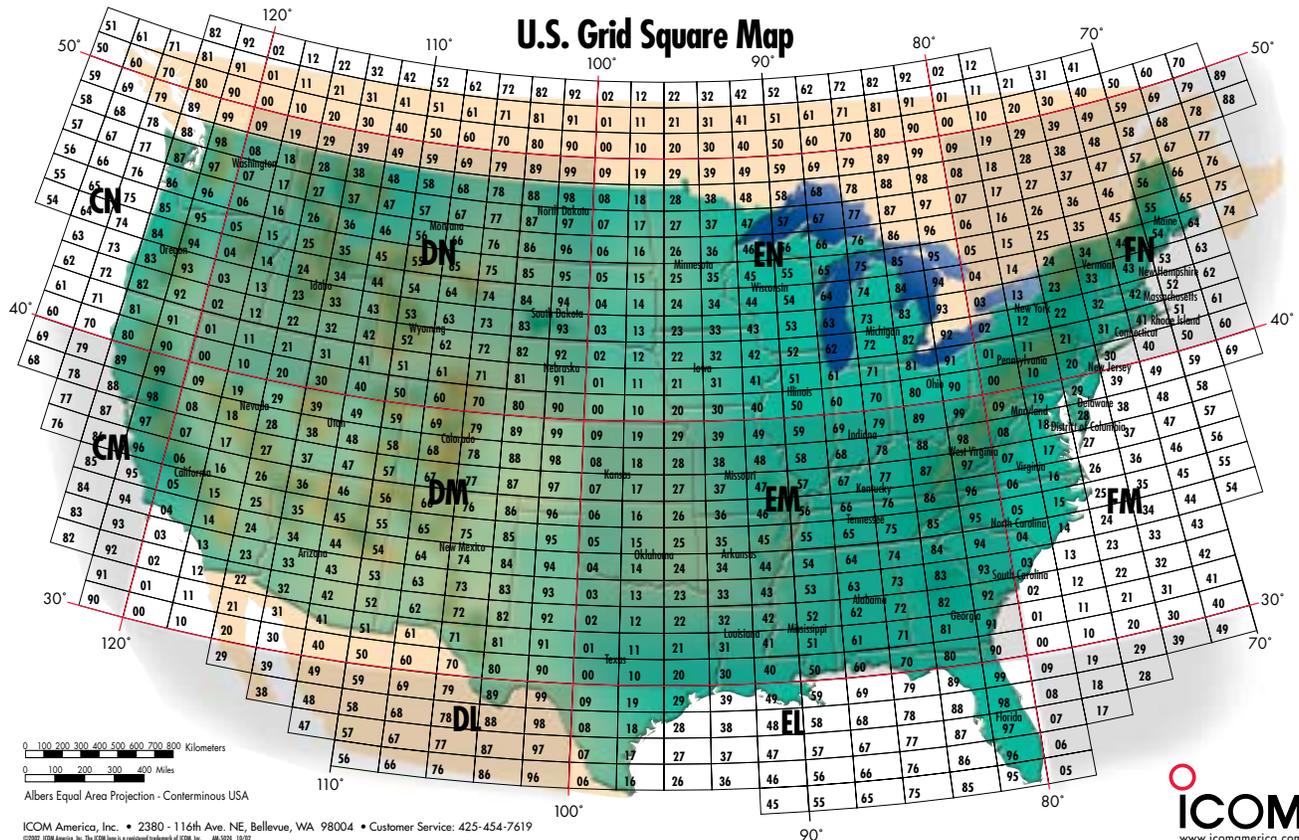


Kane County ARES

Information

[Click Here](#)





**ARRL** The national association for  
**AMATEUR RADIO**

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**ARRL We're At Your Service**

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 Publication Orders  
 Membership/Circulation Desk  
 Getting Started in Amateur Radio  
 Exams  
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860-594-0200 (Fax 860-594-0259)  
 Toll-Free 1-888-277-5289 (860-594-0355)  
 Toll-Free 1-888-277-5289 (860-594-0338)  
 Toll-Free 1-800-326-3942 (860-594-0355)  
 860-594-0300  
 www.arrl.org

hq@arrl.org  
 orders@arrl.org  
 membership@arrl.org  
 newham@arrl.org  
 vec@arrl.org





# US Amateur Radio Bands

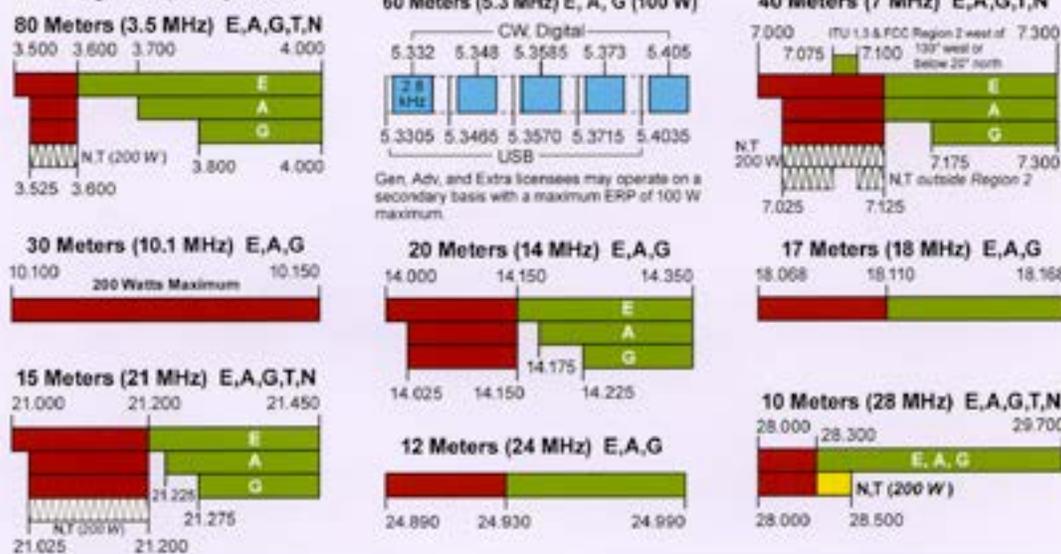
Operator license classes: **E** = Amateur Extra **A** = Advanced **G** = General **T** = Technician **N** = Novice  
 CW operation is permitted throughout all amateur bands. Except as noted, all frequencies are in megahertz (MHz).

■ = RTTY, data, phone, image   
 ■ = USB phone, RTTY, data and CW   
 ■ = RTTY and data   
 ■ = phone and image  
■ = SSB phone   
 [CW symbol] = CW only

## LF – Low Frequency band



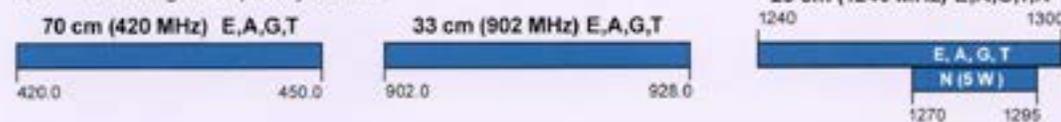
## HF – High Frequency bands



## VHF – Very High Frequency bands



## UHF – Ultra High Frequency bands



## SHF&EHF – Super and Extremely High Frequency bands

All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	3300-3500 MHz	50.0-90.5 GHz	47.0-47.2 GHz	122.25-123.0 GHz	241-250 GHz
2390-2450 MHz	5650-5925 MHz	24.0-24.25 GHz	76.0-81.0 GHz	134-141 GHz	All above 275 GHz

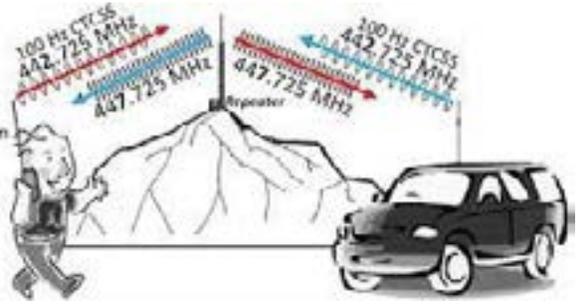
See [www.arrl.org/band-plan](http://www.arrl.org/band-plan) for detailed band plans.  
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 OTAbands rev. 1-22-20



**FRRL**

70 cm Band  
5 MHz Negative  
Offset Example

447.725 MHz: Your Listen  
(Repeater Transmit)  
442.725 MHz: Your Talk  
(Repeater Receive)



**AND OTHER  
LOCAL REPEATERS**

**FRRL Repeaters- W9CEQ**

**147.225 MHz - Plano**  
Mode: **Auto C4FM / Fusion, FM, Wires X**  
+600 KHz Offset, 100.0 Access Tone

**147.21 MHz - Elburn**  
Mode: FM (Echolink Available)W  
+600 KHz Offset, 103.5 Access Tone

**444.300 MHz - Elburn**  
Mode: FM  
+5 MHz Offset, 114.8 Access Tone

**223.86 Mhz - Aurora**  
Mode FM  
-1.6 Mhz Offset, 110.9 access Tone

**442.10625 MHz (B) - Elburn**  
Mode: D-Star  
+5 MHz Offset



**Other Area Repeaters  
W9XA**

**53.910 - Batavia**  
-1.0 MHz offset PL 114.8 Hz

**224.4 MHz - Batavia**  
-1.6 MHz offset PL 103.5 Hz

**443.64375 MHz - Elburn**  
+5 MHz offset DMR 311759

**443.65625 MHz - Plano**  
+5 MHz offset DMR 311760

**1292.00 MHz - Batavia**  
-20 KHz 114.8 Access Tone

**927.625 - Batavia**  
+25 MHz offset PL 114.8 Hz

**W9DWP**

**145.270 MHz - Elburn**  
-600 KHz offset PL 107.2  
ARES APCO P25 NAC 293

**NIARC W9ZGP**

**147.06 MHz - Batavia**  
Mode FM +600 kHz offset PL 103.5.

**Auto C4FM / Fusion, FM, Wires X Repeaters**

**K9IIK/R**

**442.275 MHz - Schaumburg**  
Mode: **Auto C4FM / Fusion, FM, Wires X**  
+5 MHz, 114.8 Access Tone

**W9CHI**

**444.600 MHz - Channahon**  
Mode: **Auto C4FM / Fusion, FM, Wires X 30024**  
+5 MHz, 136.5 Access Tone

**KD9FA**

**443.600 MHz - Oswego**  
Mode: **Auto C4FM / Fusion, FM, Wires X**  
+5 MHz, 107.2 Access Tone

**KC9OEM**

**Primary Kane County SKYWARN / ARES**

**145.470 MHz -St Charles**  
Mode: FM  
-600 Offset, 103.5 KHz Access Tone



**444.525 MHz -St Charles**  
Mode: **Auto C4FM / Fusion, FM, Wires X**  
+5 MHz Offset, Access WWTone114.8



15B04 A  
15B03 C  
15B02 A  
15B01 C