ARC OVER

April 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

Website: http://www.frrl.org

From the desk of....

The Esteemed

Terry Todd

Have you ever wondered what can be done with a raspberry pi? No this one isn't for eating. Paul Mitchell has volunteered to give a presentation on what can be done with a raspberry pi and the hamclock app for it. Sounds exciting.

I look forward to seeing everyone at the April meeting on the 11th.

Terry W9AUV

WELCOME

New Members

Call Sign	Name	License Type
KB4NCC	JAMES CRAIG	TECH

WELCOME

ARC OVER

FOX RIVER RADIO LEAGUE
MEMBERSHIP MEETING MINUTES

March 14, 2023

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

The March 14, 2023 meeting of the Fox River Radio League was conducted at Bethany Lutheran Church in Batavia, IL. There were
27 members in attendance.

The meeting was called to order at 19:30 CST by President Terry Todd W9AUV.

Board members present.

Board Members and Directors Present

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 2, Jim Brady W9JB
Director 3, John Greusel KC9OJV
Director 4, Paul Mitchell KC9SEB

Minutes: Acceptance of the February 14, 2023 Membership Meeting minutes as printed in the ArcOver were approved by the membership with amendment to show all bullet points from the ARRL concerning their resolve to increase activity on the six and ten meter bands. This amendment requested by Harry K9DXA. Motion: Bob W9MZ 2nd: Denny W9HI
Minutes approved as amended.

Reports:
Bylaws committee: Some changes will be presented for vote by the entire club.

100th Anniversary: Eve W9EVE: An E-mail has already been sent and another will be sent before the first meeting. She is looking for volunteers to help with all aspects of the 100th celebration of the FRRL.

Database manager Chris KC9BKS: We currently have 131 members.

Director 4: Paul Mitchell KC9SEB: Would like to have some activities outside of the regular club meeting.

Education/VE : Denny W9HI. Finished Technician and General classes and VE session. There will be a special VE session W

New Business: Field Day June 23-25, 2023. Band captains and volunteers are needed to help.

Adjournment:

Motion to adjourn: Kermit W9XA, 2nd: Robert W9DSR.
Meeting was adjourned at 20:05 CST.

Respectfully submitted,
Art Shuter – NN9I
FRRL Secretary

FOX RIVER RADIO LEAGUE

APRIL 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 
2 **INFORMAL ALL OPR NET 1900**	3 **CW NET 28.150 2000** **SSB NET 28.720 2030**	4 **1900 FRRL BOD Meeting** 1930 FRRL 2m Net	5	6	7	8
9 	10 **CW NET 28.150 2000** **SSB NET 28.720 2030**	11 **1930 FRRL Membership Meeting** **No Net**	12	13	14	15 **$**
16 **INFORMAL ALL OPR NET 1900**	17 **CW NET 28.150 2000** **SSB NET 28.720 2030**	18 1930 FRRL 2m Net	19	20  *Deadline*	21	22
23 **INFORMAL ALL OPR NET 1900**	24 **CW NET 28.150 2000** **SSB NET 28.720 2030**	25 1930 FRRL 2m Net	26	27 	28	29
30 	**2023 World Amateur Radio Day April 18**					

MEMBER MEETING
BETHANY LUTHERAN CHURCH
8 SOUTH LINCOLN ST. BATAVIA IL

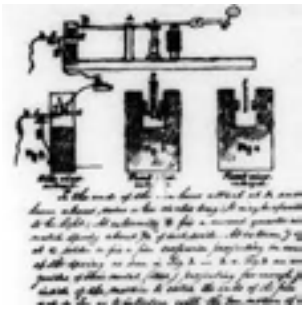
WCRA 2m Net 8pm 145.31 -6 107.2	VARA 2m Net 8pm 146.79 -6 107.2	FRRL 2m Net 7:30pm 147.21 +6 103.5	Kane County ARES 2m Net 6:30pm 145.47 -6 103.5	Northern Illinois ARRL 70cm Net 7:30pm 444.875 +5MHz, 114.8	**CW Net 28.150, Monday 8PM** **SSB Net 28.720, Monday 8:30PM**

ARC OVER

NEWS AND INFORMATION CENTER

Local - National - International

Morse Code Day celebrates the invention of morse code and the electric telegraph machine. This special event was established on this date to honor Samuel Morse, who was born on April 27, 1791.



Start Thinking About Field Day 2023.. It'll be here before you know it !!

We need people to help set up/tear down along with Band Captains and of course

YOU to come out and operate !!

From The Keyboard of The Vice President

Evelyn Schneider

I have been tasked to head up the committee for the 100 Year Anniversary of our FRRL Club. I am excited to learn lots and help plan our event that will take place in 2024. This celebration will be here before we know it!

I am looking for volunteers who:

- May be Historians of the club and for amateur radio in general
- May have technical experience
- Are video creators and editors
- Like event planning and organizers
- Have ideas for Goodie bags
- Can create Logos
- Are interested in being a part of the process

Please reply directly to me with your information - (First and Last name, call sign, email address, and phone number), letting me know you are interested. If you are interested but have many other responsibilities in your life, no worries. Supply me with your information and I will keep you in the loop! I'm sure we can find a balance.

Please send me an email with the information I am requesting even if you have already stated you are interested.

Evelyn Schneider, W9EVE

vicepresident@frrl.org

1924 HAM RADIO SETUP

What: 2023 World Amateur Radio Day

Who: All amateur radio operators worldwide

When: Tuesday, April 18, 2023 at 0000 UTC until Wednesday, April 19, 2023 at 0000 UTC

Where: A global event covering all regions of the International Amateur Radio Union (IARU)

Why: World Amateur Radio Day, held on April 18 each year, is celebrated worldwide by radio amateurs and their national associations which are organized as member-societies of the International Amateur Radio Union (IARU). It was on this day in 1925 that the IARU was formed in Paris. American Radio Relay League (ARRL) Co-Founder Hiram Percy Maxim was its first president.

Amateur radio experimenters were the first to discover that the short-wave spectrum could support long-distance radio signal propagation. In the rush to use these shorter wavelengths, amateur radio was "in grave danger of being pushed aside," the IARU's history has noted. Amateur Radio pioneers met in Paris in 1925 and created the IARU to promote the interests of amateur radio worldwide and to protect and enhance its spectrum privileges. Today, the IARU is a federation consisting of more than 160 national amateur radio organizations in as many countries and separate territories. The International Secretariat of the IARU is ARRL The National Association for Amateur Radio® in the United States.

On World Amateur Radio Day, all radio amateurs are invited to take to the airwaves to enjoy our global friendship with other amateurs, and to show our skills and capabilities to the public.

How: World Amateur Radio Day is not a contest but rather an opportunity to "talk" about the value of amateur radio to the public and our fellow amateur colleagues. It is also a great opportunity to talk about your radio club and amateur radio in local media as a lead-up to ARRL Field Day (held each year during the fourth full weekend in June) and another ham radio related activity in your community – such as volunteers who serve in local emergency communication readiness including the ARRL Amateur Radio Emergency Service®.

Here are just a few ways to participate in, and promote, World Amateur Radio Day:
Get a station on the air! Create your own personal "event" to talk about amateur radio to others, including family and friends.

- **Find out more about World Amateur Radio Day by checking the IARU website and other Resources listed below.**

- **Create and hold a special net or on-air event on World Amateur Radio Day to raise the level of attention for the celebration, and to encourage other hams to talk about our hobby. Consider creating and offering a commemorative certificate for contacting your special activation. It can be an electronic one as these are cost effective.**

- **Get the word out! If you are an ARRL Public Information Coordinator, Public Information Officer, or responsible for radio club publicity, send a press release and conduct some public relations outreach to highlight the day and/or events. Talk about all of the activities radio amateurs have continued to support during the pandemic, and how amateur radio serves our communities. Find recent examples of amateur radio in-the-news at**

  www.arrl.org/media-hits.

- **Promote your personal World Amateur Radio Day activity(ies) on social media platforms like Twitter and Facebook by using the hashtag #WorldAmateurRadioDay. Make sure you send it to various clubs, reflectors, and media.**

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 probably 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

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

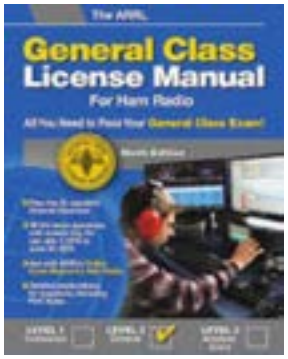
Wednesday Evenings
6:30 P.M. to 9:30 P.M.

Start:
End:

Location: Zoom Meeting
[Link to be distributed prior]

Fall 2023

date TBD



General Classes:

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

Start:
End:

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.

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

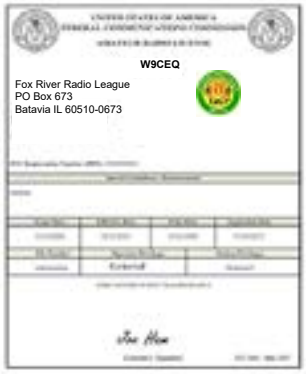
In addition to our regularly scheduled bi-monthly testing we will be scheduling a dedicated VE session after discussing best availability with the class participants. For more information on VE sessions, please see VE Test Sessions.

We are in need of

Instructors

If you are willing to teach a section or two contact education@frrl.org

Please Note that classes are 9 weeks long..
You can contact Dennis Barfus at:
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:

April 13, 2023
May 11,2023

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

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Illinois Traffic Net

You can also participate in one (or all) of the Illinois Traffic Nets. Everyone is welcome with or without traffic. The nets are the North Central Phone Net, Daily (M-F) at 7 a.m. local time, on 3912 kHz LSB; the Illinois Phone Net, Monday – Friday at 4:45 p.m. local time, on 3857 kHz LSB and on Sunday at 8 a.m. on 3940 kHz; and the Illinois Sideband Net, Daily at 6 p.m. local time, on 3905 kHz LSB.

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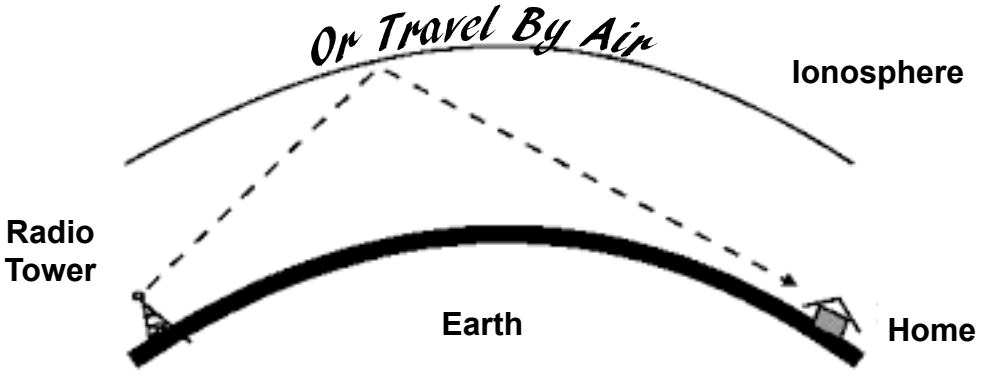
April 7 - 8 | Green Country Hamfest, hosting the ARRL Oklahoma Section Convention, Claremore, Oklahoma

April 8 | Raleigh Hamfest, hosting the ARRL North Carolina State Convention, Raleigh, North Carolina

April 15 | Sussex Amateur Radio and Electronics Expo, hosting the ARRL Delaware State Convention, Georgetown, Delaware.



Indoor Noise and Ferrites, Part 1

by Tom Lebryk (KD9NPR)

There is a lot written about the general problem of noise and radio listening, for instance this ARRL article web link – www.arrl.org/radio-frequency-interference-rfi. But I needed to get more specific about my particular Condo environment. I had tried some common clamp-on TDK ferrites I had obtained from eBay a long time ago but they only seemed to work a little bit. There must be a better way.

The more I researched topics using RF chokes on the wire antennas, it dawned on my feeble, misguided brain that I was wrongly thinking about how to use ferrite material. For one thing, the material used to suppress RF noise is made with a certain "mix" of elements, like Manganese-Zinc, that electrically "resists" a specified frequency range. Also, this only helps noise picked up by the outside shield of the coax, which is a subset of the whole scope of the noise topic.

Fair-Rite has a useful Material Data Sheets web page (https://www.fair-rite.com/materials/) which lists the Types of ferrite material. For dealing with noise at the Source, I needed to use the right kind of "Suppression" materials and proper placement. So, it (partly) made sense why the TDK snap-on ferrites might not fully work to reduce certain noise coming from my computer screens, LED lights, USB devices, and cheap Chinese-made power adapters – those ferrites were made for a certain frequency range and needed to be placed at the source and in sufficient quantity.

A very good paper is by Jim Brown (K9YC) of Audio Systems Group entitled, "Understanding How Ferrites Can Prevent and Eliminate RF Interference to Audio Systems" (audiosystemsgroup.com/SAC0305Ferrites.pdf). I was drawn to the very detailed Impedance measurements of many different "Types" of ferrite material which he developed while as a Consultant to clients such as WGN Radio & TV. I remember the traumatic pain of my college experience trying mightily to understand the Van Vlack Materials Science text book to no avail. But Jim's paper reminded me of the importance of using the correct type of ferrite material and in an optimal way that reacts favorably in the target frequency range to solve a particular noise problem. So, what are my problem areas?

Shortwave Noise

The Condo building has steadily increased in noise interference. Part of my solution is beyond this article's scope (using 2 antennas into a Phased system to cancel noise and increase Signal/Noise ratio). It is common practice to put an RF Choke at the antenna feedpoint to prevent stray transmitted "RF in the shack" problem. But not much is said about using one at the transceiver end as well to squash noise picked up by the coax shield. Common mode RF chokes at both ends of the antenna connection will ensure that any RF energy on the braid of the coax is Killed. However, RF chokes will also keep your coax from acting as a counterpoise, so, if your antenna design needs a counterpoise, make sure it has a separate counterpoise if you want to use RF Chokes!

For the antenna feedpoints, the Very-Bent-Dipole is using a 1:1 Balun with built-in RF Choke from Balun Designs, model 1115t. For the 9:1 EndFed antenna, I am using an RF Choke from Palomar Engineers, model CMNF-500-50. A second CMNF-500-50 is installed close to the transceiver. If I had known about Jim Brown's graphs, I could have made my own using one T-240 Type 31 toroid for each choke. You just take a 10 foot length of RG-8X Extension type cable and wrap it through the center 10

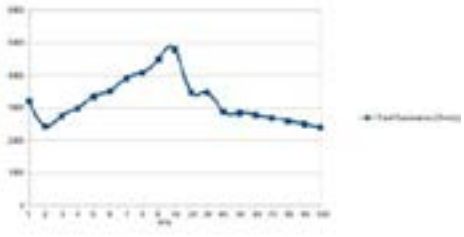
times (neatly and in order so each turn does not overlap), and you are done. (See Palomar Engineers part# JC-1-1500-3 , although I would have used an extension cable with one end an SO-239).

Custom Feedpoint RF Choke

I am not using it at the moment, but I used to have a 20 meter loop on the porch with 150 ohm twinlead (two Belden video cables tie-wrapped). At the feedpoint I created a custom RF Choke using stacked toroids of different Types and 5-inch diameter Turns. It is overkill but is was fun to make. For instance, the best set of graphs in Jim Brown's paper, in my opinion, are Figures 21 and 24 compared to each other. Something I did not know before is that one can not only use multiple turns on a single toroid to get a lower, peaked frequency response, but also stack multiple toroids of the same Type to get a smoother frequency response. Then on top of this, combine that set with other Types to create a customized frequency response curve. Furthermore, on top of these three factors, increasing the diameter of the wire Turns can lower the frequency range, too.

Custom Receive RF Choke

More importantly for me, I mentioned earlier about two receive-only antennas Phased to reduce noise and improve signal/noise ratio. I created stacked T140 toroids of Types 77, 61, and 43 built on a nine foot RG-316 patch cable with SMA connectors to easily fit through the toroids 10 Turns. Extrapolating from Jim Brown's graphs will give an approximate RF Choke impedance curve shown in the graph below. Each receive antenna has one before connection to the Phaser box.



Part 2 will cover more indoor noise, VHF, UHF, and AC Power Strips.

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

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

T5B05

Which of the following is equivalent to 500 milliwatts?

A. 0.02 watts
B. 0.5 watts
C. 5 watts
D. 50 watts

T5B06

If an ammeter calibrated in amperes is used to measure a 3000-milliampere current, what reading would it show?

A. 0.003 amperes
B. 0.3 amperes
C. 3 amperes
D. 3,000,000 amperes

T5B07

If a frequency readout calibrated in megahertz shows a reading of 3.525 MHz, what would it show if it were calibrated in kilohertz?

A. 0.003525 kHz
B. 35.25 kHz
C. 3525 kHz
D. 3,525,000 kHz

T5B08

How many microfarads are 1,000,000 picofarads?

A. 0.001 microfarads
B. 1 microfarad
C. 1000 microfarads
D. 1,000,000,000 microfarads

Answers on Last Page

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 service to country and community

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

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

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*

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

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Download the ARES Manual [PDF]

· **ARES Field Resources Manual [PDF]**

· **ARES Standardized Training Plan Task Book [Fillable PDF]**

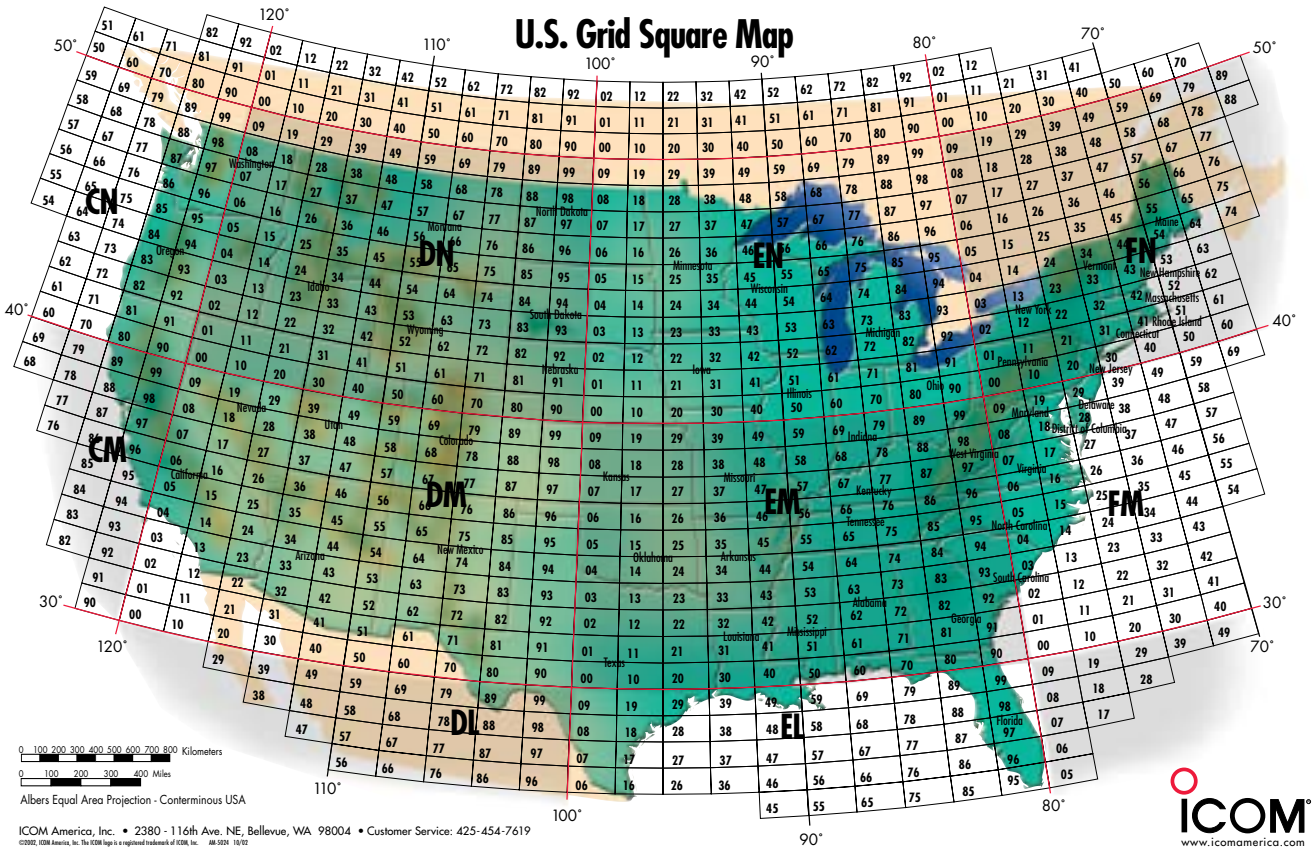
·

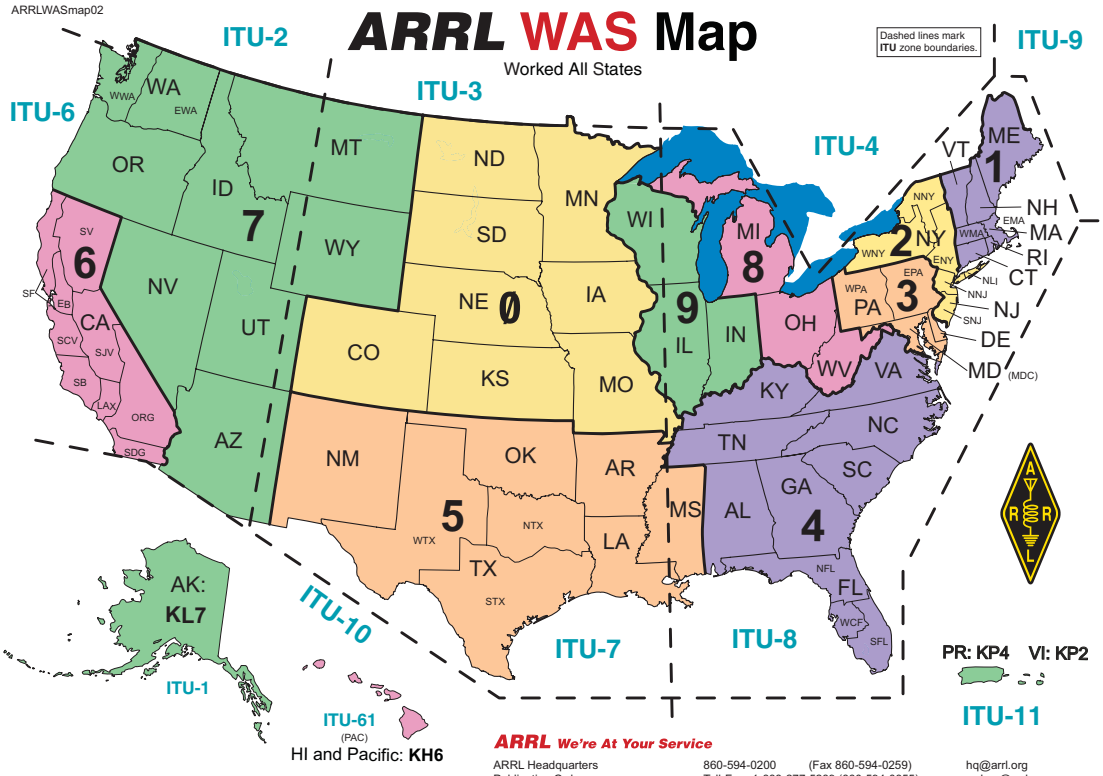
· **Emergency Communications Training**

Kane County ARES

Information

Click Here





ARRL The national association for AMATEUR RADIO

ARRL We're At Your Service

ARRL Headquarters	860-594-0200 (Fax 860-594-0259)	hq@arrl.org
Publication Orders	Toll-Free 1-888-277-5289 (860-594-0355)	orders@arrl.org
Membership/Circulation Desk	Toll-Free 1-888-277-5289 (860-594-0338)	membership@arrl.org
Getting Started in Amateur Radio	Toll-Free 1-800-326-3942 (860-594-0355)	newham@arrl.org
Exams	860-594-0300	vec@arrl.org
ARRL on the World Wide Web	www.arrl.org/	

On the Air
arrl.org/ota

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 only

LF – Low Frequency band

2200 Meters (135 kHz) E,A,G
1 W EIRP maximum

135.7 kHz — 137.8 kHz

MF – Medium Frequency bands

630 Meters (472 kHz) E,A,G
5 W EIRP max, except in Alaska within 496 miles of Russia where the limit is **1 W EIRP**

472 kHz — 479 kHz

160 Meters (1.8 MHz) E,A,G

1.800 — 1.900 — 2.000 MHz

Amateurs wishing to operate on **2200 or 630 meters** must first register with the Utilities Technology Council online at **https://utc.org/plc-database-amateur-notification-process/**. You need only register once for each band.

HF – High Frequency bands

80 Meters (3.5 MHz) E,A,G,T,N

3.500 — 3.600 — 3.700 — 4.000

E
A
G

N,T (200 W)

3.525 — 3.600 — 3.800 — 4.000

60 Meters (5.3 MHz) E, A, G (100 W)

CW, Digital

5.332 — 5.348 — 5.3585 — 5.373 — 5.405

2.8 kHz

5.3305 — 5.3465 — 5.3570 — 5.3715 — 5.4035

USB

Gen, Adv, and Extra licensees may operate on a secondary basis with a maximum ERP of 100 W maximum.

40 Meters (7 MHz) E,A,G,T,N

7.000 — 7.075 — 7.100 — 7.300

ITU 1,3 & FCC Region 2 west of 130° west or below 20° north

E
A
G

N,T 200 W

7.025 — 7.125 — 7.175 — 7.300

N,T outside Region 2

30 Meters (10.1 MHz) E,A,G

10.100 — 10.150

200 Watts Maximum

20 Meters (14 MHz) E,A,G

14.000 — 14.150 — 14.350

E
A
G

14.025 — 14.150 — 14.175 — 14.225

17 Meters (18 MHz) E,A,G

18.068 — 18.110 — 18.168

15 Meters (21 MHz) E,A,G,T,N

21.000 — 21.200 — 21.450

E
A
G

21.225

N,T (200 W)

21.025 — 21.200 — 21.275

12 Meters (24 MHz) E,A,G

24.890 — 24.930 — 24.990

10 Meters (28 MHz) E,A,G,T,N

28.000 — 28.300 — 29.700

E, A, G

N,T (200 W)

28.000 — 28.500

VHF – Very High Frequency bands

6 Meters (50 MHz) E,A,G,T

50.1

50.0 — 54.0

2 Meters (144 MHz) E,A,G,T

144.1

144.0 — 148.0

1.25 Meters (222 MHz) E,A,G,T,N

E, A, G, T
N (25 W)

222.0 — 225.0

UHF – Ultra High Frequency bands

70 cm (420 MHz) E,A,G,T

420.0 — 450.0

33 cm (902 MHz) E,A,G,T

902.0 — 928.0

23 cm (1240 MHz) E,A,G,T,N

1240 — 1300

E, A, G, T
N (5 W)

1270 — 1295

SHF&EHF – Super and Extremely High Frequency bands

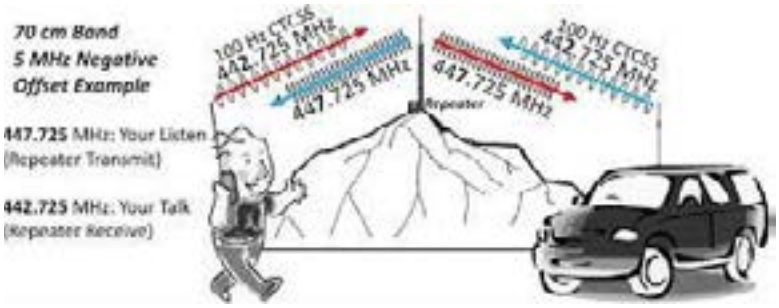
All licensees except Novices are authorized all modes on the following frequencies

2300-2310 MHz	3300-3500 MHz	10.0-10.5 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 for detailed band plans.

OTAbands **rev. 1-22-20**

FRRL



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

W9CEQ

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

T5B05 B
T5B06 C
T5B07 C
T5B08 B