



# ARC OVER



The Official Newsletter of the Fox River Radio League, Est. 1924  
Our 95th Year in Amateur Radio!

## Who We Are

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

Email: [info@frrl.org](mailto:info@frrl.org)  
Website: <http://www.frrl.org>

President:  
Dan Taddei, W9STS

Vice President:  
Roger Bara, W9YU

Secretary:  
David Booher, W9BOO

Treasurer:  
Dan Harmon, WA9YKK

Directors:  
Jim Nevitt Jr., N9XP  
John Miller, W9JDM  
Priscilla Miller, AE9PM  
Mike Bingham, WX9SPL

Past President:  
Dennis Barfuss, W9HI

License Trustee (W9CEQ):  
Kermit Carlson, W9XA

License Trustee (W9NE):  
David Booher, W9BOO

Education Chair:  
Vacant

Newsletter Editor:  
John Miller, W9JDM

Webmaster:  
Curt Sauer W9YNP

Membership Database:  
Chris Kennell KC9BKS



## 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.

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The FRRL ArcOver Newsletter is published monthly by the Fox River Radio League, Inc. Submission deadline for all news articles, items, and information is the 3rd Tuesday of each month for inclusion by the next publishing date. Please submit any such requests to [newsletter@frrl.org](mailto:newsletter@frrl.org).

## 2019 Membership Dues

Regular Dues: \$30 | Family Dues: \$40 | Sr. Citizen / Active Military / Student (full time under 22): \$25  
Repeater Support: \$10 donation

FRRL Dues and Repeater Support are payable no later than the January club meeting each year. New members joining during the year will have their first year's dues prorated to the nearest yearly quarter. Copyright © 2019, FRRL. Prior written permission is required to republish material present in the ArcOver.

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# President's Traffic

*From the President's Desk*

This year's IL QSO party will take place on October 20th. We are considering setting up the club station field day again this year. If you are interested in helping with planning, setting up, or operating let one of the officers know.

At the September Membership Meeting I hope to announce the members of the Nominating Committee. This committee will be tasked with putting together the slate of officers and directors that will run the club next year. As always, all officers and two directors are up for re-election or replacement. When contacted by a representative of this committee please consider running for office.

The Nominating Committee will post the election slate at the mem-

bership meeting in November. At this meeting we will take nominations from the floor as well. Nominations will then be closed. The election slate will be posted in the ArcOver, which is emailed to members and posted on our website. At the December Membership Meeting the election will take place with the selected officers install at the January Membership Meeting.

I have a HeathKit legal limit Manual Tuner, Model SA 2060A. I will be bringing it to the September Membership Meeting. I am looking for a good home for this wonderful tuner. I would like to get \$200 for the tuner which will be turned over to the club treasury. I may bring a few other items that could use good homes.



The club is always looking for new presentations that our members would be interested in seeing at our club meetings. If you have a topic you would like to present let John W9JDM know ([program@frrl.org](mailto:program@frrl.org)). If you have seen a presentation of interest at a hamfest or at another club let John know. Part of the club's purpose is to provide education opportunities to its members. Great topics ensure strong member attendance. Please help.

73, Dan Taddei W9STS

## Test Your Knowledge!

*Each month the ArcOver will post 3 Exam Test Pool Questions to challenge you - one from each of the Technician, General, and Extra Class License Exams. Answers will be hidden throughout the ArcOver.*

### Technician - T5D03

**What formula is used to calculate resistance in a circuit?**

- A. Resistance (R) equals voltage (E) multiplied by current (I)
- B. Resistance (R) equals voltage (E) divided by current (I)
- C. Resistance (R) equals voltage (E) added to current (I)
- D. Resistance (R) equals voltage (E) minus current (I)

### General - G1A12

**Which of the following applies when the FCC rules designate the Amateur Service as a secondary user on a band?**

- A. Amateur stations must record the call sign of the primary service station before operating on a frequency assigned to that station
- B. Amateur stations can use the band only during emergencies
- C. Amateur stations can use the band only if they do not cause harmful interference to primary users
- D. Amateur stations may only operate during specific hours of the day, while primary users are permitted 24-hour use of the band

### Extra - E7C09

**What is a Jones filter as used as part of an HF receiver IF stage?**

- A. An automatic notch filter
- B. A variable bandwidth crystal lattice filter
- C. A special filter that emphasizes image responses
- D. A filter that removes impulse noise



# Member Traffic

*A place for you, our FRRL members, to come share your thoughts, voice your opinions, and talk about any topics that may be of general interest to the FRRL club or Amateur Radio in general.*

Hello All,

After replacing the Motorola power supply for the repeater, everything came back up with no problem. The first two contacts were with non-club members in Sugar Grove and the East side of Joliet, so this is a good indication the repeater is working.

As a note - Keith had reported the repeater down with a voice-mail but not one other person had called or emailed...we really need our members to USE this machine.

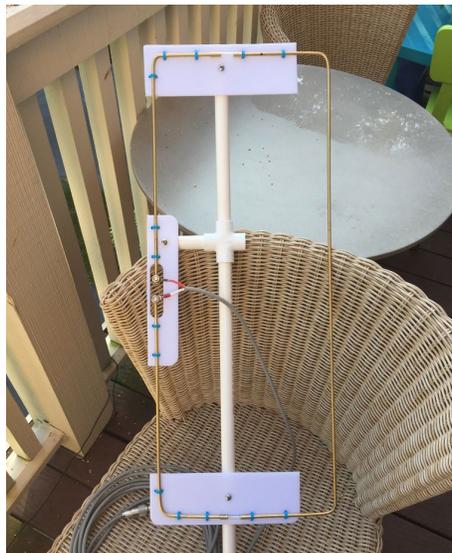
73, Kermit W9XA

Hi All,

I know many are reluctant to tackle building beam antennas but if you stick to VHF/UHF it's fairly easy and manageable. Attached are some photos of a moxon beam I built over the last few days using commonly available parts. I looked at a few designs by others and that was very helpful. One key element I picked up from a Brazilian ham was using brass rod for the antenna elements. Grainger has 3/16" brass rod in 6 ft lengths very inexpensive and great material. It can be bent cold but some say it works better if you heat it. I bent it cold. I am most proud of the design of the terminals. I bought copper AC terminal lugs at Menards, soldered them to the 3/16" rods and then attached the coax with 1/4-28 jamb nuts and soldered hole terminals. If you want a better description please ask. The photos tell the story. I used an online Moxon design software to

determine the dimensions. Note that the gap between the driver element (one with the coax) and the reflector is fairly critical so I used 3/16" ID clear tubing to fix that distance. I set the center frequency at 144.300 as I intend to use this for AM at the bottom of the 2 meter band. It's fairly broad banded so should work for all or most of two meters. If you wanted it for FM mainly you'd probably set the center frequency further north. If you want more details please ask. The white pieces are plain old nylon cutting board.

73, John KC9OJV



Reposted from ARRL, courtesy Mark WB9QZB

The WWV Centennial Committee reports that it will conduct a trial run of special event station WW-0WWV over the August 24/25 weekend.

Radios and antennas began arriving last week, and a tower and beam will be erected, along with several vertical antennas. WW0WWV will be set up adjacent to the WWV transmitter site in Fort Collins, Colorado. WWV turns 100 years old on October 1.

“We’ll be testing band and notch filtering, in an attempt to reign in the extreme RF environment created by WWV and WWVB,” said Dave

Swartz, W0DAS, of the Northern Colorado Amateur Radio Club (NCARC).

The club will carry out the special event operation in conjunction with the WWV Amateur Radio Club and the National Institute of Standards and Technology (NIST), which operates WWV/WWVH/WWVB.

## New Members

Please welcome our newest members to the club!

Call	Name	License Class
KD9IPH	Bryan McMahan	General

## In Memoriam (Silent Keys)

Call	Name	Location



# Upcoming Events

Come join us at an event - some are on the airwaves, and some are in person.

This format is designed to be easy to print and hang on your fridge.

SEPTEMBER 2019						
S	M	T	W	T	F	S
1	2	B N	4	5	6	7
8	9	M	11	12	13	14
15	16	N T	18	19	20	C 21
22	23	N	25	26	27	C 28
29	30					

OCTOBER 2019						
S	M	T	W	T	F	S
		B N	1	2	3	C 5
6	7	M	9	10	11	C 12
13	14	N	16	17	18	C 19
20	21	N	23	24	25	C 26
27	28	N	30	31		

NOVEMBER 2019						
S	M	T	W	T	F	S
					1	C 2
3	4	B N	6	7	8	C 9
10	11	M	13	14	15	C 16
17	18	N	20	21	22	C 23
24	25	N	27	28	29	30

**B**Sept. 3: Board Meeting

- 7:00PM
- Colonial Cafe in Aurora, Ill.

**N**Sept. 3, 17, 24: Regular FRRL Net

- 7:30PM
- W9CEQ 2M Repeater

**M**Sept. 10: Member Meeting

- 7:30PM
- Bethany Lutheran Church in Batavia, Ill.
- Program: Dan WA9YKK  
Wire Antenna Design

**T**Sept. 17: VE Testing (TBD)

- 7:00PM
- Venue TBD: Messenger Library parking lot under construction.

**C**Sept. 21, 28: General Class

- 9am-noon
- Golden Corral in Aurora, Ill.

**B**Oct. 1: Board Meeting

- 7:00PM
- Colonial Cafe in Aurora, Ill.

**N**Oct. 1, 15, 22, 29: Regular FRRL Net

- 7:30PM
- W9CEQ 2M Repeater

**C**Oct. 5, 12, 19, 26: General Class

- 9am-noon
- Golden Corral in Aurora, Ill.

**M**Oct. 8: Member Meeting

- 7:30PM
- Bethany Lutheran Church in Batavia, Ill.
- Program: Tom N9HSJ ARES

**C**Nov. 2, 9, 16, 23: General Class

- 9am-noon
- Golden Corral in Aurora, Ill.

**B**Nov. 5: Board Meeting

- 7:00PM
- Colonial Cafe in Aurora

**N**Nov. 5, 19, 26: Regular FRRL Net

- 7:30PM
- W9CEQ 2M Repeater

**M**Nov. 12: Member Meeting

- 7:30PM
- Bethany Lutheran Church in Batavia, Ill.
- Program: Jaye W9CY Building Your First HF Station



# Event Information

If you have an idea for an event, or would like to share details on an upcoming event, please reach out to John W9JDM at [director2@frrl.org](mailto:director2@frrl.org) or Priscilla AE9PM at [director3@frrl.org](mailto:director3@frrl.org).



## General Class

The Fox River Radio League (FRRL) is joining together with Northern Illinois Amateur Radio Testing and Training (NIARTT) to present an Amateur Radio Technician Class license training course this fall. NIARTT is a collaboration established by FRRL members to run the regularly-scheduled Technician, General, and Extra license classes in coordination with other area clubs. Currently, this collaboration includes the FRRL as well as the BARS and CSRA area clubs.

This course is a FREE 10 week course where you will learn everything you need to receive your new Amateur (Ham) Radio General Class FCC radio license.

This class is designed for people who are new and experienced alike, and are interested in finding out more about the world of the

Amateur Radio. There is no prior license required. There is no age limit. There is only the need of interest in the Ham Radio hobby, and a willingness to learn. Be prepared for both interactive, group and individual study. There will be a VE test license exam on the last week of the course. ANYONE is invited to join the class or “sit in” as a refresher.

For more information and to sign up, please visit [frrl.org/education](http://frrl.org/education).

## Outreach Technician Classes

Due to the overwhelming success of the condensed (5 week) Technician class with the Civil Air Patrol, John W9JDM and Priscilla AE9PM are working on coordinating another class with a similar format. The class held this past summer resulted in 10 new Technician licensees.

Current partnerships being ex-

plored for the upcoming Technician class are the Red Cross and Moose International. The Civil Air Patrol is also interested in a second run of the class for their new cadets next year.

If you know of another organization or school that has a large group of individuals interested in obtaining their Amateur Radio license, please reach out to Priscilla AE9PM ([director3@frrl.org](mailto:director3@frrl.org)) or John W9JDM ([director2@frrl.org](mailto:director2@frrl.org)).

## Repeater Information

Club sponsored or club affiliated local repeaters are listed below.

KC9OEM 2M

- 145.470 MHz, -600 KHz offset
- 103.5 Hz tone
- Net: Wed. 6:30PM
- Owned by Kane Co. OEM

W9CEQ 2M

- 147.210 MHz, +600 KHz offset
- 103.5 Hz tone
- Net: Tues. 7:30PM (except second Tues. of month)
- Owned by FRRL

W9CEQ 70CM

- 444.300 MHz, +5 MHz offset
- 114.8 Hz tone
- IRLP #4850, Echolink #230933
- Owned by FRRL

W9CEQ\_B D-Star 70CM

- 442.10625 MHz, +5 MHz offset
- Contact W9XA for information

W9CEQ\_C D-Star 2M

- 147.225 MHz, +600 KHz offset
- Net: 8:00PM Wed.
- Contact W9XA for information

More repeater information can be found at [frrl.org/repeaters](http://frrl.org/repeaters).



## Technician - T5D03

What formula is used to calculate resistance in a circuit?

B. Resistance (R) equals voltage (E) divided by current (I)



# Meeting Minutes August 13, 2019

*Minutes of the Regular Meeting of the General Membership of the Fox River Radio League (FRRL), an Illinois not-for-profit Corporation. Held at Bethany Lutheran Church, Batavia, Ill.*

The meeting was called to order at 19:30 CDT by President Dan W9STS. Audience introductions: Name, Call, QTH and "Are you ARES or SKYWARN certified, if not, would you like to be"? Approval of July 2019 Member Meeting minutes: Motion was moved, seconded and accepted. There were 45 people present at this meeting.

## Reports

### Treasurer's Report

**Dan WA9YKK**

Dan reported the balances as of 08/06/2019.

### Repeater

**Jim N9XP**

Jim deferred to Kermit W9XA for a repeater report. Dave W9XU says that attendance is down on the Net.

### Classes/Programs/VE

**John W9JDM**

General Class starting on September 21st. John is working on a MOU with NIARTT. Harry K9DXA asked for further clarification on the agreement between FRRL and NIARTT. Terry W9AUV requested information for the upcoming classes to be posted on the Club's website. Dean KC9EOQ asked for clarification web signup for the classes. Lance W9QB addressed the club regarding misconceptions regarding the contact list and club representation.



Harry asked about VEC testing. Dan W9STS clarified that FRRL's sessions are in conjunction with the ARRL VEC. John updated the group on future presentations. If you have a suggestion for a future presentation, please contact John.

### Outreach/Newsletter/PR

**Priscilla AE9PM**

Priscilla provided a recap of CAP Class. The Club is currently working with the Red Cross for a possible training class in October. We are also reaching out to the Moose for a Tech Class. Gordie AA5TN will be liaison. DuPage Amateur Radio club is making a push to-

wards public service. They would like the clubs to send a representative. Dan WA9YKK has volunteered to attend. Terry W9AUV mentioned DARC does SkyWarn training in April.

### Tech/Membership/Groups.io

**Mike WX9SPL**

Mike reported the member count. Chris KC9BKS noted via e-mail on 8/12 that there are 131 active members and 87 group.io members.

### ARES

Marty N9NTM shared the meeting schedule for ARES. Visit the website at <http://kanecountyares.org> for further specific details on any event happening with ARES.

### Repeater Report

**Kermit W9XA**

The repeater board members have spent time at the Elburn site to assess improvements. The tower arm and two antennas are in need

## General - G1A12

**Which of the following applies when the FCC rules designate the Amateur Service as a secondary user on a band?**

C. Amateur stations can use the band only if they do not cause harmful interference to primary users





*Come join the camaraderie at one of our monthly meetings! The social hour following the business portion is a great opportunity to meet your fellow hams.*

of repair. Please consider donating to the repeater fund to help fund needed repairs.

### Old Business

None.

### New Business

Call for Volunteers and Presenters: The Club needs volunteers to help John W9JDM with finding presentations.

ARES Representative: The Club needs a new ARES representative.

Nominating Committee: Call for Members. If you would like to participate, please see Dan W9STS.

### Extra - E7C09

#### What is a Jones filter as used as part of an HF receiver IF stage?

B. A variable bandwidth crystal lattice filter

The elections are coming up.

### Announcements

Dan W9STS is bringing a HeathKit Tuner to the next meeting. Highest offer over \$200 will be accepted. Dan W9STS mentioned Harvey Houses on the Air event on September 14th 10:00am CST to 6:00pm CST. Dan also explained a little of the history of Harvey Houses.

Marty N9NTM recapped several upcoming Hamfests in the area. Dave K9WDB reported that the Indian PowWow is coming up. Kermit W9DXA stated that the minutes for the July board meeting for ARRL are available on the website. He also mentioned several upcoming events.

Denny W9HI related his experience in Oshkosh, WI at AirVenture.

### Upcoming Events

- August 13th Membership Meeting
- September 3rd Board Meeting
- September 10th Membership Meeting
- September 17th VE Session (Location TBA)

### Program

You Got Your License Now What?  
– Harry Jones K9DXA

### Adjournment

A motion was received, seconded and carried to adjourn the meeting. The member meeting was adjourned at 20:15 CDT.

Respectfully submitted,  
David Booher W9BOO  
FRRL Secretary





# ARRL News

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## FCC Dismisses ARRL, AMSAT Requests in Small Satellite Proceeding

An FCC Report and Order (R&O) released August 2 in the so-called “small satellite” rulemaking proceeding, IB Docket 18-86, failed to address concerns expressed by ARRL and AMSAT. Both organizations filed comments on the FCC Notice of Proposed Rulemaking (NPRM) in the proceeding last year, seeking changes in the FCC’s interpretations and procedures affecting satellites operating on Amateur Satellite Service frequencies.

“These comments address topics outside the scope of this proceeding, and we decline to adopt any of the requested rule modifications or updates at this time,” the FCC said in the R&O. The FCC did mention amateur satellites in its 2018 NPRM, explaining what they are and describing the documentation and authorization process, but it did not solicit comments.

“The Commission did not seek comment in the NPRM on any modifications or updates to the rules governing Experimental or amateur satellite licensing. The streamlined Part 25 small satellite process adopted in the Order is an alternative to existing license processes and does not replace or modify the authorization procedures for satellites currently contained in Parts 5, 25, or 97 of the Commission’s rules,” the FCC explained. “Nevertheless, we received a number of comments in response to the NPRM, particularly regard-



ing the rules applicable to amateur satellite operations, suggesting that aspects of those rules be improved or clarified.”

## Ending the Great Radio Silence after “The Great War”

Practical wireless was still in its infancy at the turn of the 20th century and unregulated experimentation rampant. Chaos reigned on the airwaves. Given the technology of the day -- spark gap transmitters that emitted very, very broad signals -- interference was a problem. As Al Brogdon, W1AB, explains in “The World War I Shutdown,” in the September 2019 issue of QST (p. 70), hams, passenger ships, and the US Navy were the main users of wireless, and the Navy went to Congress in an unsuccessful effort to wrest control over radio and, effectively, abolish ham radio in the US. Radio amateurs opposing the bill had an ally in the Marconi Company.

When the US in 1917 joined the European conflict that became World War I, the federal government ordered hams to disassemble their stations, lower their antennas, and not use transmitters or receivers. Many hams who joined the military took their own radio gear along, because, as Brogdon explains, “the military didn’t have

enough radio equipment.”

The end of the war did not mean the resumption of Amateur Radio. Hams were allowed to use their receivers again but not transmit. The Navy was still in charge of all US radio communications, and another bill introduced in Congress proposed handing over ongoing control of all radio to the Navy.

Publication of QST also ceased during the war, and many hams had let their ARRL memberships lapse for the duration. ARRL officers and key members dug into their own wallets to thwart the bill, mailing a “Little Blue Card” to members urging them to ask their congressional representatives to oppose the Navy proposal. ARRL President Hiram Percy Maxim went to Washington to speak against the bill, which died in committee.

It was not until 1919 -- amid another Navy effort to gain control over radio that was stalled by opposition from hams and others -- that the transmitting ban was lifted by an act of Congress. As Brogdon explains, “Maxim went to Washington again and found a sympathetic ear in Massachusetts Congressman William Greene, who ultimately introduced the successful House Joint Resolution 217, which asked the Navy ‘to remove the restrictions on the use and operation of Amateur Radio stations throughout the United States.’”

Hams were back on the air by the fall of 1919 -- 100 years ago!

