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# THE FEEDLINE

Volume 47, Issue 8 The Voice of the Western Illinois Amateur Radio Club August 2023

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## Greetings from the Fourth District of Alaska

Thanks, W9DP for putting the finishing touches on *The Feedline* this month! I'm sending Danny what I have as we are getting "down to the wire" for getting it on line.

Melba and I have been traveling since June 29. So far, the Honda has navigated about 6500 miles of challenging terrain in Illinois, Iowa, Wisconsin, Minnesota, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, Yukon, Northwest Territories and Alaska. We've seen a lot of birds and other animals (eight porcupines, numerous moose and caribou, a few bears) and are enjoying amazing scenery.

Radio activity has included activating parks along the way, including one on the shores of the Arctic Ocean in Northwest Territories. Ringo the RF Duck has been busy satisfying the demand for CW contacts from parks.



Danny asked about the road conditions. Ha! They vary from really good to pretty awful. In general, we have been impressed with the ability of Canadian road crews to maintain a lot of roads under what have to be very challenging conditions. One never relaxes while driving even when the road seems good, as potholes big enough to swallow basketballs crop up without warning.

We've not seen any aurora borealis as it never gets dark up here. We can tell it's around due to the watery characteristics of radio signals. Propagation from up here is a real challenge. So far the new 17' vertical is performing well, but you can only do so much to overcome band conditions.

I'll have more thoughts to share when we get back. 73, Jim N9JF and Melba KB9CES

## **July 5, 2023 meeting minutes**

Meeting was called to order by acting president, Dave Scranton, W9WE at 7:00 PM. W9WE appointed Danny, W9DP, to take minutes in absence of the secretary.

All attending introduced themselves, there were 14 members in attendance and no visitors. NA9Q tried to join us via Zoom but was not receiving any audio, so disconnected after a few minutes.

W9WE read the minutes from the June meeting. A motion was made by John Myers (second KB9FIN) to accept the minutes as read; motion passed.

Treasurer Arnold Gerst, K9VXD, gave us a report on the income and expenses over the past month, there was \$20.00 in dues and \$2.54 in interest income. There were no expenses reported. Arnold asked for guidance on how the club might want to handle CD's that were coming due soon. After some discussion, it was the consensus that the club would continue to have the treasurer handle how the funds in our CD's are handled. Arnold said if they were simply allowed roll over, we will go from 1% interest to almost 4% interest. Motion by John, WB9EWM (KB9FIN) to approve the treasurer's report as presented. Motion passed.

Repeater board chairman, WB9EWM, reported on actions taken to try to eliminate the noisy squelch tail that plagues the Yaesu repeaters. John had talked to a Yaesu representative at Dayton and called Yaesu service and has made a couple of changes to the squelch tail hang time and may make another adjustment to the squelch settings, based on advice from the Yaesu tech.

Contest report – W9WE reported that the club's Field Day operation netted around 800 QSO's, using 3 stations and 3 different modes.

Membership committee – Our membership chairman was not present but it was noted that Ken Wilkerson, WM4D, had contacted the ARRL about a way to learn how many of our club members are ARRL members. Ken sent them our most current membership list and the ARRL returned a list of who on our list are current ARRL members. Currently, of the total club membership, almost 62% are ARRL members. The reason we wanted to know this accurately is we need to have at least 50% of our club membership also be ARRL members if we are to keep out ARRL affiliated club status.

Club Station report – Radio Officer WA9GBC has been moved from the hospital to Sunset Home. It was mentioned that he would very likely appreciate visitors to help pass the time.

Old business – W9WE mentioned that at the last meeting, the club was informed of the resignation of president and secretary but the club had not voted to accept the resignations. The motion was made by Danny Pease, W9DP, (W9US) to accept the resignations. Motion passed. Also under old business, it was noted the club would be having our annual dinner on

**October 14<sup>th</sup>. Anyone planning to attend will need to indicate how many in their party will be attending and payment made in advance by the October meeting.**

**New business - In addition to Arnold handling how the current CD's are being handled, W9DP brought up the fact that only Arnold had access to the CD's and we really need a second club member to be able to have access, in case our current treasurer was to become incapacitated for a time. After asking for volunteers, W9WE indicated he would work with Arnold on getting a second club member's name on the paperwork for the CD's if the membership was OK with that. There were no objections, so W9WE will proceed with getting his name added to the club CD's paperwork at the bank that hold our CD's. Also, Ed, W9US (KB9FIN), made a motion that the club reimburse W9WE \$74.47 for his expenses for food he supplied for Field Day operators. Motion passed and W9WE provided Arnold with receipts for what he spent.**

**Also under new business, WB9EWM reported on the passing of Ed Flowers, W9NTG. Ed served as the club secretary several years ago.**

**Prior to starting with the special election to fill the open positions of president and secretary, W9WE noted the formatting of what was sent out to the membership for the proposed changes to the constitution did not match the current formatting. Dave suggested that the formatting changes be made, but none of the wording will be changed. Motion by KB9FIN (AB9DU) to change the formatting as W9WE suggested, motion passed.**

**W9US (WB9EWM) motioned to go ahead with the vote for the changes to the club constitution. W9WE called for the vote, the suggested changes passed unanimously.**

**Special election- Acting president W9WE, read the section of the club constitution that applies to filling open officer positions. At that point, W9WE opened the floor for nominations for the office of President. John Myers, WB9EWM, nominated W9WE but W9WE declined the nomination. Ed Cozart, W9US, nominated himself, there were no other nominations. Motion made by KB9FIN (WB9EWM) that nominations for president be closed. Motion passed. Ed, W9US was voted unanimously by acclamation. W9WE then asked for nominations for the office of Secretary, there were none. W9WE then asked if anyone would be willing to volunteer to fill the position and Danny Pease, W9DP, indicated he would be willing to fill the secretary position for the remainder of the year. KB9FIN (WB9EWM) motioned nominations be closed, motion passed. Danny, W9DP was voted unanimously by acclamation.**

**W9WE noted that by our constitution, the president has authority to appoint assistants to elected offices, such as assistant treasurer or assistant secretary and the authority to appoint committees such as membership, hamfest, station/radio officer and others as the need arises.**

**Net control stations for Wednesday evening net through September 6**

**Motion to adjourn by W9US (WB9EWM), motion passed.**

**Respectfully submitted, Danny W9DP**

## **Net control stations through Sept. 6**

**July 12 W9US 146.940 July 19 WB9EWM 443.900 July 26 W9WE 147.195**

**Aug 2 KD9PPJ 146.940 Aug 9 W9DP 443.900 Aug 16 W9WE 147.195 Aug 23 KD9VUW 146.940  
Aug 30 W9US 443.900**

**Sept 6, K9AJC 147.195**

## **2023 Field Day Report from N9JF**

**Field Day is the last rainy weekend in June when hams gather together and create situations which they then attempt to resolve in real time.**

**Our Field Day was a typical example. There were multiple events occurring on FD weekend. Attendance was fairly low, and a great deal of appreciation goes to those who came out to help with setup, tear down, operate, trouble-shoot, provide food/drink or just visit and provide support. One of the highlights was the fact that we were visited by some former members, Ron and Sally Niemann, W9POF and KC9TSY from Colorado and Kent Dulaney, K9KMD from Algonquin IL. We thoroughly enjoyed getting acquainted with them! We were visited by Dorothy Yackley as a representative of American Red Cross, a 'served agency'.**

**Band conditions were not spectacular. Six meters opened briefly a few times. Ten meters had some solid signals from specific areas. Twenty was packed but with fast QSB. Forty and eighty were fairly busy, but lightning crashes made copy "interesting". We had to shut down three times overnight as thunderstorms rolled through the area. All present agreed that a bit of rain would be a good tradeoff for more contacts!**

**The tech support present was greatly appreciated! I arrived very late due to another commitment, and the initial issues with setting up the SSB and digital stations had mostly been resolved by then, not that I would have been much help! My first attempt to get the CW station to behave with N1MM+ was not going well, but W9DP figured out my problem. NR9Q and W9MDB were a big help in figuring out some of the other issues. There may have been others who lent a hand, and I simply wasn't around at the time!**

**We were short of operators, but those who came put in a lot of effort. I confess I don't know who all was in the club room, but I know KB9FIN and KD9VUW spent a lot of time over there. W9WE was "Iron Man", operating a lot of CW and then holding down the digital duties during the wee hours. WM4D helped as did K9AJC. I apologize if I'm forgetting someone....**

**W9WE provided sandwiches and chips and coffee. Thanks, Dave!**

**In the middle of the night (well, about 4 am I think....) the digital station suddenly locked up and would not transmit on 40 meters. The computer basically wouldn't do anything until we killed all of the applications and rebooted. Somehow W9WE got it going again. My response was to wander away in a stupor and take a nap in the van.**

The good news was that my nap was comfortable and a lot less eventful than the one I attempted at Siloam Springs three weeks earlier. If you know that story, well....

The radios mostly worked. The antennas varied. As usual, the antennas are just too close together to allow multiple stations to operate comfortably at the same time, even on different bands and modes. I think the beam worked well though I never used it on CW. The vertical seemed to play well. The wire was OK except on 40 meters where one got the feeling it was a high-altitude dummy load. I can't explain this. More experimentation is in the works...

All in all, it was a "success". We resolved some of the issues that arose, and we had a good time visiting during the storm shut-downs. I got a couple of naps.

The final QSO total was 699: 296 on CW, 274 on digital and 129 on phone. The entry has been submitted to, and acknowledged by, ARRL.

**DX info gleefully borrowed from ARRL DX News:**

**SB DX @ ARL \$ARLD028 ARLD028 DX news ZCZC AE28 QST de W1AW DX Bulletin 28 ARLD028 From ARRL Headquarters Newington CT July 13, 2023 To all radio amateurs**

This week's bulletin was made possible with information provided by The Daily DX, 425 DX News, DXNL, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

**TAIWAN, BV. Kenicho, JP1RIW is QRV as BM0QSO from New Taipei City until the end of 2023. Activity is on the HF bands using mostly FT8. QSL via bureau.**

**REPUBLIC OF KOREA, HL. Wouter, PB1WL plans to be QRV as HL4/PB1WL from July 17 to August 16. QSL to home call.**

**AUSTRIA, OE. Special event stations OE2XXM and OE5XXM are QRV during July, and September around the international Autumn field day in Gosau. QSL via operators' instructions.**

**MARSHALL ISLANDS, V7. Bob, W0RGC is QRV as V7/W0RGC from Kwajalein Island for about two to three weeks. Activity is in his spare time on 20, 15, and 10 meters using SSB. QSL to home call.**

**MYANMAR, XZ. Akio, JE2QIZ is QRV as XZ2B from Yangon until the end of September. Activity is on 15, 12, 10, and 6 meters using CW. QSL via JH3SIF.**

**ZIMBABWE, Z2. Eddy, OE3SEU is QRV as Z21MV through August. He is active on Satellite QO-100 using SSB. QSL via LoTW.**

**Please see July QST, page 78, and the ARRL and WA7BNM Contest web sites for details.**

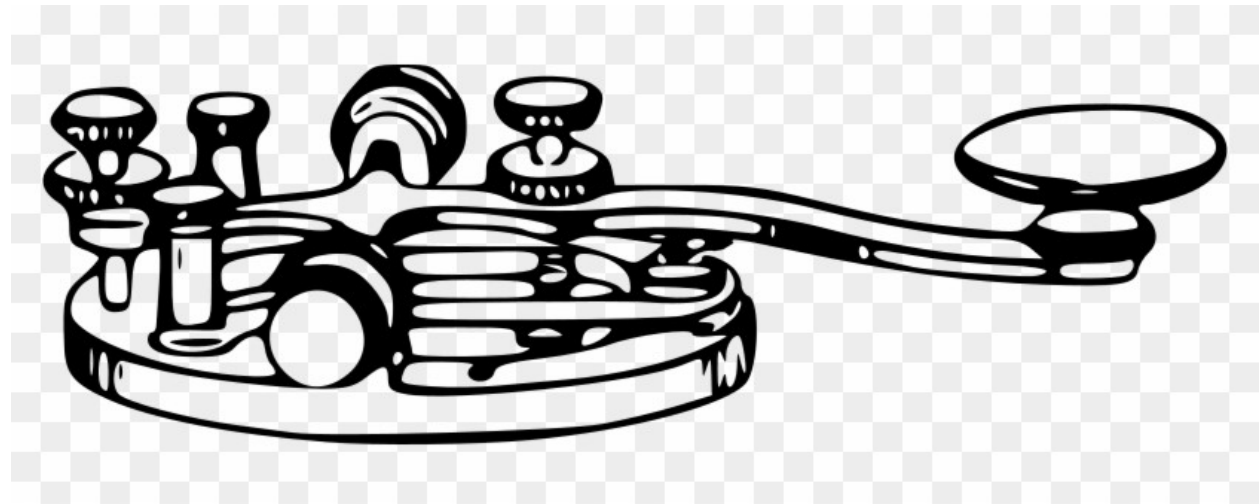
## **Dinner Meeting October 14, 6:00 PM at Sprouts Inn, 284 N. 12th Quincy, IL**

**This event is open to everyone interested, you do not need to be a club member or even a ham radio operator. Bring your spouse and family or friends. We will be served family style. The cost will be \$18.00 per person, taxes and gratuity included. Payment needed when reservations are made. Program after the meal by Bob Mitchell, AB9DU.**

## **ARRL membership increase**

**The ARRL has announced the new dues rates. For the first time, the ARRL has separated membership dues from the QST magazine subscription. Starting January 2024, membership dues will be \$59.00. If you wish to add a paper subscription to QST or On the Air magazines, they will be an additional \$25.00 per year. Digital subscriptions for all ARRL magazines are included in the \$59.00 membership fee. See the link below for detail**

**<http://www.arrl.org/2024-dues-rates>**



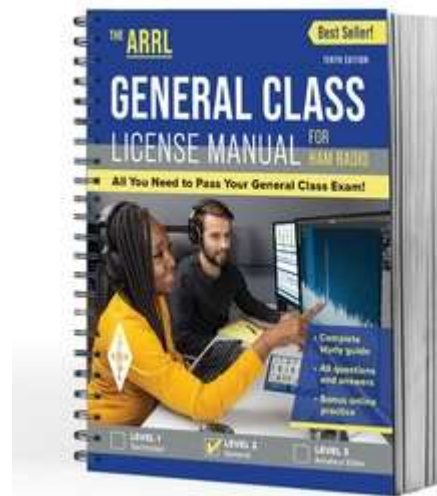
## Techs: Now is the Time to Upgrade to General!

A new question pool took effect on July 1, 2023, for General-class license exams. ARRL has released new editions of its popular study resources including the 10th edition of [The ARRL General Class License Manual](#) and the 7th edition of [ARRL's General Q&A](#).

ARRL has also updated its free online review and practice resource, [ARRL Exam Review for Ham Radio](#)™.

"ARRL Volunteer Examiners (VEs) are already administering the new General-class exams," said ARRL VEC Manager Maria Somma, AB1FM. Somma suggests that candidates first take a practice test using ARRL Exam Review. "If you're already passing online practice exams, then you're ready to search for an in-person exam session team, or you can take the exam online via a remote video-supervised session." Visit the [exam session search page](#) on the ARRL website.

The new General-class question pool is valid for examinations taken between July 1, 2023, and June 30, 2027. "Upgrading from a Technician-class license to General-class significantly opens more operating privileges on HF bands," added Somma.



[The ARRL General Class License Manual](#) has been updated for the new question pool.

## RF in the shack and common mode chokes

Did you just put up the new end fed dipole and now have several symptoms of RF in the shack? Mabe the computer monitor freaking out when you are transmitting, losing internet connection or even feeling RF when you come in contact with parts of your radio or coax connectors? It is very likely the problem stems from RF flowing on the outside of your coax back into the shack. In minor cases, you may be able to live with it, but sometimes, it just has to be fixed.

One of the most typical first responses is to see if things that should be grounded, are really grounded. In most cases, the ground is not the easy fix, but it is easy to check. The next attempt usually is some kind of a common mode choke in the feedline, maybe a simple coil of a few turns of coax before it comes into the shack. This may or may not help and can often be a waste of time. Even a good line isolator (a fancy name for a common mode choke) may be much help.

RF in the shack usually starts at the point where the coax is attached to the antenna. In the case of something like an end fed or even an off center fed antenna, it is not uncommon to have RF coming back down the outside to the coax. Under ideal conditions, RF current in a coax should only exist on the inside

of the shield and on the center conductor. If there is current flowing on the outside of the shield, that allows the coax to actually become a radiator (see comment at end of article) of the RF and also provides a path for RF to come back down the coax into the shack. A really good balun or line isolator (unun) should prevent this, or at least minimize it.

Sometimes, a balun at the feedpoint is not nearly enough, so a line isolator (common mode choke) can be used between the transmitter and the balun at the antenna. Where the choke is placed and the impedance of the choke dictate how effective it can be. The rule of thumb you may find in many ham radio books say 500 ohm reactance is enough, but that is probably the bare minimum. K9YC, a very well respected audio engineer, says for a common mode choke to be effective, you really need to shoot for 5000 ohms of reactance. If you do a little math, you will quickly realize that 5000 ohms of reactance takes a good bit of inductance to accomplish and the lower the frequency, the more inductance you will need. 5 or 7 turns of RG-213 may work for the upper HF bands but you will need many turns for 75/80 and 160. Because there will be several turns of cable in close proximity of each other, there is also a decent amount of capacitance across the coil and a coil and a capacitor in parallel is what a trap uses to isolate parts of the antenna in a trapped antenna. A trap will stop a very narrow band of frequencies and pass everything else, so a coiled coax for a common mode choke will be very effective at one frequency and much less so at other frequencies.

Since lower frequencies require more inductance to maintain a certain level of choking ability, it is apparent that a feedline choke that works well at 10 meters may not do nearly as well at 75, 40 or even 20 meters.

An easy way to increase the effectiveness of a few turns of coax is to wrap it around a ferrous core, increasing the inductance. This is what most commercial balun and line isolator manufacturers do. The size of the core, the number of turns in the coil and the type of material used for the core all factor into how well the choke does its job. There are other factors added to worry about when using a ferrous core, loss in the core, size of the core and material used to make the core all will affect the power handling capability as well as the ability to handle high voltages associated with high reflected power.

Power rating on baluns and line isolators need to be taken with a grain of salt, most are pretty optimistic and some are downright fictitious. Why does a ham that only uses 1500 watts need a balun rated for 5000 watts? Shouldn't a balun rated for 1500 watts work for anyone? Almost all power ratings for baluns are highest for SSB and lower for CW and lower yet for digital modes. A 5 KW SSB rated may only be rated for 3 KW CW and only 1500 watts digital. Same for 100 or 200 watt rated baluns.



When choosing your balun or line isolator, make sure you get one that fits your need and this is a case where the cheapest is seldom good enough.

#### Addendum

Coax radiating is not an evil thing, I mean we are trying to launch our RF into the ionosphere, but a radiating feedline can be an issue, such as RF in the shack, interference to other devices, or simply affecting your antenna's radiation pattern. What is supposed to be a symmetrical radiation pattern may be noticeably skewed by a radiating feedline causing your antenna to possibly radiate signal into areas that do you no good, such as into the ground or up into space.

Danny W9DP



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## Legislation to Remove Private Land Use Restrictions on Amateur Radio Introduced in Congress

Congressmen Bill Johnson (OH-06) and Joe Courtney (CT-02) reintroduced a bill in the US House of Representatives on June 12 -- [H.R.4006](#) ([see full text of bill in this PDF](#)) -- to remove private land use restrictions that prohibit, restrict, or impair the ability of Amateur Radio operators from operating and installing reasonable antennas on property that they own or control. Similar legislation, H.R. 9670, was [introduced](#) by Congressman Johnson in 2022.

"I reintroduced the Amateur Radio Emergency Preparedness Act to remove barriers to disaster and emergency communications and training, and to promote education in STEM subjects related to critically needed wireless technology,"

Congressman Johnson said in a release. "Passage of this bill will promote developing and sustaining our nation's wireless future and facilitate and encourage amateur radio operations as a public benefit."

"As their actions during recent natural disasters such as Hurricane Sandy proved, amateur radio operators in Connecticut can be a critical component of disaster response and emergency management. It is in our communities' best interest that we give them the capabilities to operate at the highest level, and with the re-introduction of this bill, we've taken a strong step in that direction," said Congressman Courtney.



Congressman Bill Johnson (OH-06).

The exponential growth of communities bound by private land use restrictions that prohibit both the operation of Amateur Radio and the installation of amateur station antennas has significantly restricted the growth of the Amateur Radio Service.

[ARRL The National Association for Amateur Radio®](#) continues its multi-year efforts to eliminate private land use restrictions that prevent Amateur Radio operations and has pledged to strongly support Congressman Johnson and Congressman Courtney in their efforts on behalf of Amateur Radio.

Rick Roderick, K5UR, President of ARRL, on behalf its Members and America's Amateur Radio community extended his thanks and appreciation for the leadership of Congressman Johnson and Congressman Courtney in their tireless efforts to support and protect the rights of all Amateur Radio Operators and to further STEM education and the advancement of American expertise in wireless technology.



Congressman Joe Courtney (CT-02).



**Western Il. Amateur Radio Club  
PO Box 3132  
Quincy, IL 62305-3132**



**August meeting: Wednesday Aug 2, 2023  
7pm  
Adams County American Red Cross  
Building, 24<sup>th</sup> and Koch's Lane, Quincy (west  
½ block from intersection then north on  
driveway)**

**W9AWE – W90AB  
The Western Illinois Amateur Radio Club, Inc.  
WIARC homepage: <http://www.w9awe.org> e-mail to [w9awe@arrl.net](mailto:w9awe@arrl.net)  
WIARC email reflector: [wiarc@mailman.qth.net](mailto:wiarc@mailman.qth.net)**

**Sponsors of  
Analog repeater W9AWE/R on 147.630/.030 Tone Rx and Tx 103.5  
Analog repeater W9AWE/R on 146.340/.940 Tone Rx and Tx 123.0  
Analog and Fusion repeater W9AWE/R on 448.900/443.900 Tone Rx and Tx 103.5  
Analog and Fusion repeater W9AWE on 147.795/147.195 Tone Rx and Tx 103.5**

**All repeaters are located on the north side of Quincy IL  
ILLINOIS QSO PARTY**

**Newsletter input due by the 20<sup>th</sup> of the preceding month  
Editor Jim Funk N9JF  
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