

A PUBLICATION OF THE JOHNSON COUNTY RADIO AMATEURS CLUB, INC.

## President's Corner

February was our first moth with the "new" club meeting and program format. The response we have received from the members has been very positive. Having more time for a program during second meeting will allow the topic to be covered better. Also permits a good question and answer period.

We do have a list of programs from the January meeting, but if you have an idea for a program that would be good for the extended program night, let us know. Please also provide a person to present that program.

As you can see the Feedback newsletter is back. Our thanks to Tim Wiegman ,Jr. (KBØYQN) for accepting this task.

Public Service events have been popping up on the calendar. Look these events over and pick a couple to support. These events are a way to meet other hams and gain experience with your equipment.

Bill  
KA2FNK



## Upcoming Club Events

- Tue. Mar 7 @ 1900 - Club VE Testing - JoCo Library 9875 W 87th St, OPKS
- Fri. Mar 10 @ 1900 - Club Meeting - Biz meeting and short presentation - Topic: TBD
- Fri. Mar 24 @ 1900 - Club Meeting - Extended presentation with Q&A - Topic: TBD
- Tue. Apr 4 @ 1900 - Club VE Testing - JoCo Library 9875 W 87th St, OPKS
- Fri. Apr 14 @ 1900 - Club Meeting - Biz meeting and short presentation - Topic: TBD

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# Meeting Presentation 02-07-2023

## **Johnson County Radio Amateurs Club**

Meeting Date: Friday February 7, 2023. Meeting minutes will be provided in a later issue of FEEDBACK as they have not been approved by the membership at the time of publication.

The program for this meeting was presented by Club President Bill Gery, KA2FNK, on knots that are useful for Ham radio operators. Bringing along a roll of cord so that each person in attendance could participate. I am not ashamed to admit that I was one of many people that attempted to tie the knots as instructed, failing multiple times in the process, before finally tying the knot successfully!

Throughout the whole process, Bill was very kind and patient as he went from small group to small group, even person to person at times, showing them up close and slowly the process and fixing the errors that were being made along the way. He also shared an online resource, Animated Knots ([www.animatedknots.com](http://www.animatedknots.com)), with a comprehensive library of knots complete with instructional videos so we can go back as needed to perfect typing up the loose ends.

Bill Brinker, WAØCBW, was kind enough to share photos that he took throughout the presentation.



Ted Knapp, NØTEK, helping Bill Gery, KA2FNK, with a non-cooperative prop when showing how to tie a cleat hitch.



Some of us struggled more than others, so it was great to see members helping each other.



Bill Gery, KA2FNK, showing extreme patience as he went from group to group, person to person, spending time with those that couldn't even tie the first knot, the Bowline Knot, during his presentation.

# **Tech Talk**

## **Air Travel with Radio Equipment**

If you have indulged in any sort of local news lately, the hot topic in the metro is the opening of the new terminal at KCI. Heavy travel season is just around the corner kicking off with Spring Break later this month. For many people, commercial airliner is the mode by which they will travel to get to some more distant destinations. Is that you? Are you hesitant about bringing radio gear on an airliner with you because you don't know the restrictions regarding radios and batteries? Let's discuss.



*(Photo Credit: Tim KBØYQN)*

When talking about radio gear, things can be broken down into 4 general categories: radio, antenna components, tools, and battery/power supply.



**Radio:** Likely the most expensive and most fragile item you are bringing. Assuming you are taking something relatively compact and not the 25-pound base station rig, you'll want to pack that as part of your carry-on luggage. Excluding the battery (batteries are discussed later), you shouldn't have any problems including it in your carry-on because it will be treated similar to a computer which in today's world of SDRs are really computers anyway. Bringing it onboard with you will allow you to keep eye on it as well as handle it appropriately removing it from the stresses that check baggage typically encounters



**Antenna Components:** If you are traveling with just an HT, you can easily pack your rubber duck antenna in your carry-on. If you are bringing something making for a wire antenna, it shouldn't be difficult to carry on things like speaker wire, insulators, rope/cord, electrical tape, coax connectors/banana clips, baluns/ununs, and even coax, should you choose to, in your carry-on luggage. Masts and things that are mast-like are where you are most likely to get tripped up based on how compact it folds up. Something like a 24-foot/7m crappie fishing rod shouldn't be an issue, but more robust telescoping masts, something made from aluminum or even the DX Commander poles, might require being checked.

## **Tech Talk cont'd**

If traveling with a mag mount, the large magnet may upset some of the sensing equipment or look like a large, dense brick, so don't be surprised if you get pulled aside for extra screening as a result. When packing, the smaller items you might want to go ahead and pack in your carry-on, but the larger items like the roll of speaker wire or your coax or your mast are probably best to go in your checked baggage. Even with the lack of care exercised by most baggage handlers, those items are rugged enough they shouldn't experience damage. Overall, all the items in this general category should be allowed onboard the aircraft without too much difficulty.



**Tools:** This area is where you can really see your mileage vary from airport to airport, TSA agent to TSA agent. I'm going to start by saying it is just best to include all your tools in your checked baggage. Obviously, sharp objects designed to cut things, like knives or razor blades, are not allowed as a part of your carry-on baggage. However, some tools that are seemingly harmless, like screwdrivers and pliers, can be subject to confiscation depending on the particular TSA agents that are screening your bags. Sure, you may have gotten through one

airport with that screwdriver, but the next airport... that is questionable. As a result, and because tools are rugged and durable, it really is best just to pack them in your checked luggage and avoid the risk of losing your favorite pair of snips.



**Battery/Power Supply:** Much like the big 25-pound base station radios, you aren't likely to travel with your big power supply like many of those from Astron. Luckily, there are some smaller units available that weigh just a few pounds, and you may even look at using some power supplies that are typically used in computer production. Similar to the compact radio you are bringing in your carry-on luggage, you shouldn't have any issues getting it through security and you can maintain a good level of care of your power supply when traveling. As for batteries, this is where things getting really wonky. Lithium ion and lithium metal batteries **MUST** be carried in **CARRY-ON BAGGAGE** and onboard the plane with you.





## **Tech Talk cont'd**

That means that if you have to gate check your bag, you must remove those batteries and keep them with you. The non-rechargeable lithium metal batteries are limited to only 2 grams of lithium per battery. The batteries we care more about, the rechargeable lithium ion batteries are limited to 100 watt hours (Wh) per battery with no quantity limits other than what it able to fit in your carry-on baggage. Some airlines will allow you to carry up to two lithium ion batteries rated up to 160 Wh each. Every battery that you do bring must be protected from short circuiting and not be damaged or part of a recall regardless of how many you bring. If you need more information regarding traveling with batteries, you can either contact your particular airline for guidance or visit the FAA's PackSafe website at [www.faa.gov/hazmat/packsafe](http://www.faa.gov/hazmat/packsafe)


One thing I didn't mention was antenna tuners. If you are traveling with a radio that doesn't have a built in ATU, traveling with an ATU shouldn't be an issue. Just follow the same advice above that was given for radios and power supplies.

In conclusion, all the items you needed for a portable station you are allowed to bring onboard commercial airliners. Briefly, radio, ATUs and power supplies are best packed in your carry-on luggage so you can protect it from the abuse to which luggage handlers may subject your equipment while antenna components and tools are better suited for your checked baggage. Batteries can only be brought onboard in your carry-on baggage and are subject to size limits. Of course, it is best to always verify with your airline as well as the FAA and TSA that your equipment, especially your batteries, are accepted.


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## PackSafe for Passengers



- [PackSafe Chart](#)
- [Damaged or Recalled Batteries and Battery-Powered Devices](#)

## **Tech Talk cont'd**

Lastly, remember to pack a copy of your license. In the event that you are stopped for extra screening as a result of your packed hardware, your license can help explain your equipment and expedite the additional screening. And if you are traveling to another country, remember to bring copies of the required documents needed for the operation of your station in the foreign land.

Safe travels!

Tim Wiegman, Jr. KBØYQN



## **This is Only a Test**

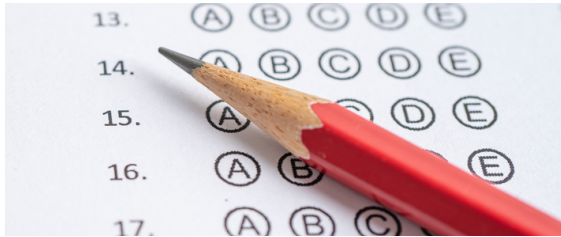
Are you new to the hobby? Maybe you recently received your Technician class ticket and what you have learned is still fresh. Or maybe you have held your Extra class ticket for a while and have forgotten some of what you have learned. Regardless, let's keep those mental pencils sharp by reviewing some of the questions from each of the question pools. Only a Tech? Push yourself and try the higher class questions. You might surprise yourself and be encouraged to try your hand at upgrading!

1. T8C01 – Which of the following methods is used to locate sources of noise interference or jamming?
  - A. Echolocation
  - B. Doppler radar
  - C. Radio direction finding
  - D. Phase locking
2. T3A07 – What weather condition might decrease range at microwave frequencies?
  - A. High winds
  - B. Low barometric pressure
  - C. Precipitation
  - D. Colder temperatures
3. G6B06 – What kind of device is an integrated circuit operational amplifier?
  - A. Digital
  - B. MMIC
  - C. Programmable Logic
  - D. Analog
4. G2C02 – What should you do if a CQ station sends “QRS”?
  - A. Send slower
  - B. Change frequency
  - C. Increase your power
  - D. Repeat everything twice
5. E9E07 – What parameter describes the interactions at the load end of a mismatched transmission line?
  - A. Characteristic impedance
  - B. Reflection coefficient
  - C. Velocity factor
  - D. Dielectric constant
6. E1C07 – At what level below a signal's mean power level is its bandwidth determined according to FCC rules?
  - A. 3 dB
  - B. 6 dB
  - C. 23 dB
  - D. 26 dB

Answers: 1c, 2c, 3d, 4a, 5b, 6d

# How did you do?

If you got them all correct, *Congrats!* If you hold a Tech or General class license, this may be the sign you need to work on that upgrade. Plenty of resources are available for study. Remember, JCRAC VE Team holds testing sessions on the first Tuesday of every month at 7 PM at the JoCo Library at 87th & Farley in OP.



## **Hambone**

### ***"Hambone and Contest Code"***

*A Hambone story by Jaimie Charlton AD0AB*

"Boy, Unck, I don't see how you guys work CW contests!" exclaimed Hambone as he shared an afternoon coffee with his uncle Elmer at the Classic Cup sidewalk cafe in Kansas City.

"Well, hello Elmer, Hambone, fancy meeting you here," greeted the friendly voice of Professor Erlenmeyer Flask as he jogged to a stop outside the low barrier separating the restaurant from the city sidewalk.

"It's great to see you too, Early," replied Elmer. "Why don't you join us?"

Thank you, I will."

Agile as he is, Professor Flask did not jump the barrier and grab a seat. He went through the café and joined Elmer and Hambone at their table.

Elmer continued, "Hambone was just telling me he tried working the CQ CW contest last week and well, I'll let him say what happened."

"I was saying I tried that CQ Magazine contest and only made a couple of iffy contacts. I couldn't figure out what those guys were saying or wanted me to say. I don't see how or why they do it."

"Contesting is not for everyone," explained Elmer. "There are hams who greatly enjoy the hobby and contribute to it, but never work a contest. Then there are others like Professor Flask and me who get hooked on contesting.

There's lots of reasons hams compete in contesting which is really called radiosport. But for me, it's a matter of personal accomplishment and self-improvement. Of course, in a CW contest you have to be able to send and receive Morse code, the faster the better. But there's more, you have really know how to operate your station."

"That's easy," said Hambone. "Everybody knows how to operate their radios."



*Author Jamie "Unck" Charleton AD0AB*

## **Hambone cont'd**

“Actually, they don’t,” added Flask. “Most hams know how to diddle the knobs on their transceivers and make a QSO on the average day. But contests are different. During contests the bands are crowded and interference is everywhere. That’s when it’s vital you know how to set your RF gain and bandwidth and whatever DSP and noise filters you have to get your receiver’s best performance. I’ve heard hams with very upscale equipment complain that the band was just too congested to operate. But I bet at least part of their problem was their transceivers were not set up correctly.”

“I just turn the RF gain all the way up. That way I can hear even the weakest stations.”

“Many hams do just that,” added Elmer, “and it’s wrong. Too much gain is a bad thing, especially on the new software defined radios, and almost any RF gain is too much in most HF contests. I usually run 6-8 dB attenuation. But I digress.

Besides just being fun, contesting helps us become better operators. Not only does it help us improve our communication skills, it helps us improve our stations.

And we can tell how well we’re doing by how many contacts we make and how high we score in the various contests.”

“That said, the big question is, ‘How do we raise our scores?’” added Professor Flask.

“I know, I know!” shouted Hambone waving his hand in the air.

“Put your hand down, Hambone. We’re not in class. How do you think we can raise our scores?”

“Oh yeah, sorry. Send faster.”

“Yes, that will help,” mused Flask. “But I assume by ‘send faster’, you mean completing your exchange in the shortest possible time.”

“Yeah, yeah, you got it. I send faster by speeding up my bug.”

Elmer smiled as Flask continued to lure the unsuspecting Hambone into a trap.

“Let’s say that you can accurately send 20 words per minute with your bug. Do you agree that’s a little slow for the big contests?”

“Yes,” replied Hambone. “That’s why I speed up my bug. I’m not sure how fast I get going, maybe 30 or even 35 words per minute. I have to be careful, though. I get going too fast for some of the other operators and they ask me to repeat.”

“Let’s think about that,” said Flask. “By speeding up your bug you are really only speeding up the dots. Dashes are still made by your fingers. Many hams, when they try to send fast, just run their dots, dashes and words together until they are unrecognizable. You know something’s wrong when you get asked for repeats even when signals are strong.”

“I don’t see how a repeat’s a problem. It happens to everybody,” countered Hambone.

## **Hambone cont'd**

“It’s a problem because it slows both you and the other guy down. Let’s say you’re trying to send at 30 words per minute. But because your fist is sloppy, the far end asks for a repeat. Your effective rate just dropped to 15 words per minute. Accuracy at a medium speed is better than slop at a high speed.”

“A good friend and amazing operator, who I will call ‘Bob’, told me a great way to improve my accuracy,” said Elmer. “Bob said to load one of those CW decoding programs into my PC and send to it. If it can read what I send, my fist is good. If it can’t accurately read my fist, I’ve got a problem. I should look for what letters and groups I screw up and practice those.

When I first started doing that everything was gibberish. I blamed the software because I couldn't believe I was that bad. But I was. It took a lot of practice to get so it could read my fist."

“Gee, Unck, I didn’t know you had to practice, I thought you were born knowing code.”

“Nobody’s born knowing code, we all had to learn it and learning it is hard.”



“You can say that again,” added Flask. “Most people start out wanting to learn code but get discouraged before they actually make any contacts. The problem is you must learn 26 letters, 10 numbers and a punctuation mark or two before you can do anything.”



“Okay, so, what’s the easiest way to do that?”

“I don’t know, do you, Elmer?”

“Well, I know there’s a ton of stuff published on learning CW and it seems there’s even code groupies praising and championing various methods such as Koch and Farnsworth.”

“I love it when you talk dirty,” Flask continued.

“Apparently, different folks respond best to different methods but, there’s no one ‘best’ method that I know of. In the end, as you said, everyone must learn 26 letters etc. before they can make their first contact. After that, you increase your speed and your contest scores by practicing and learning the best procedures.”

*Continued on Page 10.*

## **Intentional QRM**

In the style of Jeff Foxworthy...

If you ID yourself every 10 minutes during normal conversation....

....you might be a Ham.

If you plan the family road trip based on POTA activation locations....

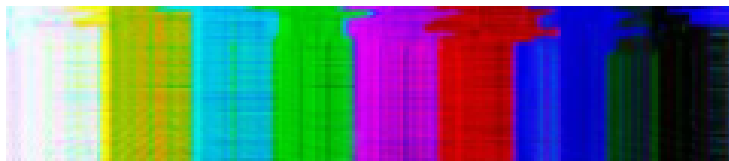
....you might be a Ham.

If you've ever signed a card with 88 instead of XOXO....

....you might be a Ham.

If you've ever attempted to use a metal sculpture as an antenna....

....you might be a Ham.



## **Hambone cont'd**

“What procedures are you talking about?” asked Hambone.

“Your uncle and I each have our own style of operating, but there are a few things that all good testers have in common. The most important is to read the rules. Besides telling you how the contest is scored, it also tells you what the *exchange* is. That is very important.”

“Exchange, what’s that?”

“The exchange is what each operator sends to complete the QSO and count it as a contact.”

“Don’t you always send an RST and your name or something?”

“No. Each contest is different. Some just want your RST and state. Others want your name and a serial number or grid square. The rules tell all, so read them ahead of time.”

Elmer jumped in, “How you deliver the exchange is also important. Remember speed is important because, generally speaking, the more QSOs you make during the contest, the higher your score will be.”

“But don’t forget multipliers”, added Flask. “Some contests give extra-credit for working different states or countries. It’s all in the rules.”

“I know, that’s why I always send my call and name twice. I want to be sure the other guy gets it right.”

“Don’t do that, it takes too long. A good rule is don’t repeat anything unless asked. That means don’t repeat your call when answering a CQ and don’t repeat any info unless asked,” continued Elmer.

“Also, in fast contests, don’t even send such things as ‘DE, GL, 73, BK or any other prosigns or Q signals. Don’t precede your signal report with the letters ‘RST’. Just send 5NN, or even ENN, and go on.”

“But Unck, that seems unfriendly and what if the guy’s signal is really weak? 5NN would be a lie.”

“It isn’t. In big contests like those put on by CQ and the ARRL, it is all about speed. The 5NN just tells the listener that data follows and the speed to expect it at. It really has nothing to do with his signal.

## **Hambone cont'd**

On the other hand, in more casual events, it's perfectly okay to use some friendlier abbreviations and even chat a bit, if the other guy is so inclined."

After selecting a chocolate glazed with sprinkles from a newly arrived plate of fresh doughnuts and taking a bite, Professor Flask added, "That's right. Even when you're doing S & P, er, search and pounce, you don't send the caller's callsign."



"What's search and pounce?" asked Dude, Hambone's younger brother who arrived at table just in time for the doughnuts."

"Good morning, Dude. I'd like you to meet Professor Erlenmeyer Flask, he teaches electrical engineering at the college," said Elmer.

"It's nice to meet you, sir."

"Dude is my other nephew, he's still in high school, but is planning to take up engineering," said Elmer.

"It's nice to meet you, Dude. I look forward to having you in my classes," responded Flask with a big smile on his face. "Are you a Ham, too?"

"No, not yet. But I'm working on it," replied Dude.

"In answer to your question, searching and pouncing is a tactic for making contacts. It is what you are doing when you are tuning around the dial looking for stations calling CQ. The tuning around is the searching and answering the CQs you find is the pouncing."

"That makes sense," said Dude.

Elmer added, "The other main tactic is called running a frequency or park and bark. That's when you sit on one frequency and send CQ and wait for someone to answer you."

"So, which is better?" asked Hambone.

"A good contester uses both. I like to start out park and bark and work every station I can. That's because it seems many guys start out S & P so it's easy to work a lot of them. When I've worked everyone I can, I switch and S & P. The idea is to get those other stations that were running frequencies at the same time I was. I usually open up the bandwidth so I can hear stations who aren't zero beat with me."

"Whew, it sounds awfully complicated," sighed Hambone.

"It's really not but, it can be confusing until you understand all the abbreviations," said Flask as he grabbed a napkin and started writing. "I'll explain them, but first, here's a sample contest QSO."

## **Hambone cont'd**

I'm running a frequency – that is, I'm calling CQ - and you're searching and pouncing when you discover me. I'll be station KABC in Missouri and you'll be station WXYZ in Kansas. Our exchange will be RST, State and power. I will be running a kilowatt and you will be running 600 watts. Let's assume the contest is well underway.

1 Flask: CQ test CQ test KABC

2 Hambone: WXYZ

3 Flask: WXYZ ENN MO K

4 Hambone: ENN KS 6TT

5 Flask: TU CQ test KABC

Line 1, notice I started by sending a 2X1 call. That is, I sent CQ twice and my call once. Of course, I could also send 2X2 or 1X2. The more traffic there is, the shorter should be your CQ. The word test means I'm in the contest and not looking to rag chew.

Line 2, is very important. You send your call only once close to my frequency.

Line 3, I respond with what I heard your call to be along with signal report, my state and power level.

If I got your call sign wrong, you correct me by sending it again instead of your exchange. Don't send your exchange until I correctly repeat your call. It is also common to send your call again immediately followed by your exchange. That speeds thing up.

Line 4 is your exchange. Some operators, like me, begin this line with 'TU' or thank you as a courtesy. Others don't because it takes a little extra time.

Line 5 is how I end this QSO. I thank you and then immediately launch a 1X1 CQ to attract the next station. You do not transmit anything more on my frequency. Don't say 73, or GL or anything.

One variation here is that when working someone you know, or have worked many, many times before, you may hear or send a fast 'dot dot' after the TU. This acknowledges that you recognize each other."

"I sort of get it," said Dude. "The K in line 3 is short for kilowatt, but I don't see the other stuff."

"Those are cut numbers. They are shorter forms of the real digits. The 'E' means five but, you will also hear the number 5. The 'N' means nine. You will seldom hear the actual number 9. In line 4 there is no cut number for '6' so, it is used as is. The 'T' means zero so 6TT means 600. Other cut numbers are: A=1; U=2; V=3; B=7; D=8. There are no cuts for 4 and 6."

"I still think it seems kinda harsh," said Hambone.



## **Hambone cont'd**

“It does,” replied his uncle. “But think about it. If you cut the length of your exchange in half, it’s like doubling your speed. To be successful in contesting, otherwise friendly hams must adopt a warrior mentality. After all, it is a battle. There is some discussion as to which is the best way to identify yourself when calling CQ and working a pile-up.

Some operators, like me, send their call after every QSO. Others self-identify after every two or three QSOs. The problem with that is a passing S & P may not wait to hear your call and you both miss a QSO. On the other hand, if you have a pileup, who cares?

“Just remember, keep it short and accurate and you will do fine.”

“Come on, Dude,” said Hambone getting up from the table before the bill arrived. “I want to practice so I can burn up the airwaves in the ARRL contest this weekend.”

“It was nice to meet you, Dude,” said Professor Flask.

“Me, too” replied Dude as he ran off.

Turning to Elmer, Flask continued, “I didn’t want to say anything, but I heard Hambone on the air last week. He was terrible. Everybody he tried to work asked for repeats.

Do you think he’ll take our advice and do better this weekend?”

“Not a chance!”

## **From the Editor**

One of the things that happens to us as we get older is that our brains atrophy. The very nature of this hobby, a hobby where we are constantly learning, experimenting, and discovering new and better ways to operate and other intellectual enrichment can help mitigate some of those effects. Sure, you can max out your license by getting your Amateur Extra ticket, but that isn't where we stop. And one of the best ways to really learn about something is to teach it to someone else. In other words, become an Elmer!

It doesn't matter what class your license is or how old you are. Young hams, old hams, new hams, green hams (Okay, maybe I shouldn't Dr. Suess this), Techicians and Extras all have some part of the hobby that they really enjoy and cannot stop learning and practicing. It is time for you to find someone who has an interest in that subject you are well-versed in, take them under your Elmer wing, and help them become as proficient as you. When you become then mentor, you will find areas where your knowledge might be a little lacking or a little soft. Great! That recognition of your weakness is really just the first step in becoming even better. And when your mentee becomes as proficient as you, maybe even more so, it is quite possible that they tables turn and they teach you something that you didn't know. It really is a win-win relationship.

## **Editor cont'd**

Afraid that you don't know if you are cut out to be a mentor? The thought of being a teacher scares you a little bit. Well, I was once there when I taught classes in college. I get it. I really do. But when you are a master of that particular subject, of that particular area of your craft, you will have the confidence to overcome that fear and that confidence will only be fortified when your mentee demonstrates what you have taught them. It is an awesome feeling to experience.

So, I am going to put forth a challenge to you that if you are not already an Elmer to another Ham, become one. Or, if you are still on your learning journey, find someone that is on a similar journey and become each others' Elmers and teach and learn from each other.

The growth that we can all gain through this will only help forward progress of our hobby we all enjoy.

73!

Tim Jr., KBØYQN



## **What's Your Traffic?**

Have something you'd like to announce to the club? What about a useful Tech Tip? Is there club member that should be spotlighted? Photos from a presentation?

Your input including ideas, photos, news bits, etc. will help me curate the monthly "Feedback" newsletters. Together, we can create an awesome publication to advance and further the Amateur Radio hobby.

Submit a contribution by emailing me at [twiegman+feedback@gmail.com](mailto:twiegman+feedback@gmail.com)

## **Need Club Swag?**

If want to show off your JCRAC pride and need some club swag, you may order some by visiting the "Store" tab on the club website where you can purchase hats, patches, name badges and shirts. Also, so items along with other goodies may be available for purchase at club meetings.

Club website: <https://www.w0erh.org>



## **FEEDBACK**

*A publication of the Johnson County  
Radio Amateurs Club, Inc.*

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