

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

President's Corner

A big thanks to everyone that volunteered for a slot at the Ensor Museum in May. The Museum is a unique part of history in the Kansas City area.

Field Day is quickly approaching. Feedback has the schedule of the activities. Please refer to the Club's webpage (www.w0erh.org) and visit our Facebook page for up-to-date detailed information on the planning. As always, many hands Friday for setup and Sunday for break down are a big help.

Our major goal for Field Day is to have fun. Dinner on Saturday evening is a family event.

Special note for June 9th meeting. The church has informed us that the meeting room is not available, unfortunately. Thanks to the help of Tom Wheeler, NØGSG, we have been able to procure a room at JCCC in the ITC Building for our June business meeting. Should this change, we will notify you ASAP via email. the club Facebook page and the weekly nets.

This meeting is an important meeting, not only because we will be finalizing Field Day plans, but we will have nominations and election of officers at this meeting. Again, as for now, we are meeting at JCCC in the ITC Building Room 184. *(Editor's note: The last page includes directions and maps.)*

73,
Bill
KA2FNK



Upcoming Club Events

- Tue. Jun 6 @ 1900 - Club VE Testing - JoCo Library 9875 W 87th St, OPKS
- Fri. Jun 9 @ 1900 - Club Meeting @ JCCC ITC Bldg Room 184 - Biz meeting and presentation - Topic: Board Elections and Field Day Planning & Prep
- Fri. Jun 23 @ 1900 - Club Meeting @ Field Day Site* - Field Day Setup & Ice Cream Social
- Sat. Jun 24 to Sun. Jun 25 - Field Day - See "Field Day" section on Page 7 for complete details on all Field Day activities.
- Tue. Jul 4 - Independence Day - NO VE Testing this month.

* The Field Day site is located at Shawnee Mission Park just west of 87th St. entrance.

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Hambone

"Hambone Hums De Tune"

A Hambone story by Jaimie Charlton ADØAB

"Welcome back!" cheerful words from Hambone's Uncle Elmer floated across their adjoining backyards as Hambone climbed down from a particularly tall tree whose primary function was to hide his antennas.

"Thanks, Unck. I really enjoyed that great hamfest, but it's good to be back. The vendors' new products were interesting, especially the new food trucks. I ate breakfast and lunch there."

"Besides food, did you find anything interesting?"

"Yes. I broke down and bought a nearly new solid state kilowatt amplifier. A vendor made me a great deal on a demo so he didn't have to take it home. I couldn't pass it up."

"You don't look all that happy about it," said Elmer becoming more serious.

"I'm not. The amp keeps tripping off due to what it says is high SWR. I was just checking my dipole to see if something's wrong. It looks okay to me."

"Tripping off could be a good thing," offered Elmer. "The amp's protecting itself."

"Yeah, Unck, but that old Swam amp with two 3-500Z tubes you gave me seems to have no problem. I thought the newer amps were better."

"Well, Hammy, new amps have more features, but they aren't tougher. They're more sensitive to reflected power coming back from the antenna."

"I don't get it."

"Transceivers and amps don't really care about VSWR or *voltage standing wave ratio* because it's not a physical condition. It's simply a number relating two actual physical conditions, power going to the antenna and power reflected back. The reflected power is due to the coax impedance not matching the antenna impedance."

"Unck, why power? You said the V is VSWR stood for voltage."

"It does. But they are really the same thing. By Watt's Law, $P=V^2/R$ where P is the power in watts, V is the voltage on the coax and R is the characteristic impedance of the coax.

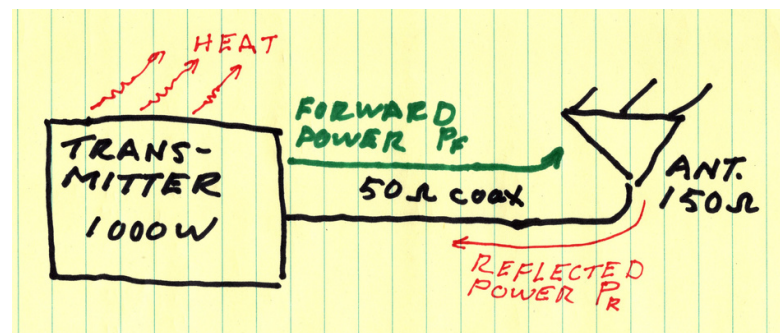
"Sometimes it's just easier to think about RF related problems in terms of power."

Now in a full professorial mode, Elmer continued, "With your vintage tube technology, you never really had to consider VSWR. Or, more fundamentally, impedance matching your feedline to your antenna. You just ran your 50-ohm coax or 450-ohm ladderline between your amp and your antenna and considered it done."

"Yeah, so? I just tuned the amp and made a lot of contacts. I thought that VSWR and stuff like that was just something for nerdy hams - like you."

"In the tube days," Elmer continued ignoring the slight, "you may have been right. But now VSWR - or more correctly, reflected power - is for everybody."

"Let's take a look at a simple example." Elmer grabbed one of his ubiquitous yellow pads and drew a sketch.



"You have your 1000-watt tube amp driving an antenna with an impedance of 150 ohms. You connect the amp to the antenna with 50-ohm coax. This will give you a $VSWR = 3:1$.

"Remember, if the antenna is resonant, its impedance is purely resistive, so we can say $VSWR = Z_{ant}/Z_{cable}$."

Hambone cont'd

"You're right, I have my amp and antenna connected together with 50-ohm coax. But I don't know what the VSWR is."

"That's okay. Your VSWR is probably much higher, but we'll use 3:1 as an example."

Elmer scribbled some formulas far too fast for Hambone to follow and finally announced, "With 1000 watts output from the amp, the reflected power, due to the cable/antenna mismatch, is 250 watts. Most of that power just heats the amplifier. The minimum and maximum voltages on the line are 111V and 335V, hence a 3:1 VSWR."

"With your tube amp already running a plate voltage over 3KV, this extra voltage isn't a problem. But for a solid-state amp with a drain voltage of 50-75 volts, this is a big deal. That's why your new amp isn't very tolerant of reflected power. One of my favorite solid-state kilowatt amps trips off when the reflected power exceeds 75 watts."

Not liking what he's hearing, Hambone asks, "What do I do? I've heard that adding length to the coax will reduce VSWR. How much should I add?"

"Adding coax is only a short-term fix. It won't change the VSWR because it only changes the impedance the amp sees for one frequency. That means you probably will have to change the length every time you change bands."

"After a bit more scribbling, Elmer announced, "In this example, lengthening or shortening the feedline can provide driving point impedance between 12 ohms and 112 ohms. But only at one frequency."

"An easier quick fix is to reduce your amp's output power. That won't change your VSWR either, but it will reduce the reflected power to below the trip-off point."

"What else can I do? I didn't buy that amp to run low power. I want my full 1000 watts, maybe more."

"The easiest solution is a tuner."

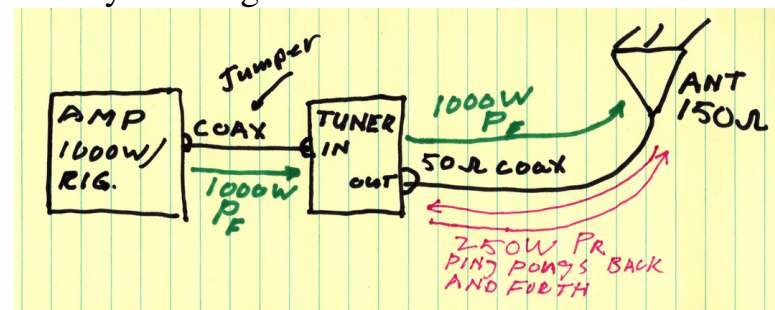
"You mean an antenna tuner?"

"Yes, but I hate to use that term because it doesn't tune the antenna. In fact, it doesn't tune anything. Instead, it makes the amp see a good 50-ohm match by blocking the reflected power from the antenna and re-reflecting it back to the antenna."

"That's amazing!"

"Not really," continued Elmer once again grabbing his sketch pad. "There are several ways to connect a tuner, but the most common setup is like this. You place your tuner in your shack near your amp and connect its input to your amp's output with a short piece of 50-ohm coax. Some folks call that a *jumper*.

"Then connect the long feedline that goes to your antenna to the output of the tuner and you're in business. When properly adjusted, your amp sees a near perfect match with VSWR close to 1:1 (little or no reflected power) so you can run it at full output. Just don't forget to readjust the tuner when you change bands."



"Okay Unck, what really happens to the reflected power. Does the tuner make it go away?"

"No. The tuner blocks it from reaching the amplifier and sends it back to the antenna. To the reflected power, the tuner's output terminal looks like an input. But its impedance is so far from the 50-ohm coax impedance that there is no match and no reflected power can enter the tuner and pass on to the amp."

Hambone cont'd

"Since that power can't pass through the tuner, it joins the forward power going to the antenna where most of it gets radiated, but part get reflected back down the long feedline where it hits the tuner again and gets re-sent up to the antenna."

"Unck, are you saying that some of the power is being ping-ponged back and forth between the antenna and the tuner?"

"Yes. It's sort of like this." Elmer adds the power flow showing the loop of ping pong power in red.

"Let's us our previous example to see exactly what's happening."

"The amplifier drives output power, 1000 watts, through the jumper into the tuner. The VSWR on the jumper is 1:1 because the tuner provides a 50-ohm match for the 50-ohm jumper cable."

"The output of the tuner is connected to the long 50-ohm coax which terminates at the 150-ohm antenna. This results in a VSWR of 3:1 on the feedline. But no reflected power from that cable/antenna mismatch reaches the amp because the tuner is blocking it."

Elmer then scribbles some more calculations on his pad and announces, "A VSWR of 3:1 means that 25% of the forward power is reflected due to the mismatch between the cable and the antenna."

"You see, you calculate it like this..."

Hambone, already lost in the discussion interrupts, "That's okay, Unck. I'll take your word for it."

"All right," says Elmer, disappointed that his nephew doesn't want to see the details.

"The result is, of the 1,000 watts going to the antenna, 750 watts enters the antenna and is radiated and 250 watts gets reflected back."



"Since power can't just disappear, the 250 watts of reflected power returns to the tuner where it gets reflected back to the antenna which absorbs 75%, or 188 watts, and sends the remaining 62 watts back to the tuner. The ping-ponging continues until all the power is absorbed by the antenna."

"Gees, Unck, there's a lot going on in that cable. Am I right in saying that the amp sends 1,000 watts through the tuner to the antenna and it eventually all gets there, but there is also 250 watts of reflected power bouncing back and forth between the tuner and the antenna?"

"You are paying attention!" exclaimed Elmer. "Remember, we are talking about an ideal situation. We have neglected losses in the tuner, cable and antenna. These losses can be significant and eat up your power. Tuners are especially tricky, loss-wise. There are a number of tuner configurations and some can lose up to 30-40% of your power. It's even possible to set up some tuners so they absorb all of your power and none gets to the antenna."

"I understand the losses, but I don't understand why the tuner reflected the returning power. Why doesn't it just pass it on to the transmitter?"

"That's a great question and it has a surprising answer. The reflected wave sees the tuner as a *negative resistor*."

"Nice joke, Unck. There's no such thing as a negative resistor."

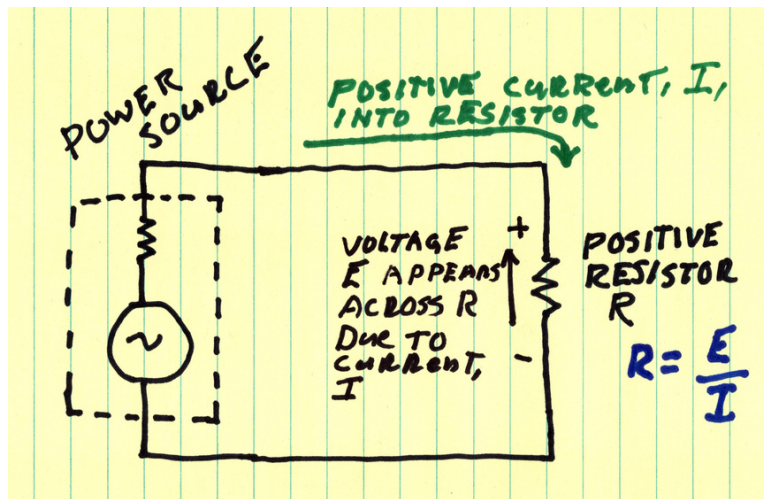
"Okay, Hammy. Maybe it's more correctly said that the tuner presents what appears to be a negative resistance to the returning power."

"Unck, I think you need more coffee. You're not making sense. There are no resistors, negative or positive, in a tuner."

"Be still and learn, my overly untrained nephew. True, there are no resistors in the tuner. But think about Ohm's Law which says a positive current flowing into one terminal of a positive resistor

Hambone cont'd

causes a positive voltage to appear at that terminal relative to the resistor's other terminal. Like this:



"Let's take a power source and have it supply current to an ordinary resistor. The resistance of that resistor is defined to be $R = E / I$ where R is its resistance in ohms, I is the current in amperes and E is the voltage in volts. The *polarity* of the current is determined by its direction."

"Duh, Unck. Everybody knows that!"

"Apparently, not everybody," replied Elmer. "Here is the tricky part. If current flows out of that resistor, it is, by definition, a negative current. If we plug a negative current into Ohm's Law like this: $-R = E / (-I)$, we get a negative resistance!"

"Okay, Unck, I get it. There's no actual negative resistor. It's just a math trick. But how do you get current to flow out of your fake resistor?"

"That's exactly what's happening at the output of the tuner. The transmitter's power passing through the tuner appears at its output terminal as a voltage and an accompanying current. Since we are running 1,000 watts, that amounts to about 223 volts and 4.47 amps into the 50-ohm feedline."

"How'd you get that, Unck?"

"I'll leave it to you to figure out."

Elmer continued, "To the *reflected* power, that appears to be a negative resistance. The point of view is important here. The reflected wave,

arriving at the tuner's output terminal, 'sees' a positive voltage, but current is coming out (the 4.47 amps) instead of going in. Hence, the negative resistance.

"Since the impedance of the feedline cable is a positive 50 ohms, it has an infinite mismatch to the negative resistance of the tuner and all the reflected power is re-reflected back toward the antenna."

"Wow, Unck! That's so cool! I never knew how a tuner prevents power from the antenna from reaching the amp. It's usually explained as just some sort of impedance matching device."

"But how does it let the received signal get back through to the radio? The received signal is also coming from the antenna, isn't it?"

"Yes, Hammy, and the answer is simple. When the rig is receiving, there is no transmitted power so there is no current leaving the tuner's output terminal. Consequently, the received signal sees no negative resistance and is passed right through to the receiver. In this case, the tuner does act like an impedance matching device and matches the impedance of the coax to the receiver."

"Guess I need a tuner. Unck, can I borrow yours?"

Author's note: While I write the Hambone stories and am responsible for the content, I don't do it alone. Many of the plots are based on fictional representations of my personal experiences, but the technical information is not. I would like to give a shout-out and a sincere thanks to Tom NØGSG, Bill WAØCBW, Charlie NØCVW, and Don WØDEW. Over the years, this team has generously given of their time and expertise to proofread and constructively criticize every Hambone story so you can rely on the technical explanations and information they contain.

Jaimie "Unck" Charlton
ADØAB
Author of *Hambone*

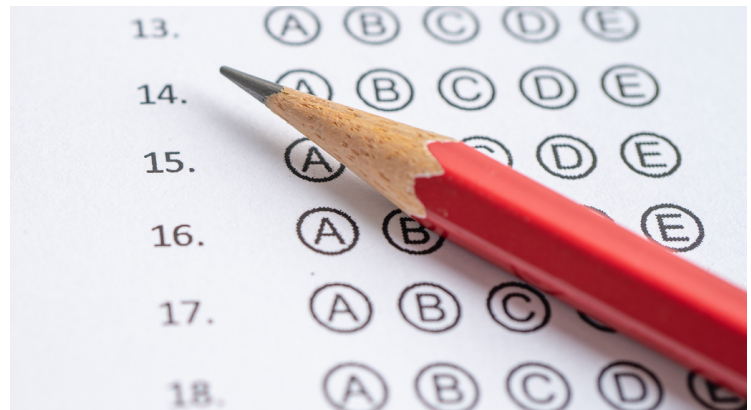


This is Only a Test

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. T8C09 – Which of the following protocols enables an amateur station to transmit through a repeater without using a radio transmission?
A. IRLP
B. D-STAR
C. DMR
D. EchoLink
2. T0C08 – Which of the following actions can reduce exposure to RF radiation?
A. Relocate antennas
B. Relocate the transmitter
C. Increase the duty cycle
D. All the choices are correct
3. G1D10 – What is the minimum age that one must be to qualify as an accredited Volunteer Examiner?
A. 12 years
B. 18 years
C. 21 years
D. There is no age limit
4. G7A03 – Which type of rectifier circuit uses two diodes and a center-tapped transformer?
A. Full-wave
B. Full-wave bridge
C. Half-wave
D. Synchronous

5. E4A08 – Which of the following measures SWR?
A. A spectrum analyzer
B. A Q meter
C. An ohmmeter
D. An antenna analyzer
6. E6F01 – What absorbs the energy from light falling on a photovoltaic cell?
A. Protons
B. Photons
C. Electrons
D. Holes



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

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.

SPECIAL NOTICE!!

Two testing sessions are being held this month. The first is the regularly scheduled session on June 6. The second session will be the Saturday morning of Field Day Weekend at the Field Day Site at 0900. There are no testing sessions in July due to the Independence Day holiday and bonus testing session this month.

Field Day 2023

*Your guide to all Field Day Planning,
Deployment/Setup, Testing and Scheduling*

June is here and that means Field Day! If you are a new ham you might be wondering what Field Day is exactly. Field Day is ARRL's most popular over-the-air event, or contest, held annually during the 4th full weekend in June throughout North America. Tens of thousands of licensed hams and clubs participate each year by setting up temporary amateur radio stations in public areas to showcase the skills and services we provide, including emergency preparedness and public service, during this single community outreach event.

In short, **Field Day is amateur radio's open house.**

In order to get the most out of Field Day, this guide will provide you with all the information you need to know. This guide includes schedules, directions, and notes regarding all the Field Day related activities taking place at the Field Day site.

Friday, June 9, 2023

1900 - Club Meeting - Field Day Planning - Planning and prepping has already begun but we will tie up some of the final details during our regular club meeting.

Friday, June 23, 2023

0900 to 1700 - Field Day Setup - tents, stations, tables, masts, antennas, etc. Bring collars with ice and water.

1600 to 1800 - HF Clinic by John Raydo KØIZ - Geared to those new to HF or wanting to brush up on HF skills including calling CQ during a contest.

1900 to 2100 - Club Meeting - Assisting with setup, reviewing stations, followed by Ice Cream Social.

2200 - Overnight Crews (at least 2) stand watch and test radios.

Saturday, June 24, 2023

0900 to 1030 - On-Site VE Testing - The VE Team will conduct on-site testing. Must arrive at the testing location by 1030 to be admitted. Bring \$14 and a photo ID. If testing for Technician Class license, must have an FCC FRN.

1000 to 1200 - HF Clinic by John Raydo KØIZ - Geared to those new to HF or wanting to brush up on HF skills including calling CQ during a contest. Similar clinics held at CW and Digital Stations.

1300 - *Field Day Officially Begins!*

1600 - Prep for Club Dinner - Donations accepted.

1700 - Club Dinner - Members, Families, Guests.

Ongoing activities throughout the day - Training on station operation and logging, possible satellite contact, Get On The Air (GOTA) station, and other demonstrations.

Sunday, June 25, 2023

0500 to 0700 - Breakfast runs

1300 - *Field Day Officially Ends.*

1300 to 1430 - Site tear down, grounds cleaned, trash hauled away. Motto: *Leave no trace!*

Following Field Day, all logs will be compiled and submitted for scoring. A "post mortem" will be completed and discussed by the Club regarding successes, failures, and how we can thank the JCPRD staff for their generosity.

Please note that while Field Day is a scored contest, this event is designed to showcase our craft to the public as well as hone our skills. There is no need to fret if you log something incorrectly, blunder a CQ, or get nervous during a contact. Don't be afraid to ask questions or try a new mode. We are here to develop better skills, learn from each other, build up our community, and spread this great hobby of amateur radio.

Most importantly, **HAVE FUN!**

Field Day cont'd

Location

The Field Day site is at Shawnee Mission Park's Old Hutton Farm. The farm is located on the north side of 87th St. Parkway just west of the 3&2 Baseball Complex and the Ridgeview Road entrance to the park.



To find the park using GPS, use the address of:

18800 W. 87th St. Parkway, Lenexa, KS 66220

Otherwise, one can follow the signs for the 3&2 Baseball Complex.

From the East: From I-435 and 87th St. Pkwy, head west on 87th St. Pkwy through Lenexa City Center. Approximately 3/4 of a mile after 87th St. comes back together, you will find Old Hutton Farm on the ride of of 87th St. Pkwy just after the baseball fields and Ridgeview Road park entrance.

From the West: From K-7 and 83rd St., head east on 83rd St. approximately 3 miles and turn left into Old Hutton Farm. When crossing the bridge for the BNSF tracks and Mill Creek, 83rd St. become 87th St. Pkwy. This bridge is approximately 3/4 of a mile before your turn. If you pass the ball fields or Ridgeview Road park entrance, you have gone too far.

From the South: Travel north on Woodland Road until it T's at 83rd St. Turn right to drive east approximately 1 mile. Turn left into Old Hutton Farm. Similar to "From the West" directions.

Use Club Repeater 145.29- MHz for additional help. It will likely be monitored. APRS beaconing may also be available from those on site.

Intentional QRM

Recently, two antennas got married. The ceremony wasn't anything special, but the reception was amazing!

Do you know what an RF burn feels like? It MHz.

I think my yoga instructor might be a Ham. Each class we meditate. "Ohm..... Ohm..... Ohm....."

Hidden within 5 is the number 4: F(IV)E

Upcoming Public Service Events

Lots of Public Service Events are occurring in the next few months now that summer is here. These events allow us an opportunity to serve our communities while meetings other Hams, testing our equipment, and honing our skills. If you are interested in helping with any of these events, send an email to the Point of Contact provided.

June 3 - Hospital Hill Run, Crown Center - Joe R. KDØHQG - olatheradio@yahoo.com

June 11 - Wild West Bike Ride, KCK - Ray E. KØRSE - rerlichman@kc.rr.com

June 24-25 - FIELD DAY!! Your local club!

July 9 - Shawnee Mission Park Marathon - Mike R. KØKCK - wmralls@comcast.net

July 15 - Lenexa Moonlight Bike Ride - Steve R. WDØDPB - wd0dpb@comcast.net

August 6 - Sunflower to Roses Bike Event - OP - Steve L. KDØEKS - stevekd0eks@gmail.com

August 12 - Kill Creek Adult Triathlon, DeSoto - Mike R. KØKCK - wmralls@comcast.net

August 19 - Kill Creek Kids' Triathlon, DeSoto - Mike R. KØKCK - wmralls@comcast.net

August 20 - Summer Breeze Bike Ride, Longview Lake - Ray E. KØRSE - rerlichman@kc.rr.com

Meeting Minutes 04-14-2023

Johnson County Radio Amateurs Club

These minutes were approved by the membership in attendance at the 05-12-2023 meeting.

Meeting Date: Friday April 14, 2023. The meeting started at 7:00 PM.

Attendance: Self introduction with name and call sign. 42 signed the check in sheet. This was followed by the Pledge of Allegiance.

As per the new By-Laws, the Minutes of the previous meeting from March 10, 2023, were posted on the club website instead of being read. The posted minutes were approved with 1 opposed vote.

The Treasurer's report was not available.

Old Business:

- We welcomed all 1st time visitors to the meeting.
- Repeater Update – Bill Brinker, WAØCBW reported all Repeaters were up and repeating.
- Field Day 2023 – June 24 - 25. Set-up will be on Friday afternoon June 23. We will have a Club meeting at the Field Day site Friday evening at 7:00 pm with free ice cream afterwards. Field Day operations begin at 1:00 pm on Saturday June 24 and end at 1:00 pm Sunday afternoon at 1:00 pm. All hands-on deck for tear down clean up and beginning at 1:01 pm Sunday.
- The Club's VE team held a testing session on Tuesday April 4.
- May is the month that the Club provides volunteers to the Ensor Park and Museum. Look for a Sign-up list shortly. The Club does get a check from the City of Olathe for providing volunteers so it's a great fundraiser for the Club. Finally all that volunteer are entered into a drawing for a \$100 gift certificate to Associated Radio.

New Business:

- The Ensor Park and Museum recently became a 501(c)(3) tax-exempt Foundation.
- We observed a moment of silence for Jay Nichols, KB8TR who recently became a Silent Key.
- WW1USA will be having a Special Event Station on April 27 and 28 in conjunction with NFL Draft that will be taking place at Liberty Memorial and Union Station.

Reports:

- 6 m – NR.
- 10 m SSB Roundtable – 4 on April 13, 5 on April 6, 4 on March 30, and 4 on March 23.
- 40m SSB Roundtable – 3 on April 12, 5 on April 5, 4 on March 29, and 2 on March 22.
- Fusion Digital 440 net – For the month of March (5 nets) there were a total of 50 check-ins with a low of 7 check-ins on March 15 and a high of 12 check-ins on March 29.
- 2m Wheat Shocker net – For the month of March (5 nets) there were a total of 100 check-ins with a low of 17 check-ins on March 23 and a high of 23 check-ins on March 16.
- HF Activity – NR.
- Pota Activation – 7.

Announcements:

- The Ensor Museum will have a Clean-up day on Saturday April 29 at 10:00 am.
- See Larry's List for any upcoming Public Service Events.

Business meeting adjourned at 7:44 PM.

Meeting Minutes 04-14-2023 cont'd

Program:

The program was "Introduction to Public Service Events" by Herb Fiddick, NZØF.

Submitted by Ted Knapp, NØTEK Secretary.

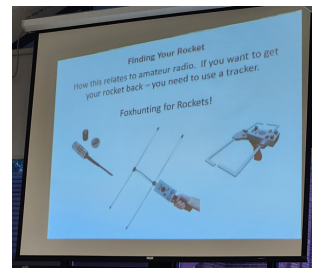
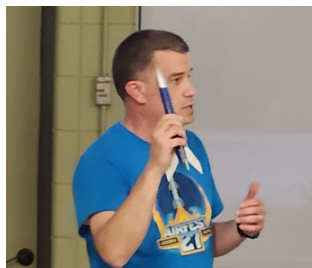
Meeting Presentation 05-12-2023

For this club meeting, there was a business session conducted prior to our meeting presentation. The Meeting Minutes from this business session have not been approved by the membership at the time of this publication, but they are available for review on that club website at www.w0erh.org and will be voted on for approval by the membership at the June 9, 2023 meeting. Once approved, they will be published in the following issue of Feedback.

Upon conclusion of the business meeting, Steve O'Neal, KFØBZX, presented on rockets and how rocketry is connected to ham radio. Much like becoming an amateur radio operator, there is a licensing process to become a rocket operator for those that are much more powerful than the rockets found at the local hobby store that we made as kids growing up. This process includes design, construction, launch, and recovery all meeting certain specifications at each step to ensure safe rocketing. The rockets and motors used in this hobby are not available at your local hobby store. Much like ham radios, there are a limited number of distributors. In order to purchase these products, you must be licensed. As far as cost goes, rocketry is a very expensive hobby with motors themselves costing hundreds of dollars, and as Steve said, you're literally setting your money on fire.

Other than the cost and licensing similarities, the rocketry hobby overlaps with ham radio in that radio transmitters are used to track, locate, and recover the rockets after launch. Some of the transmitters used operate on the ham bands and therefore can only be used by licensed amateur radio operators, which is how Steve found his way into the ham radio hobby. The recovery effort utilizes direction finding techniques to locate the rocket. In other words, the post launch activities include a fox hunt!

It was a fascinating presentation complete with models to examine and some really awesome launch videos. If you are interested in attending a launch, Steve's rocket club launches from Argonia KS. Contact Steve and he can provide you with more details as well as more info on the rocketry hobby.



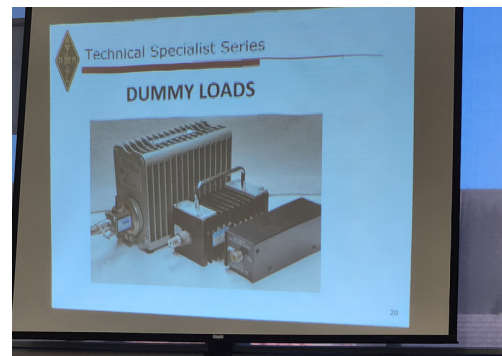
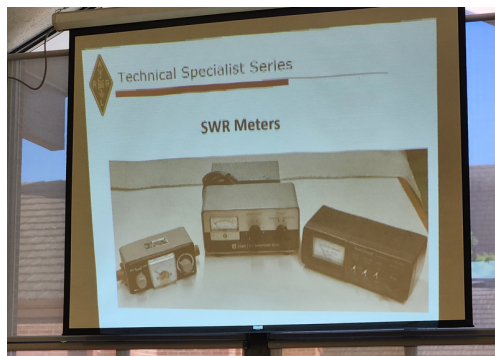
Meeting Presentation 05-26-2023

Given the new club meeting format and this being the second meeting of the month, this meeting consisted of an extended program. The topic for this program is a continuation of the series "Ham Radio Basics," a series designed to introduce new hams, as well as some older, rusty hams, to some key subjects that are not covered in great detail in test prep materials. We want you to become a better operator and more knowledgeable in the hobby. This presentation covered VSWR and related subjects presented by Bill Brinker, WAØCBW, Kevin Van Der Does, ADØIM, and Tom Wheeler, NØGSG.

First, let's talk about the attendance. Congratulations! With it being Memorial Day Weekend, the major holiday weekend that kicks off Summer, we had nearly 50 people in attendance. It is quite apparent that we are very fond of this new meeting format to have such a crowd. Okay, fine, the wealth of knowledge that comes from collective of Bill, Kevin and Tom might play a role in that, but I think this new format has proven itself quite successful.

Much of the content of this meeting presentation is covered in this month's *Hambone* by Jaimie Charlton, ADØAB, so read that to catch up on a large chunk of the presentation. Key takeaways from the presentation are that VSWR, while we traditionally think of it as measuring power, actually measures voltage, there are SWR meters which require an external RF source (your transceiver) to work and SWR bridges which provide their own RF source (nanoVNA), you cannot rely on just the SWR meter in your rig, that antenna tuners don't actually tune the antenna, and dummy loads are great for testing your transceivers. Regarding the SWR meter in your rig, you want an external SWR meter available to validate the reading your rig measures as common mode current can affect readings at different places along the feedline as well as different readings can result from taking measurements along different points in the standing wave, which is especially common on higher frequencies as the wavelengths are shorter. As for the antenna tuner, it does not change any characteristics of the antenna itself. To truly tune an antenna, you would need to make physical alterations to the actual antenna. The little box we call an antenna tuner just provides an impedance match to make your radio happy. With manual tuners, it is important just to change one value at a time and not move multiple knobs simultaneously like you are playing a game of Labyrinth. Lastly, a dummy load is a great tool that isn't an antenna but acts like one. It provides a nearly perfect impedance match and can be used to measure the power output of your transceiver or troubleshoot any problems you might have with your rig. While a dummy load is designed to not radiate any RF, nothing is perfect in the real world and it will radiate some RF. And yes, it is possible to still make a contact with a dummy load. Talk about QRP!

If you enjoyed this presentation, Kevin, Bill, and other well-experienced and knowledgeable club members will continue with presentations in this series. Stay tuned for future topics from the "Ham Radio Basics" series.



From the Editor

As I have made it known, I have been a license holder since I was age 13. It wasn't always the easiest involved with certain events or attend every club meeting at that age. After all, I didn't have a driver's license so I was dependent on rides from others, namely my dad, though it wasn't too hard to convince him to be my personal chauffeur since A.) that is what he does for a living, and B.) he is also a licensed ham. But once I turned 16 and had my driver's license, I was doing just about all the stuff a Technician class licensee could do.

My fondest memories are those of Field Day with JCRAC back in the late 1990s. Wow! I know I am not old being just 40 years of age, but that statement makes me feel old. Anyway, I digress. Back then, the club held Field Day at the two shelters by the soccer fields in Leawood City Park just south of 435. I had such a blast with the whole process. I enjoyed getting out there, setting up the mast with the beam antennas, getting to operate radios that were way outside of my high school income budget, the propagation, the food, the community... I loved it all.

And you could tell I loved it. I was one of the few that would stay on site overnight, sleeping on a picnic table or in my car, being the 3 AM shift guy while watching the sun come up just a few hours later. I rarely left the site except to get additional supplies for the gang. Like I said, it was an absolute blast for me.

Field Day is really where I got my first taste of HF. It implanted a bug in me that caused me to go study Morse Code. I upgraded my license to Tech Plus, and soon to General so I could do it on my own. Now, I still had high school income budget, so I didn't have my own rigs. I did, however, have access during Field Day and having my General ticket allowed me to operate with *some* independence.

So, if you are a new licensee, or you have been a Tech for a while and want to try HF or different modes of operation, come to Field Day. You will have plenty of opportunity to test out a wide variety of radios, bands, modes and more to see what really interests you. It could do to you what it did to me and result in you upgrading your license!

Here are some photos from Field Day 1999 taken by Don Warkentein, WØDEW (then WBØNVO) and Tim McCuiston, NØSZE.



Don Warkentein, WØDEW, serving as antenna master and assembling an HF beam.

Dwayne Hageman, KØLLS, (SK) leading the crew erecting the 6 meter beam.



The group "attempting" to erect the HF beam. The first attempt was unsuccessful.

Tom Wheeler, NØGSG, and Tim Wiegman, KBØYQN, working the CW station.



See you at Field Day!

Tim Wiegman, Jr.
KBØYQN



Ensorfest 23

Coming this August, the Ensor Park and Museum is celebrating 100 years of Amateur Radio on the Ensor Farm.

The celebration is on Saturday, August 12, 2023 starting at 4:30 PM CDT. Some of the activities include:

- A Morse Code Workshop
- Tours of simulation of Marshal Ensor's woodworking shop at Olathe High School
- Tractor and Implement Display and Demonstration (1941 John Deere)

Starting at 6:30 PM, the Pheasant Pluckers will serenade the grounds with Bluegrass music.

Food will be available on the grounds.

Ensor Park and Museum is located in Olathe at:

18995 W. 183rd Street, Olathe, KS 66062

Take US 169 south from I-35 in Olathe approximately 4 miles. Turn left on 183rd Street and go east approximately 1 mile. Ensor Farm is on the south side of the street. Turn right into the property.



June Classes

Know someone who is interested in becoming an amateur radio operator? Are they struggling to find appropriate material to study and pass their tests? Are they taking practice tests online and receiving undesirable results? Do they need the structure of a classroom setting to better grasp the information and better learn the material?

HamClass.org is hosting a Technician Class license class in June. For just \$35 plus FCC fees, one can attend the June classes. These classes are held on June 10 and June 17 from 9 AM until 5 PM each day at the Olathe Fire Administration Building at 1225 S Hamilton Circle in Olathe, KS. A VE testing session is held at the conclusion of the second class that Saturday afternoon. That means you could leave class the afternoon of June 17th having passed your licensing examination and be issued your license within just a few short days!

Signing up is easy! Just visit www.HamClass.org to enroll in this month's class and you could be on your way to being a newly licensed amateur radio operator.

Give us 2 Saturdays...

June 10th & 17th
9am to 5pm each day

Class Location:
Olathe Fire HQ/Admin
1225 S Hamilton Circle
Olathe KS 66061

Register at:

HamClass.org

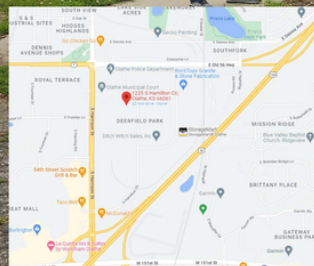


Get your Ham License with
no prior
technical knowledge
needed

Cost: \$35 for printed materials. FCC charge extra

Learn how to:

Help in Disasters
Talk Around the world
Play Radio Sports
Make New Friends on the air



More than 2000 people
ages 7 to 87 have passed!

We'll give you the world

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

Thank you to those that submit photos for events and meetings as well as provide tech tips and other information.

Club Nets

The club has weekly next on Wednesday and Thursday. It is a great way to test your equipment. Many public service events conduct their communications in a similar way, so this is also a great way to gain experience applicable to assisting in public service events.

Wednesday @ 1900 - Yaesu System Fusion net via Kansas City Room, also accessible from select local KC repeaters (visit www.kansascityroom.com for list)

Wednesday @ Conclusion of YSF net - 40M Roundtable *near* 7.273 MHz LSB

Thursday @ 1900 - Wheatshocker analog net on 145.29 MHz club analog repeater (negative offset, PL Tone of 151.4 Hz)

Thursday @ Conclusion of analog net - 10M Afterglow net on 28.475 MHz USB (within Technician Class portion of band)

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, some 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.*

Officers

Bill Gery, KA2FNK, President

Jaimie Charlton, ADØAB, Vice-President

Ted Knapp, NØTEK, Secretary

Cal Lewandowski, KCØCL, Treasurer

Bill Brinker, WAØCBW, Repeater Trustee

Tim Wiegman Jr., KBØYQN, Editor

Meeting Location for 06-09-2023

Johnson County Radio Amateurs Club

Because the meeting room at the church is unavailable for our meeting on June 9, 2023, the club meeting is temporarily being moved to the ITC Building Room 184 at Johnson County Community College (JCCC). The ITC Building at its parking lot is on the far southwest corner of the JCCC campus.

Please see the attached image of the campus. The Red arrow points to the ITC Building parking lots. The black arrow points to the accessible entrance we shall use.



After parking in the ITC Building parking lot, enter through the southwest accessible doors. Go straight down the main corridor to the second hallway on the right. Go about halfway down the hallway and Room 184 will be on your right. On the map to the right, follow the green path to the green circle.

See you at 1900 hrs on
Friday, June 9, 2023!

JCCC is located on the southwest corner
of College and Quivira in Overland Park
at 12345 College Boulevard.

Industrial Training Center (ITC) first floor

- N** ↑
- = Storm Security Areas
- = Building Evacuation Routes
- ⚠ = Emergency Assembly Area
- 🚑 = AED

