

**JOHNSON COUNTY RADIO  
AMATEURS CLUB, INC.**  
P.O. Box 93  
Shawnee Mission, KS 66201

# FEEDBACK

JUNE 2017

## *New Locations for June Meetings*

The Johnson Country Radio Amateurs Club will have its meeting and program this Friday, June 9. For the Program this Friday we will be "CW - Then and Now" by Vern Wirka, WØVMP. Our meeting and program is at 7:30 pm at Chapel Assembly of God, 15000 Newton Dr, Overland Park, KS 66223. The "Post-Meeting" Pizza will be at the Pizza Shoppe, 7908 W 151st St., Overland Park, KS 66223. This is just around the corner from Faith Chapel Assembly of God.

The following meeting, on June 23, will be at the Field Day site, the old Hutton Farm which is located just 200 yards west of the 87th Street entrance to Shawnee Mission Park. Operations will occur in the large open area immediately west of the entrance. As always, the Club meeting begins at 7:30.

For Field Day itself, the Club will operate the Field Day stations from 1:00 P.M. on Saturday, June 24 through 1:00 P.M. on Sunday. Set up begins Friday afternoon June 23. Club members and guests are welcome, to set up, to watch, to log and to operate.

The Phone Station (John Raydo, KØ'IZ), the CW Station (Joel Meddings, KØJEM), and the Digital Station (Herb Fiddick, NZØF) will be doing an HF operation clinic starting Saturday June 24th at 10:00 A.M. and running up to the start of Field Day at 1:00 P.M.

All Captains will share some tips and methods that many operators have found to be useful when trying to build up contacts during special events.

License Testing will be available on Saturday June 24 from 9 am to 2 pm. The cost is \$14 (exact change please). Also bring a Picture ID. This is an excellent opportunity to get or upgrade your Ham License on Field Day! We wanted to give plenty of notice so you can study! Last year we had 11 show up and take their Test!

## **JULY MEETINGS**

**June 9** -- CW *Then and Now* - Vern Wirka, WØVMP

**MEETING LOCATION:** Faith Chapel Assembly of God, 15000 Newton, Overland Park

**June 23** – **FIELD DAY.**

*18800 West 87th Street, Lenexa*

The Johnson County Radio Amateurs Club normally meets on the 2nd and 4th Fridays of each month at 7:30 PM at the Overland Park Christian Church (north entrance), 7600 West 75th Street (75th and Conser), west of the Fire Station.

Much of the membership travels to the Pizza Shoppe at 8915 Santa Fe Drive for pizza buffet and an informal continuation/criticism/clarification of the topics raised at the meeting ... or anything else.

*LEAVE THE CHURCH, TURN RIGHT (WEST) ON 75TH. TURN LEFT (SOUTH) ON ANTIOCH. TURN RIGHT (WEST) ON SANTA FE. PIZZA SHOPPE IS JUST PAST THE SONIC ON YOUR LEFT.*

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**-> FEEDBACK <-**

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

**Bill Gery, KA2FNK, President**

**Jaimie Charlton, ADØAB, Vice President**

**Ted Knapp, NØTEK, Secretary**

**Cal Lewandowski, KCØCL, Treasurer / FEEDBACK distribution**

\* \* \*

**Chip Buckner, ACØYF, Editor**

**Charlie Van Way, NØCVW, Photography**

**Deb Buckner, KDØRYE, Contributing Editor**

*All email addresses are available at w0erh.org*

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## ***Too Little, Too Late***

Once again, your editor has been cast in a Shawnee Mission Theater in the Park show that runs on Field Day weekend.

This is probably a good thing. Last year, his operating skills were certainly not missed and he showed up, at 2:30 Saturday morning, with left-over cast party pizza.

Four hour rehearsals, six days a week, plus time for memorization, make for a good show, but do make it a challenge to get a timely FEEDBACK to the membership.

Thanks for your patience.

CHIP -- ACØYF

## ***PRESIDENT'S CORNER***

Traveling the latter part of May and into June, I'm trying to write a



"President's Corner" earlier. Fortunately, June is Field Day month, which has a lot of activities leading up to and surrounding it.

This year, the Shawnee Mission Park observation tower location was unavailable, which forced us to find a new location. We. That to the Park we will be only a short distance for old location. An old farm area that is southeast of the observation tower. Access is just west of the park entrance on 87<sup>th</sup> street.

The site is not as visible to the public at the observations town site, but there is public access off on 87<sup>th</sup> street and will have sign to direction the curious. The program on May 26 will be a planning for field day the site plan for the stations and other activities. The other activities include testing and John Raydo (KØIZ) will be doing an HF operation clinic.

Please plan on bring the family to the Dinner Saturday evening at the Field Day site. As in the past we will be asking for a donation to cover the costs.

**- Bill Gery - WA2FNK**

## **Johnson County Radio Amateurs Club - May 12, 2017**

Meeting Date: Friday May 12, 2017.

Tonight's meeting was a Fox Hunt. No official meeting took place.

Submitted by Ted Knapp, N0TEK, Secretary.

### **May Foxhunts**

Ted Knapp, N0TEK reports that three teams participated in JCRAC's May 12 fox hunt. The fox was located at Ted's home in Shawnee. The premise of this Fox Hunt was that there was a "stuck" transmitter mic located at someone's home station. The teams were:

Team Alpha: Herb Fiddick, NZ0F and Ray Erlichman, K0RSE

Team Bravo: Jay Greenough, WJ0X

Team Charlie: Charlie Van Way, N0CVW and Vince Sabia, KE0CGR

Team A finished first, traveling 22 miles in 65 minutes. Team B Drove right past the Fox's location at about 75 minutes but was looking down at his HT and did not the group standing in the front yard. Team C Came within a few blocks of the Fox's location at the time the hunt was ended for pizza.

Having missed the JCRAC fox hunt, Tom Wheeler, N0GSG and Jaimie Charlton, AD0AB headed over to Raytown for that club's fox hunt. Robin Cross, W0FEN, reports that most hunters had narrowed their search to the Southwood Elementary School grounds.

Tom reports that he and Jaimie were first to the school, but misinterpreted what their equipment was telling them, left the site, doubled back, and ended up there again 15 minutes later, still ahead of all the other teams. "If", Tom observed, "we had used Don's signal strength method we would have known we were super close to the fox-- lesson learned."

Once the hunters got to the school, they found the 5-watt fox relatively quickly. A second, 10 milliwatt fox proved to be more elusive. Robin Cross claimed that it was not working and asked to see it. He reports that he flipped the switch a couple of times and put it in his pocket, at which point the hunters noticed the signal. Realizing that the transmitter was not working, he hid the antenna under his shirt and moved about the grounds.

"As the teams moved around", Cross reported, "I would move also sometimes behind them. There were several clothing donation dumpster-like metal bins that would reflect the signals very well where the teams seemed to gather. (Tom, on the other hand, insisted that they were garbage dumpsters and that he and Jaimie insisted that they were "not going in there".

Tom reports that he and Jaimie found the mobile fox, at which point Cross revealed its location to the other team.

**>> JCRAC FEEDBACK <<**

## **Johnson County Radio Amateurs Club - May 26, 2017**

Meeting Date: Friday May 26, 2017. The meeting Started at 7:30PM.

Attendance: Self introduction with name and call sign. 32 signed the check in sheet. This was followed by the Pledge of Allegiance.

There were no Minutes from the May 12, 2107 meeting. A Fox Hunt took the place instead of the meeting.

The Treasurer's report, as follows, was read and accepted unanimously.

Cash on Hand	\$ 86.00	Repeater Operating Reserve	\$ 1,093.65
Checking Account	\$ 493.50	Memorial Fund	\$ 310.00
Savings Account	\$ 11,308.83	Active Members	151
PayPal Account	\$ 38.54		
Total	\$ 11,926.87		

### Old Business:

- We welcomed all 1<sup>st</sup> time visitors to tonight's Club meeting.
- Repeater Update – All are working well.
- The Club is responsible for providing Ensor Museum volunteers for the month of May. The link to the online Sign-up is on the Homepage of the Club's website.

### New Business:

- Annual Elections were held. A nomination was made to retain the current slate of elected officers. This motion received a second. A vote was taken and all nominated positions received unanimous approval.
- JCRAC Elected Officers are: Bill Gery KA2FNK – President, Jaimie Charlton AD0AB – Vice President, Cal Lewandowski – KC0CL, and Ted Knapp N0TEK – Secretary. Elected officers will take office on August 1.

### Reports:

- 6 m – Florida.
- 10 m SSB Roundtable – 12 participated on May 25 including stations from Texas and Pennsylvania.
- 40m SSB Roundtable – 15 participated on May 24.
- 440 Wheat Shocker net – 18 Check-ins on May 24 and 12 Check-ins on May 17.
- 2m Wheat Shocker net – 20 Check-ins on May 25 and 19 Check-ins on May 18.
- HF Activity – South Cook Islands, Cyprus, Belgium on 20m. DLØPOLIO a Club Station to End Polio Now in Germany.

### Announcements:

- Dennis Nealey, W0DRN recently had a Heart Attack. He is doing well and on the road to recovery.
- Warrensburg Hamfest July 15 – New location at the Crest Ridge Secondary School, Centerville, MO
- Watch Larry's List for upcoming events.

Business meeting adjourned at 7:52 PM

### Program:

- The Program for this evening was final Planning for Field Day.

## Hambone and the Heartbreak of Low Audio

“Wow. That guy seemed really upset at your signal report,” commented Dude as he and Hambone piloted his car through morning I-435 traffic near the Lenexa exit on their way to their uncle Elmer’s house.

“Yeah, we’re lucky he doesn’t know where we are or we’d have a ham road-rage thing – dual-band antennas at two meters! I just asked him to repeat because his audio was so low we couldn’t hear over the car noise. You’d think I said his kid looks like a monkey.”

“Maybe it does and that’s why he’s pissed,” suggested Dude. “First, an ugly kid and now low audio from his new radio.”

“All I can say is if he didn’t want a signal report, he shouldn’t have asked for one.”

“He didn’t really ask for it, Hammy. You said, and I quote, ‘Please talk louder. Your audio is so low and I can’t hear a word you’re sayin’. I think that made him mad.”

“Yeah, he started to holler that my radio must not hear good because his is brand new and cost over five-hundred dollars. Funny, his audio got real good, then.

Well, here we are. Let’s see what Uncle Elmer has to say. There he is, messing with his antenna again.”

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“Hi Unck!”

“Hi boys, what’re you up to?”



“We just came by to see if we could help fix your antenna.”

“Thanks. I could use some young muscle to climb up and untangle that tree branch. I can’t seem to pull the wire loose.”

“No problem, Unck. I’ll have it free in a minute,” said Hambone swinging himself up on the lowest branch and scrambling up to the wire.

“Be careful, Hammy, that tree is dangerous!” Shouted Elmer.

“Not as dangerous as the road-rage Hammy nearly caused on the way here,” said Dude.

“What do you mean?”

“We were talking to this guy on the two-meter repeater and Hammy kept asking him to repeat because his audio was very low. That pissed the guy off big time. He shouted – which really helped his audio – that the problem was Hammy’s radio because his was new, cost over five-hundred dollars and nobody else had complained.”

“Done!” said Hammy, dropping out of the tree right between Elmer and Dude. “The rest of the wire should come down now.”

“Dude was just telling me that you ruffled a few feathers on the air this morning.”

“Yeah, I was just trying to be helpful by letting that guy know he was hard to hear and he took it as a big personal insult.”

“Come on into the shack and tell me about it. I need another cup of coffee.”

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“That’s too bad,” continued Elmer. “Most hams would like to know if there is some problem with their signal.”

“I don’t think the guy we were talking to is one of them,” said Hambone.

“He probably isn’t. There are a few hams that for some reason seem to consider their radios to be part of themselves. They take any constructive criticism as a personal insult. That guy is probably one of them”

“But his audio was very low.”

“The problem is,” continued Elmer, “you can’t easily hear your own signal, especially if you’re using a handy talkie. Of course, if you are using VHF or UHF or even HF FM, a frequency deviation meter or a modulation meter would tell how ‘loud’ your audio is. But most hams don’t have that kind of equipment. So, they are left with on-the-air reports.”

“What causes low audio?” asked Dude.

“The most common cause is poor operating technique. That is, holding the mic too far away and/or speaking too softly.”

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**from HAMBONE on page 5**

“That’s nice Unck,” said Hambone. “But what can somebody like me who doesn’t have any test equipment do to check his audio?”

“A good way is to set up a sked with somebody to listen to your audio. That person should be far enough away so you don’t overload his receiver, but close enough so he hears no noise when you’re transmitting. On the other hand, if you have a dummy load, use that. Then you both can be in the same room.

Whatever your arrangement, try different voice levels and ways of holding the mic and ask your listener which sounds the clearest and loudest.”

“But what if you’re talking through a repeater?”

“No problem,” continued Elmer. “Just be sure both of you are close enough to the repeater for full quieting.”

“That’s seems easy. Dude can listen and I’ll talk to see how my rig sounds. But what do you mean by different ways of holding the mic and voice levels?”

“You’ll get a lot of opinions on this. But most people will sound best if they hold their mic or HT between one and two inches from their mouth and speak straight into it. Then talk with a medium voice – like you’re ordering two beers in a noisy bar. Don’t talk as if you are whispering sweet nothings in your girl friend’s ear. And above all, don’t move the mic around.”

“I’ve seen some guys hold the mic to the side and talk past it. What’s with that?”

“That’s a very good idea. It eliminates the sound of your breath in the mic as well as poppin’ Ps, or plosives as they are called.”

“I don’t think all low audio problems can be fixed that easy,” said Hambone.

“You’re right, there can be technical problems. One of the most common is improper setting of the wide-band or narrow-band option.

Some transceivers are settable to conform to wideband or narrow band standards. For ham work, you want the wide-band setting. That allows your FM deviation to go as high as +/- 5 KHz. This is the default for most amateur HTs. But, if your radio is configured for narrow-band operation and you are talking to a wide-band station, your audio will be very low no matter what you do.”

“Don’t some HTs have mic gain or volume adjustments?”

“Some do. But you should try talking louder or closer first. Turning up the mic gain also increases background noise.

There can be other technical problems, too. If setting your radio to wide-band and finding the best mic position and developing your ‘radio voice’ doesn’t make you sound good, it’s time to get your rig checked out.”

“That’s fine, Unck, for the FM rigs, but what about single sideband on HF?” asked Dude who had been fairly quiet until now. “The guys in the school’ radio club are drooling over that new Yaesu mic as the answer to all their problems.”

“Dude, what do you care? You’re not a ham,” said Hambone.

“Dude has a point,” said Elmer. “You hear a lot of discussion about microphones. Mostly, it centers around how wide a frequency response a particular mic has. According to some hams, all audio problems on SSB would be solved if only the ideal mic could be found.”

“I’m guessing, Unck, you don’t agree.”

“You’re right, Hammy, I don’t.”

“It’s always possible to have a defective mic, but that’s easy to check. Just plug your mic into a different rig or, plug a different mic into your rig and make some test calls. That will localize a technical problem, if there is one. But there usually isn’t.”

“Okay, Unck, people say that the radio club seems to fade. Some say our signal starts out loud and then fades away. We have a kilowatt amp, we should always be pretty loud. What’s happening?”

“I’m not surprised. I’ve seen you guys operate. You lean into your mic when you’re calling somebody or giving your call sign. That’s good and the power meter on your amp hits kilowatt peaks. But then you lean back so you’re maybe a foot from the mic. You power meter barely peaks at a hundred watts. No wonder you sound weak.”

“But, we’re still putting out a thousand watts!” exclaimed Hambone.

**see HAMBONE on page 7**

**from HAMBONE on page 6**

“No, you’re not. On FM, because you have a carrier, you’re always putting out the same amount of power no matter how loud or soft your voice is. All your voice does is change how much the carrier’s frequency wiggles around. SSB is different.

SSB has no carrier, it’s only the sound itself shifted up in frequency. So, the louder you talk, the more power you put out.”

“I get it,” said Hambone. “SSB is like a PA system. If you don’t talk right into the mic, even if you have a big amplifier, you don’t get heard very far. But if you talk loud, the amp puts out more power and your voice carries farther.”

“That’s a good example, Hammy. On SSB, you don’t really have a fixed power output. The power your putting out at any given instant is determined by how loud your audio is at that instant.”

“With no carrier, I guess you can’t overmodulate. So, louder must be better.”

Nice try, Hammy, but no such luck. You can overdrive your rig by demanding more output it’s capable of. That leads to distortion and other bad effects.

However, it’s easy to tell if that’s happening.”

“How?”

“Simply watch your ALC – Automatic Level Control – voltage. It should stay at one value most of the time and only jiggle a little on your loudest voice peaks. It should never jump around a lot.

The fact that your club’s linear amplifier is rated at a peak power of 1,000 watts doesn’t mean that it is always putting out that much. The actual output power depends on how strong the signal is you’re putting into it. That’s why audio *sweetening* is especially important on SSB.”

“Sweetening, what’s that?” said Dude.

“Sweetening is a general term that means adjusting the audio to suit a particular application. In ham radio, that means getting rid of background noise, reducing the size of peaks and adjusting the frequency range to concentrate power where it will provide the greatest intelligibility.”

“That sounds complicated,” sighed Hambone.

“It can be, but for ham radio it isn’t,” continued Elmer. “Most SSB rigs and even many of the upper scale VHF/UHF rigs have all the necessary adjustments. It is just necessary to set them properly.

Take a look at this rig I have on the bench. A guy brought it in complaining that it has – you guessed it – low audio. But it seems to work just fine. All it needs is a proper set-up.”

“So, how do we ‘set them properly?’” asked Dude mocking Elmer’s professorial speaking style.

“It all begins with the mic...”

“I knew it, the guys at the radio club are right, we need that super mic!” Interrupted Dude triumphantly.

“Not so fast,” continued Elmer. Most of the time, the standard mic that comes with the radio works pretty well. It’s just used improperly.

Take a look at this mic. See that small hole in the back? That means it’s a noise-canceling mic. If you hold the mic so your hand covers that hole, you make the mic more sensitive to noise. Also, noise-canceling mics must be held close to your mouth. Otherwise, the mic can’t tell your voice from the noise.

In my opinion, headset mics are the best because you don’t touch them and they’re always at the proper distance from your mouth.”

“Okay, okay,” said Hambone anxious to get to something more techie. “How do we adjust the rig?”

‘Professor’ Elmer continued, “Most rigs have three basic adjustments for sweetening audio. They are mic gain, 3-band equalizer and compression.

But the most important thing is a critical listener with a good radio to tell you what to change,” said Elmer as he hooked up a dummy load to the bench rig and turned on a separate receiver.

“Let’s start by setting the mic gain about half-way up, we’ll change this later.

Hammy, talk a bit and Dude, do you hear any buzzing or other distortion?”

“No, it sounds clean.”

**see HAMBONE on page 8**

**from HAMBONE on page 7**

“That’s good because if you did, we would have to fix the rig before going on.

Next, we’ll use the equalizer to boost the mid range frequencies. This rig has a three-band equalizer so, we’ll adjust the middle band.

Hammy, raise the center frequency about 6 dB. The owner’s manual says how to do it.

Dude, does that make the sound seem clearer?”

“Yes, I think so.”

“That’s good. Remember, we’re looking for loud, clear sound, not necessarily a natural sound. We could boost the mids even more, but let’s leave it there, for now. By the way, did you notice that the rig’s ALC indicator started to move? That’s because the equalizer boost raised the volume level so it’s now a little too high.”

“I’ll turn the mic gain down a little,” said Hammy.

“Okay, then check the manual and increase the equalizer’s high band by about 6 dB.”

“That’s getting pretty sharp sounding,” commented Dude.

“Back it down to 3 dB boost.”

“That sounds good,” said Dude.

“Now, reduce the low-band setting by about 3dB. How’s that, Dude?”

“It sounds good to me! Can we go get something to eat?”

“Were not done, yet.” Said Elmer. “We’ve got to repeat those steps using ever smaller changes until we’ve got the highest intelligibility.”

“What do you mean?” asked Dude.

“You noticed that raising the mid-range frequency response raised the volume so you had to turn down the mic gain to keep voice peaks from driving your transceiver beyond full output.”

“But, doesn’t turning down the gain mean we’re sending a weaker signal?” asked Hambone.

“It does.” Answered Elmer as he waited for the inevitable next question.

“Why don’t we chop off those peaks?” asked the boys almost in unison.

“Can’t do that,” replied Elmer. “Chopping off or flat-topping the peaks would create annoying distortion and might even cause your RF to splatter across the band. That’s very annoying and illegal.”

“So, Unck, what do we do?”

“This is where compression comes in,” continued Elmer resuming his professorial mode of speaking.

“What’s compression?” asked Dude.

“It’s a way of reducing – compressing - the dynamic range of a signal. That is, it makes the loud parts softer and the soft parts louder. The effect is peaks are reduced and weak wimpy voices are made stronger.”

“WOW! I’ve never heard of that. I wonder what it sounds like?”

“You may not know its name, but you’ve definitely heard its effects. Popular music, radio stations, TV commercials, all use compression to give their sound more ‘punch’.”

“Let’s do it!” said Hambone as he found the compression set-up section of the transceiver’s manual. “It says here all we have to do is set our rig’s meter to read compression and adjust it for 5-10dB.”

“That’s a good starting point. As you increase compression, you should also increase the mic gain to keeps peaks just hitting full output. You want to adjust for the best sound. Too little compression and you won’t get your maximum punch, too much and you will get noise and distortion.”

“Unck, are we almost done? This is getting to be a lot like work,” sighed Hambone.

“Almost. I think this rig is ready to go. This setup is pretty aggressive and will help to break through DX pileups. That’s what the guy wants. But, it’s not for everybody.

Some guys want a more natural sound for rag chewing. To get that, just reduce the high frequency equalizer band to 0 dB boost and raise the low frequency setting by a few dB. Oh yes, and back off the compression to about 5dB. That will give you a mellower, less punchy sound.”

“I think I hear the mellow sound of some double cheeseburgers calling us,” said Dude. “You’re driving, right, Unck? I hope that guy isn’t on the air. I bet he’s still mad.”