

# FEEDBACK



## JOHNSON COUNTY RADIO AMATEURS CLUB, Inc.

The Johnson County Radio Amateurs Club normally meets on the 2nd and 4th Fridays, 7:30 PM at the Overland Park Christian Church at 75th and Conser streets, west of the Fire Station.

### October Meetings

**Friday, October 11, 2013 7:30 pm**

The program this evening will be on the new Power Amplifier (PA) that will go into the W0ERH repeater. Program to be presented by Tom NOGS.

**Friday, October 25, 2013**

This evening will be the start of activities at the Ensor Farm in preparation for the Auction on Saturday the 26th at noon. Many things to do and see on Friday evening and Saturday morning at Ensor, so come on out and join the fun.

### JCRAC Dues Choices

Remember, you have an option now on JCRAC dues; pay \$40 for TWO YEARS, as compared to the regular rate of \$24 per year, and your grandchild under the age of 18 qualifies as a member of the family for membership purposes.

### Amateur License Testing

#### When?

Third Saturday of each month, at 9:00 am.

#### Where?

Johnson County Public Library  
Blue Valley Branch, 9000 West 151st St.  
Overland Park, KS  
(Just west of Antioch on north side of 151st St.)

**Fee?** \$14

Pre-registration is NOT required.

Walk-ins are welcome!

For more information contact

Jim Lee, N0KCB 913-745-5121 or

e-mail: [JimLee@kc.rr.com](mailto:JimLee@kc.rr.com)

Commercial Radio Tests are also available.

### Happy Birthday

When you get a chance, say "Happy Birthday" to the following club member(s). If your birthday is not listed here, it was not listed in [www.qrz.com](http://www.qrz.com), but, you can email us the month and day (we don't publish the year!) and we will add it to the list:

Kay Carter	WA5DYC	Oct 2
Bill Jones	W0FN	Oct 4
Dick Carter	N0TO	Oct 16
Jim Lee	N0KCB	Oct 21
Sigmund Popper	W0MBU	Oct 23

**NOTICE:** Because Waid's closed, QCWA has a new meeting location for lunch on Thursdays. See Page 3 for details.

### American Royal Parade

Thanks to all those that volunteered to help with communications for the 2013 American Royal Parade. Especially the help from John W0BBQ and Herb NZ0F planning for the safety of the 2000 Boy Scouts that were scheduled to be in the 2013 Parade. The National Weather Service predicted rain, but the threat of lightning was of the greatest concern. Safety being paramount, the Parade was cancelled the prior evening and that is a first in my years of being involved with the Parade. Jim Andera K0NK and I started in 1974 and were working with Don Meserve W0HG, Dick Dehn WA0SQN, Chip McGinnis WB0LBZ, and others from the Johnson County Civil Defense group. Again, thanks to those hams that planned to participate in helping provide communications for the 2013 American Royal Parade.  
Dick N0TO

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**Remember the Auction and other activities at the Ensor Farmsite on 10-25 and 10-26-2013.**

# JCRAC Officers

## President's Corner

### **President**

Wm. J. Gery KA2FNK  
11208 West 51st Terrace  
Shawnee, KS 66203  
913-575-3763  
[william.gery@noaa.gov](mailto:william.gery@noaa.gov)

### **Vice President**

Ryan O'Neil KD0EWB  
8245 Robinson Street  
Overland Park, KS 66214  
913-642-2135

### **Secretary**

Ted Knapp N0TEK  
18500 West 170th Terrace  
Olathe, KS 66062  
913-393-4647  
[n0tek@ymail.com](mailto:n0tek@ymail.com)

### **Treasurer**

Jim McCoy W0LQV  
8319 Marty  
Overland Park, KS 66212-1963  
913-648-4406  
[jmsmccoy85@gmail.com](mailto:jmsmccoy85@gmail.com)

### **Trustee**

Bill Brinker WA0CBW  
6428 Mullen Street  
Shawnee, KS 66216  
913-268-8819  
[William474@aol.com](mailto:William474@aol.com)

### **FEEDBACK Editor**

Dick Carter N0TO  
8903 West 80th St.  
Overland Park, KS 66204  
913-381-5874  
[clayfeet@att.net](mailto:clayfeet@att.net)

The club mailing address is: JCRAC, P.O.Box 93, Shawnee Mission, KS 66201. FEEDBACK is published monthly for the JCRAC membership. Opinions expressed herein are not necessarily those of the Club or the officers. Items for FEEDBACK should be in the Editor's possession by the fourth Friday of each month for publication in FEEDBACK for the following month. The Johnson County Radio Amateurs Club website address is:  
<http://www.w0erh.org/>

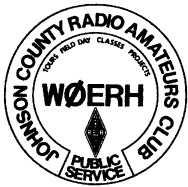
Summer of 2013 has ended and, for the most part, so have the public service events. This is the first year I can remember that two events were canceled due to weather and another greatly shortened, all three due to the dangers presented by lightning. Lightning is a much under-reported killer. Most likely because when it strikes only a few persons are affected, whereas a tornado impacts an entire town or city. The organizers of these events made the correct decision.

Friday October 25 will kickoff the activities at Ensor which will end with the Auction on Saturday afternoon. Remember the the club meeting, a very short one, will be held at Ensor that evening. The activities will start Friday evening October 26 and come to a close Saturday afternoon. Tailgating will start at 5pm on Friday if you want to try to sell that item before the auction. The potluck campfire dinner will follow. Other activities are planned ending with the ceremony, as the midnight hour nears, for those to commit to the "Spirit of the Ensor's".

Tours, breakfast, and a field ops workshop will begin at 9am leading up to the Noon start of the auction. Setup for the auction will be between 10am and 11am. Come early to look over the auction items. Don't forget to plan on lunch, which will be on sale leading up to the auction. Search through your ham shack for that forgotten or little used item needing a new caring home. We will be more than happy to assist your sale and at the same time help support the Club and Ensor Farm. Auction items can be sold on-consignment or donated. Listen to the 145.29 repeater for date and time of the reverse-Santa for picking up items for the auction.

Skywarn Recognition Day is co-sponsored by the National Weather Service and American Radio Relay League. This year the event will start on December 6 at 6pm CST and end on Saturday December 7 at 6pm CST. Come celebrate the important contributions volunteer SKYWARN radio operators make to the National Weather Service core mission.

*President's Corner cont'd on Pg 3*



## New QCWA Lunch Location

Come enjoy lunch with other hams. The lunch location has been updated on both the National and the Chapter 35 QCWA webpages. The icon on the local page is also a link to RC's webpage. Local web site: <<http://www.qsl.net/qcwa35/>> National web site: <<http://www.qcwa.org/events.php>>

Remember, ALL hams are invited to join with the Chapter 35 folks on Thursday, 1100 CDT, RC's, Martin City, MO. Mid-Continent Chapter 35 serves the Metro KC area in both Kansas and Missouri. Ron Wood K0BRO is President and JCRAC club member George Yantis K0GY is Chapter 35 Secretary and Treasurer. Starting in January 2013 QCWA publications will be on-line only as one means of reducing costs. More information on QCWA and Mid-Continent Chapter events can be found at <http://www.qcwa.org/>

## For Sale and Wanted

### FOR SALE:

Name badges with your name, call letters, and QTH; top quality, engraved in a wide range of colors. For sale, 4" diameter multi-colored embroidered patches, with the WØERH call sign, for sale at \$3.00 ea. This will give the club a small profit on each patch. Contact Jim McCoy WØLQV at 913-648-4406 or [w0lqv@arrl.net](mailto:w0lqv@arrl.net)

## Ensor Museum

If you can visit the Ensor Park and Museum, just 5 minutes South of central Olathe but haven't, do it now and see a most interesting and original flashback to the mid-1900's. Our motto "SEE IT TO BELIEVE IT" is true. A site map, Ensor GPS coordinates, and much more can be seen on the website at [www.w9bsp-w9ua.org/](http://www.w9bsp-w9ua.org/) Larry Woodworth WØHXS, Ensor Park and Museum Manager

## Wheatshocker Net

The weekly Wheatshocker Net is on Thursday evenings, 8 pm on 145.29 (-). There is usually a 'meeting-after-the-net' on or about 28.475 MHz usb. The Amateur Radio Emergency Services (ARES) net is also called on 145.29 (-) at 7:00 pm local, on Tuesday.

## Public Service Events List

Larry Staples W0AIB compiles, and makes available by e-mail, a list of the public service activities/events in the metro Kansas City area. Please let W0AIB know of any ham-type public service events, with confirmed dates, scheduled to be held in the metro area in 2013.

## Congratulations!

John KØIZ, operated the Colorado QSO party from his Colorado home. Using his vintage Collins KWM2A radio, he made 1070 contacts in 11 1/2 hours. His most unique contact was with Kay Craigie N3KN, who is President of ARRL.

*President's Corner* cont'd from Pg 2

If you would like to help with this event, please contact me, KA2FNK. The NWS Regional Headquarters is located near the airport, Interstate 29, exit 10. We will need volunteer operators starting at 6pm Friday through Saturday at 6pm.

Bill Gery KA2FNK, President

## 10 Meter Activity Report

Yoshi, JJ8DEN was loud today (9-11-2013) on 10 meter CW (28.011 MHz) around 3 pm CSDT (2000 UTC) from Napuka Atoll, Disappointment Islands in French Polynesia. This is a rare IOTA (Islands on the Air) counter if you are chasing that award, and it counts for DXCC as well. Despite the low solar activity recently, 10 is in good shape to the South Pacific. John NOJK

# Johnson County Radio Amateurs Club Meeting Minutes

Meeting Date: Friday, September 13, 2013. The meeting Started at 7:30 pm. Attendance: Self-introduction with name and call sign. 26 signed the check-in sheet. This was followed by the Pledge of Allegiance. The Minutes from August 9, 2013 were read and accepted with one opposed vote. The Treasurer's report, as follows, was read and accepted unanimously.

Cash on Hand	\$ 621.49
Checking Account	\$ 605.41
Savings Account	<u>\$ 7,618.86</u>
Total	\$ 8,845.83
Repeater Operating Reserve	\$ 815.25
Memorial Fund	\$ 150.00

## Old Business:

- Ensor Auction October 25 and 26. Please spread the word about this event on any nets you are checking in on. Fliers will soon be available.
- 2m Repeater update The temporary Power Amplifier also shut down because it got too hot. The original Power Amplifier has been repaired but another issue has surfaced with the electronics. Tom Wheeler N0GSG is currently going through each component. When Tom is finished this Power Amplifier will be reinstalled.

## New Business:

- Tom Wheeler N0GSG has volunteered to teach a Boy Scout Radio Merit Badge up North of the River in February.

## Reports:

- 6 m NR. • 10 m SSB Roundtable 4 participants on September 12. • 440 Wheat Shocker net 13 check-ins on September 11 and 11 check-ins on September 11. • 2m Wheat Shocker 25 check-ins on September 12 and 28 check-ins on September 5.
- HF Activity John Raydo KOIZ participated in the Colorado QSO Party.

## Announcements:

- Santa Fe Trail Amateur Radio Club Hamfest September 14 • Bikers for Babies September 22. • American Royal Parade September 28. • SET Drill October 5. • Look for other Public Service events on Larry's List. Business meeting adjourned at 8:00 pm. Program: • The program was a presentation by Matt Foster N0EYE on "The History of Technology in the National Weather Service". Submitted by Ted Knapp N0TEK, Secretary.

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Meeting Date: Friday, September 27, 2013. The meeting started at 7:30 pm. Attendance: Self-introduction with name and call sign. 25 signed the check-in sheet. This was followed by the Pledge of Allegiance. The Minutes from September 13, 2013 were read and accepted with one opposed vote. The Treasurer's report, as follows, was read and accepted unanimously.

Cash on Hand	\$ 481.49
Checking Account	\$ 341.32
Savings Account	<u>\$ 7,620.90</u>
Total	\$ 8,443.71
Repeater Operating Reserve	\$ 820.25
Memorial Fund	\$ 150.00

## Old Business:

- Ensor Auction October 25 and 26. Please spread the word about this event on any nets you are checking in on. Flier is on the club website ([www.w0erh.org](http://www.w0erh.org)). We will be running a Special Event Station W9BSP from 6:00 pm to Midnight on Friday October 26. See Joe Krout, W0PWJ to sign up. Also, keep looking for donations.
- 2m Repeater update Parts have been purchased to rebuild the main Power Amplifier. Club members recognized Bill Brinker WA0CBW and Tom Wheeler N0GSG for all their work on the Repeater. Thank you Bill and Tom.
- We will continue to have the "Annex" meeting at the Pizza Shoppe (8915 Santa Fe Dr, Shawnee Mission, KS) after receiving positive feedback from club members.

## New Business:

- Ted Knapp N0TEK has offered to redesign the Club's website. Ted solicited input from the members on what they would like to see on the new website. Tom Wheeler N0GSG has volunteered to be a part of the redesign effort.

## Reports:

- 6 m NR. • 10 m SSB Roundtable 5 participants on September 26. • 440 Wheat Shocker net 10 check-ins on September 25.
- 2m Wheat Shocker 23 check-ins on September 26 and 22 check-ins on September 19. • HF Activity NR.

## Announcements:

- Technician Class November 2 & 9 at NWS Training Center. Contact Brian Short KC0BS. There is an effort underway to put together a Special Event Station commemorating the centennial of World War I. The Special Event Station would run periodically from June 2014 to November 2018 (basically the start and end of WWI). More details to follow. See Herb Fiddick NZ0F or Joe Krout W0PWJ for more information.
- Skywarn Recognition Day December 6 & 7. See Bill Gery KA2FNK for more information • SET Drill October 5.
- Look for other Public Service events on Larry's List.

Business meeting adjourned at 8:06 pm. Program: • The program was a presentation by Ted Knapp N0TEK on the construction and use of a Pneumatic Antenna Rope Launcher and a second presentation on using The Government of Johnson County Kansas' website to measure footage for wire antennas.

Submitted by Ted Knapp N0TEK, Secretary.

## Troubleshooting, Part 7

(Ed. Note: This the continuation of the *Troubleshooting* series of articles by Tom N0GSG.)

### **7. Out Standing in His Field (RF Interference Problems)**

In the mid 1980s I was a new instructor and ham at a local private university with a large electronics and computer lab containing around 100 workstations. I had just completed repairs on the school station's HF rig, a Kenwood TS120S, and decided that it would be a great demonstration to have my students build a dipole for 10 meters in the lab and tune up into it.

Of course, this lab was on the first floor of a concrete-and-steel structure, so little of our signal would actually make it out into the real world. But the students would get the hands-on experience in setting up a real operating station, so I thought it was a great idea.

The students dutifully cut the dipole to the appropriate length and strung it lengthwise in the lab. I added a piece of coax with clip leads to feed it, and connected it to the rig through an antenna tuner. All looked quite perfect, and the magic moment arrived for us to key the transmitter and see if our efforts were a success. I fired up the transmitter in CW mode (with 100 watts coming out), and the antenna system seemed to be a very good match indeed. I was just about to expound to the students on how we knew the antenna was matched correctly when the air in the lab suddenly exploded with shouts of vulgarity! (This is a family newsletter, so I won't detail what was actually said.)

Every computer in the lab had rebooted the instant the transmitter was keyed. There were about 50 students working on projects using the workstations - - who just lost some or all of what they were working on. Needless to say, that was the end of the ham radio demonstration for that day!

Radio frequency (RF) energy is useful because it can carry information while spanning great distances. Unfortunately, this same property can create tremendous problems because RF energy fields can also interfere with the operation of nearby circuits in strange, confusing, and sometimes destructive ways.

- You should suspect RF interference whenever electronic devices misbehave in the presence of a known or presumed RF source. Symptoms of RF interference (RFI) can include: Interference to sound (radios) or picture (televisions and computer monitors)
- Halted or error-filled data transfer (computers and networks), or interference with normal network traffic (the network appears "down" but all the hardware checks out)
- Undesired reception of transmitted voice signals in audio systems (especially for AM, where the voice will come through fairly clearly, and SSB, where the voice will sound very garbled)
- Distorted transmit audio, especially on HF (caused by RF getting back into the microphone circuit)
- Dramatic shifts in circuit operating points (for example, a device suddenly draws heavy current from a supply, or conversely, shuts off)
- Computer and / or microprocessor crashes (usually in extreme cases)
- Metal items such as control knobs, cabinets, or microphones that give an RF "burn" when touched

#### *Paths for RF Flow*

Radio frequency energy can be propagated in two main ways - - through *conduction* in wiring, or by *radiation*. If you suspect RF interference is taking place, the first step is to determine how the energy is getting into the system. This can be very tricky; many times RF will propagate multiple ways at the same time, so stopping one path may not fix the problem.

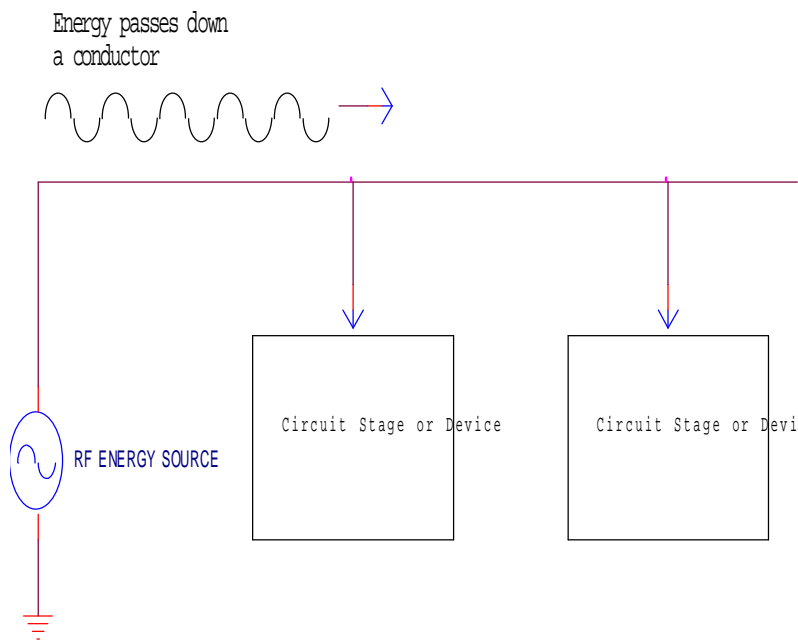


Figure 1: Conduction of RF Energy

As shown in Figure 1, RF energy can travel from an energy source (such as an oscillator or power amplifier stage) through normal wiring to both intended and unintended locations. This can even happen if the "conductor" of Figure 1 is of the "shielded" type, such as coaxial cable. (If the signal is carried both on the shield and center-conductor of the coax, we say that it's being carried in "common mode.")

### Radiation

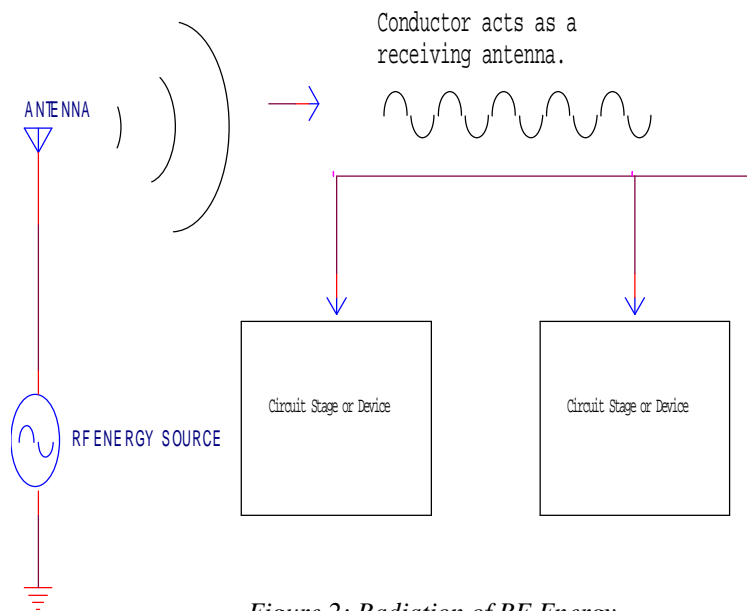


Figure 2: Radiation of RF Energy

Figure 2 shows how interference can be received by radiation. It's simple in theory, but can be hard to

eliminate in practice. Radio works because incoming waves induce a voltage and current into receiving antennas. Unfortunately, the wiring in electronic systems also can act as a receiving antenna. Any radio frequency energy that happens to pass by this wiring will induce a current into that wiring. If the current is large enough, it causes interference with the device. The longer the wiring, the better it acts as an antenna. Wiring should be kept as short as possible.

Common-mode interference can have baffling effects on a system. Suppose that the RF energy in Figure 2 is received equally by both the power and ground wires (not shown in the figure). Assuming that there's no delay or phase shift between the power and ground signals, the system will appear to be "pervaded" by the RF energy, and in many cases *no* interference will be detected unless something upsets the "balance" of the received RF energy, such as the installation of an extra ground wire.

In this case, the system will operate correctly until you install the extra connection or "ground" wire that upsets the balance. This might lead you to falsely believe that the new connection is the source of the interference, when in fact the system was already overloaded with RF energy.

### *Stopping RF Interference*

Preventing RFI is often easier said than done, due to the fact that RF signals are invisible (except perhaps to WØDEW!) and can get into devices by many different paths. The most important principle is to remain patient as you work through the problem, and keep an open mind about the possible signal paths.

Don't forget that RF energy obeys the laws of physics, and not electronics. It doesn't care at all about the intended direction of signal flow in a system! Many technicians think that interference can only be received at the "input" or "low level" stages of a device, but the opposite is often true. Any wires in the system can pick up interference, even "output" wiring to loudspeakers and other actuators.

The two methods that are most commonly used to prevent RF interference are shielding and filtering.

### *Shielding*

Shielding prevents radiated RF energy from getting near the sensitive portions of a circuit or system. It can be as simple as a metal cover over sensitive electronics, or the use of shielded cabling to couple low-level signals into a system. It can also take more elaborate forms, such as the construction of special rooms with metal-mesh walls called "Faraday cages."

The shield metal should contact the metal chassis of the equipment it's protecting, and if possible, the system should have a good earth ground.

There are commercial products that can help technicians construct shielding for equipment with plastic enclosures. The 3M Company (and others) sell copper adhesive tape that can be placed inside cabinets (and soldered to the equipment ground). If that's inconvenient, you can also purchase conductive spray paint and simply paint the inside of the enclosure; a wire must be clamped or bolted to the painted surface to actually create a path to chassis ground in most cases.

(Ed. note: The conclusion of Part 7 of the Troubleshooting series will be published in the November 2013 Feedback. Stay tuned.)