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# SIGNALS

Rockwell  
Collins **Amateur Radio Club**

Monthly Newsletter of the

Volume 33 Issue 12

Web Site <http://www.w5rok.us>

September 2012

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## RCARC Membership Meeting

Thursday, 27 September 2012  
1700 Social      1730 Meeting  
1800 Program

Methodist Richardson Medical Center  
At Bush/Renner/Shiloh Intersection  
Second Floor Conference Room 200

*Subject:*

**Wildlife in Krueger National Park  
and DX-ing in Botswana**

**By**

**Joel Rubenstein, N5JR**

My main interests are DX-ing, some contesting, chasing new band countries and IOTA (Islands on the Air). I am currently working on my RTTY DXCC and need 10 more to get on the RTTY DXCC honor roll. I have 5 band DXCC, 5 band WAZ (all 200 zones), DXCC Honor roll #1 on SSB and I only lack one country, "North Korea" to have all the current countries on CW

I retired from HP last year so I now have more time to chase DX and to go on DXPeditions like A25.

**ARRL September VHF QSO Party** W5ROK operated in the ARRL September 2012 VHF Contest. Contacts were made on 50, 144, 432 and 1296 MHz. W5ROK had one contact on 144 MHz near the Oklahoma/Kansas border.

**BSA Ham Radio Station Opportunity** Circle 10 Radio Scouting has designated me as station manager for the new amateur radio station at Camp Constantin on Possum Kingdom Lake. Most all hardware has been collected but we need a Ham 4 type rotator or large Yaesu rotator and the money for the tower base concrete.

We have a small yagi antenna but could use a better one. If you have a rotator or yagi and you would like to put it to good use then please contact me. The station can accept other good hardware and financial donations. In conjunction with the new HF station in the camp, Grant Laughlin, W5XJ, and I are working on a wide area repeater (skywarn) to hopefully be established on top of Johnson's Peak. The repeater project is just now getting started and we could use help with all hardware; radios, antennas, batteries, solar panels, controllers, Rohn 25G, etc.

Please check your garage and your wallet and see just what help you can give the Boy Scouts at Camp Constantin. (Written by Larry Essary, K5XG [larry@pulse.net](mailto:larry@pulse.net))

**Officer Elections** RCARC officers for FY2013 will be elected at this month's meeting. It is critical that our members be at the meeting to vote. And, BTW, how about running for an office? See you at the polls!

## Local Club News

**Meeting Notice** Sounds like another great program this month, so you don't want to miss this one! The program will be presented by Joel Rubenstein, N5JR. Joel provided the following bio:

The presentation will be about my trip to South Africa to view and photograph the wildlife in Krueger National Park and then to go on my first ever DXPedition to Botswana.

*My ham radio BIO:* I was first licensed in 1962 or 63 (I can't remember when) as WN2EQI. I upgraded to general as WB2EQI. I dropped out of amateur radio when I went to college. I got re-interested in 1978 and passed my Advanced license test and was assigned KA5ATY which I only held for a short time and then upgraded to Extra as KA5W. I held that call until 1997 when I was able to acquire the vanity call N5JR.

**RCARC OFFICERS**

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**W5ROK CLUB STATION**

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461-290

**VE SESSIONS**

**Dallas** tests are held 4<sup>th</sup> Sat of each month at 10:00. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

**Irving** tests are held 3<sup>rd</sup> Sat. of each month at 09:00. 5<sup>th</sup> and Main St. Contact Bill Revis, KF5BL 252-8015

**McKinney** VE test sessions are held at the Heard Museum the first Sunday of the month. The address is 1 Nature Place, McKinney TX. The time of the testing is 14:30, ending no later than 16:45. **Note: no tests given on holiday weekends.**

**Garland** testing is held on the fourth Thursday of each month, excluding November, and begins at 1930 sharp. Location is Freeman Heights Baptist. Church, 1120 N Garland Ave, Garland (between W Walnut and Buckingham Rd). Enter via the north driveway. A HUGE parking lot is located behind the church. Both the parking lot and the Fellowship Hall are located on the east side of the church building, with big signs by the entrance door. Contact Janet Crenshaw, WB9ZPH, 972.302.9992.

**Plano** testing is on the third Saturday of each month, 1300 hrs at Williams High School, 1717 17<sup>th</sup> St. East Plano. Check Repeater 147.180+ for announcements.

**Greenville** testing is on the Saturday after 3<sup>rd</sup> Thursday, 1000 hrs at site TBA, contact N5KA, 903.364.5306. Sponsor is Sabine Valley ARA. Repeater 146.780(-) with 118.8 tone.

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**President's Message**

This last year has been filled with a lot of changes. We've had changes in club leadership; we've had new members and some difficult times as the company downsized its operations. I hope this letter finds everyone in the club healthy, happy and still involved in Amateur Radio.

I've had a lot of interesting changes along similar lines, as well as making some improvements on my CW skills and meeting my personal goal of making lots of QSOs using CW for Field Day. I would like to read about your personal stories from activities that you've been involved with this past year. Please consider jotting them down and sending them off to our Newsletter Editor, Jim Skinner – WB0UNI.

On a personal note, I want to thank our other club officers this year. Ira Blum – K5IRA, has also suffered a change in employment, yet he continued to participate as our Vice-President this year. Ira has listened to all of my heartaches and problems and has been there to lend me good advice when I needed it most. I would also like to thank Andrew Robins – K5VRA, who has taken on the Treasurer's role for our club. He has been very busy working to get funding for the club as well as updating our club's bank accounts. All of our meeting minutes were recorded by Mike Schmit – WA9WCC this year, who has been faithful to attend all of the meetings and our executive board meetings likewise. I appreciate Mike's faithfulness and encouragement too. Mike has closed on a house just down the street from me, so we're now neighbors. And finally, Paul Veenstra – KC0TEG has filled the gap in one of the most difficult positions for a club officer, the Activities Manager. Paul has secured and arranged many speakers at our monthly meetings. Paul has also led the effort on many different projects, such as the club surplus and workdays.

I'm also thankful for all of the standing committee chairmen, for without their regular efforts, the most visible aspects of the club would not be available. I think of Jim Skinner – WB0UNI who has the monthly task of developing the SIGNALS newsletter. The SIGNALS is a very good publication, compared to other club newsletters. Jim always finds goodies to include in it for all of us to enjoy. Many radio clubs do not have a permanent radio station, like ours. It is one of the best kept secrets of our club. Thanks to Steve Phillips – K6JT for his oversight of the club station upkeep and for keeping the licenses current. Steve has also been instrumental in keeping the W5ROK packet BBS station active, one of the last in Dallas. Our club's presence on the World Wide Web would not be possible without Wayne Hughes – WA0TGH keeping the content up-to-date. He has made several adjustments this year as well as keeping the meeting announcements current. Finally, we have an un-official position of a Membership Manager in Joe Wolf – N5UIC. Joe has been very detailed with in the never ending job of keeping the membership

roster up-to-date. Joe has tirelessly encouraged all of us to keep our membership renewed as well. Thanks to Joe for his service and for keeping things organized.

Finally, I want to send out a personal note of appreciation to Bob Kirby – K3NT. He has helped me in a great way, both practically and emotionally. We've spent many late nights chatting via CW and also other times together at my home. I appreciate his leadership on the B-29 special committee as well.

But I also want to thank all of you, our members, for being a part of this club. Some of you don't live in the DFW area, while still others can't make the meetings. Your membership is appreciated and I hope that we have been able to serve you in some way. This next week will be our Annual Business meeting. I hope many of you will make the effort to support our club during the officer elections. Without your support, there would be no club. Our collective efforts are greater than the sum of the individual efforts. Our club is a great way to experience this wonderful hobby and I hope we can continue this effort for many more years.

73,  
Michael Ketchum  
K5MDK  
RCARC President

## **Secretary's Report**

**23 August 2012**

The meeting was called to order by President Michael Ketchum K5MDK at 1735 with the Pledge of Allegiance.

The following attendees were present at the meeting:

Ira Blum	K5IRA
Jim Brown	TBA
Bob Coulbourne	W4FTD
Hernando Garcia	KC5FDW
Steve Hicks	N5AC
Michael Ketchum	K5MDK
Dave Jaksa	W0VX
John McFadden	K5TIP
Kipton Moravec	AE5IB
Steve Phillips	K6JT
Mike Schmit	WA9WCC
Jim Skinner	WB0UNI
Paul Veenstra	KC0TEG
Joe Wolf	N5UIC

### **Officers and Committee Reports:**

*President's Report:* The President's report is in the newsletter. President Michael Ketchum K5MDK reminded the club members that the election of officers for fiscal 2013 will occur at the September meeting. Jim Skinner WB0UNI the newsletter editor requested that members submit articles for the newsletter (in a timely manner).

*Vice-President's Report:* There was no Vice-President's report

*Secretary's Report:* The Secretary's Report is in the newsletter.

*Treasurer's Report:* There was no Treasurer's report.

*Website Manager's Report:* The website has been upgraded.

*Station Trustee's Report:* Steve Phillips K6JT reported that repeater power is on the back burner. We still need batteries.

*Database Manager's Report:* There was no Database Manager's report.

*CAF Restoration:* The B29 Fifi was well received at both Cedar Rapids and Oshkosh. Fifi is the only WW2 era bomber with functioning vintage radios.

### **Old Business:**

*Projects:* We still need an improved packet station antenna.

*Storage:* Due to probable loss of our storage space, we will need to disposition our surplus assets.

### **New Business:**

Retired members are encouraged to run for club office. Steve Phillips K6JT reports field day reports are submitted. HF Basics Seminar Aug 24.

Blacklands Triathlon September 3, Oak Point Recreation Center.

Collin County Community College Spring Creek Campus. 2012 Plano Balloon Festival , 21 – 23 September.

Kip AE5IB reports that because of the successful use of amateur radio in Plano, the Albuquerque Balloon Festival now uses amateur radio support.

The meeting ended at 1804 for the program.

### **Program:**

The program was by Steve Hicks N5AC: "Digital Signal Processing for Software Defined Radio Systems."

### **Adjournment:**

The meeting adjourned at 1900.

## **A Well Behaved Multi-Band Attic Aerial**

*By, John Schreiner, Jr. N2LK*

Hello Fellow OM's. I have been a ham since 1982 and have always operated out of apartments, condominiums and for the last 10 years, a single family home in a development with a very small back yard (with the obligatory sky high New Jersey property taxes!) Over this time I have experimented many, many times with all sorts of antenna arrangements to get the best signal I could out to the ether. Such designs include:

- Rain Gutter end fed against radial wires
- Vertical loop antenna in a 23 ft. tall tree
- Cushcraft R5 vertical

- Attic dipoles fed numerous ways
- Magnetic Loop

I have written up some of my experiences with the above antennas in the past with some nice responses, with the hope any antenna restricted op may find some useful information for their own antenna installation. eHAM and the Internet are just FANTASTIC sources of information and ideas for antenna experimenting and I feel obligated to throw my 0.02 cents in as well.

Over the last year in particular I have experimented with building my own Baluns/Unun's/ATU's to feed both balanced and unbalanced antenna's, with mixed results. Antenna Tuners such as parallel LC and Link-Coupled, built on some scrap wood in my garage have been tried, all in an effort to find that best arrangement of antenna and feed that permits GOOD multi-band operation. All this research and building has been lots of fun and quite educational!

As all these antennas are in close proximity to my operating position in my basement, RFI has been an issue. RF chokes from Radio Shack have been installed on all my computers, the family computers, the HDTV and the Home Theatre System. A 2.25" diam. Ferrite toroid proved the best RFI eliminator for my WiFi Router, located just 5 feet from my Transceiver in the basement. Wrapping the CAT5 cable between the Cable Modem and the wireless router around that toroid, really eliminated 90% of my RFI problems.

*After all this work (and odd looks from my XYL and Harmonics!), one antenna arrangement has proven time and time again, to receive and transmit my pea whistle RF better than any other. Some have come close, but when JA's are coming in over the pole, or Asiatic Russians are on the air on 20 meters, one antenna keeps pulling those signals in and keeps making the contact.*

### **A Balanced Fed Attic Dipole**

My present house is located on top of a small mountain in northwest NJ, overlooking a valley to my south/west. It's a 2 story stick built home, roof apex at 27 feet. When I first moved in here in 2000, I immediately installed my G5RV Jr. dipole up there, knowing I may have to deal with HOA/neighbors who may not be antenna friendly. Fed with 50 ft. of RG8 coax, it worked/tuned well on 10/20/40 meters, a bit spotty on the other bands. It is too long to fit directly end to end so about 10 feet of each end is bent to follow the attic walls. From above would look like a Z. The attic is filled with insulation and wiring of course, along with my house Furnace! It's tough to work up there so whatever changes I do make to that antenna, they better work!

In the past 6-8 months I have re-arranged the feed to that 52 ft. flat-top to improve multi-band operation. I have then done A-B comparisons to a Hustler BTV antenna ground mounted over 40 radials in my back yard. The vertical is

about 15 feet back from my house, mounted to the kids play set with 40 radial wires. Time and again on 15/17/20/30 meters the Attic Dipole out performs the ground mounted vertical. What do I mean by out performs?

**It means a DX signal is louder in my headphones and I can call the station and work them without much effort...that's what I mean...**

I have operated in contests on 15/20 meters where JA's would come in over the North Pole and barely perceptible on the vertical. But on the attic wire they were easy copy, and I would call them and get a report on the first try. I was needless to say quite surprised at that this past CQWW CW contest. The same applies to Asiatic Russian ops who come in late at night on 20 meters; it's much easier to hear/work them on the attic wire.

I recently put in a QRP effort with the balanced fed attic dipole in the IARU HF Championship and worked EU - DX on all bands including 40 meters (80M don't work on this antenna BTW), and also logged a HI station on 15/20/40 meters. All with 5 watts...worked about 138 stations overall, plenty of 40 meter super stations heard my 5 watts in Europe.

RFI is non-existent with this balanced fed antenna. I would get RFI with some antenna arrangements, particularly on 17 meters BUT with the balanced fed wire, no such worries, no RFI issues at all in fact with any of the home appliances. Though obviously I pick up quite a bit of EMI but still, signals come in above the noise level no problem when bands are open.

### **System Arrangement**

So, how is this configured? Well any antenna is a "SYSTEM" and this system consists of 3 parts:

1. 52 ft. long dipole, fed in center (2-26ft. legs) bent to fit the attic any way possible. In my case a "Z" shape. No special logic in 52 ft, just happened to be what the flat-top on a G5RV Jr. is, so stayed with that. I think I used 16 ga. Stranded speaker wire, its been 10 years since I put it up.
2. 300 ohm Radio Shack twin-lead feed line, drops down 6 ft from center of dipole, across the attic floor (fiberglass insulation) down thru a hole drilled in the plastic eave, down side of house to the basement window.
3. Parallel LC tuner. Just a bread boarded home brew set of parallel coils, tapped with alligator clips and has an old air variable cap I pulled years ago from a dysfunctional Heathkit SB receiver. Found design for tuner from an article by Richard L. Measures, AG6K. Uses a Radio Works Line Isolator on input.

In photo's you will note the feedline feeds into the tuner from above. I first had leads from cap side to rear of tuner

but noticed significant heating on the feed to the rear panel where the twin lead was attached. I suspect currents in the fields around the inductor coils caused the heating so just re-arranged the feed to avoid that problem.

**Summary**

I make no pretense this is some new, earth shattering antenna concept. It's merely a compilation of my practical, real work operating experience with a number of popular restricted space antenna designs. Comparisons at my QTH keep confirming that this balanced fed antenna is superior to any nearby vertical antenna over a decent ground plane,



Fig. 1 Parallel LC Tuner with input 1:1 Choke  
\*\*Note: Coils built via KOFF article on eHam.net



Fig. 2 Feedline thru basement window



Fig. 3 Back of house to attic



Fig. 4 Attic shot, some metal and one wire leg



Fig. 5 Attic shot, can't see it but center of dipole is up there. Notice my furnace right near by!

or a vertical 20 meter loop antenna outside in my little 23 ft. tree, for bands 10-40 meters. Although a 20 meter magnetic loop I recently built has superior receiving capabilities, its TX qualities can't nearly compare to this attic wire.

For the record, I have similar attic antenna results at 2 other QTHs that were not on top of any elevated ground. I remember well my first 40 meter QSO into the Indian Ocean when I got my Extra Ticket back in 1995, a 3B8 station heard my signal, on a 52 ft. dipole fed with ladder line in my old condo attic.

Now, for 80 meter operation my 6BTV using a 40 metre resonator and DX Engineering Cap Hat rods is the way to go!! But that's another story.

I figured new hams who are stuck in situations where no outside antenna of any type are allowed, can have confidence an attic mounted balanced dipole will make plenty, and I mean plenty of exciting and rewarding contacts.

73 Gang (Reprinted by permission of [eHam.net](http://eHam.net))

# Rockwell-Collins

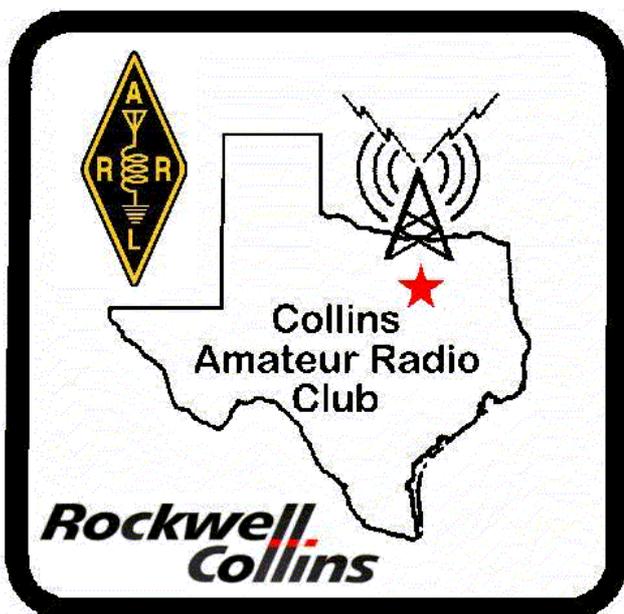
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TO:



### CLUB STATIONS

(972) 705-1349

### W5ROK REPEATER

441.875 MHz +5 MHz Input

131.8 Hz PL - RX and TX

### W5ROK-1 PACKET BBS ROK Node

145.05 MHz

W5ROK-N1, W5ROK-N2 & W5ROK-N3 HSMM-MESHNET Nodes 2.4 GHz

Thursday, 27 September 2012

1700 Social      1730 Meeting

Methodist Richardson Medical Ctr  
At Bush/Renner/Shiloh Intersection

*Second Floor Conference Room 200*

**NEXT SIGNALS INPUTS DEADLINE:**

**→→→ 14 October 2012 ←←←**