
SIGNALS

Rockwell
Collins **Amateur Radio Club**

Monthly Newsletter of the

Volume 35 Issue 05

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

February 2014

RCARC Membership Meeting

Tuesday 25 February 2014
1700 Social 1730 Meeting
1800 Program

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

Subject:

***Aircraft Radio Corporation and its
Role in the Development of Avionics
and WWII Avionics Finds a New
Home after the War.
By Dr. Al Helfrick, K2BLA***

neighbor of ARC's founder and retired president. Just before writing the two papers he visited the ARC site and will show photographs of the site today.

This is not just another guy telling folks about ARC-5's (many of our members already know something about ARC-5's from military service and working on FIFI). When Al worked for ARC, his office was in the oldest building where ARC-5's and other stuff were designed. In fact his office was either next to or WAS Jimmy Doolittle's when the first blind flight was made in 1929.

Christmas in January

Since the Christmas lunch was cancelled due to the ice storm, the club had a "Christmas" dinner at Furr's Cafeteria in Plano in January. Here are a few photos from the dinner.



(Continued on page 3)

Local Club News

Meeting Notice

Dr. Al Helfrick, K2BLA, will be presenting two papers that were given at the Digital Avionics Systems Conference in November 2012; *Aircraft Radio Corporation and its Role in the Development of Avionics* and *WWII Avionics Finds a New Home after the War*.

Al, like many amateurs made use of surplus electronics in the years after the war. Like many amateurs from the period he would visit "Radio Row" in New York or Philadelphia and bring home wonderful treasures; some even brand new in the box. K2BLA actually worked for ARC for 8 years, which at the time was a division of Cessna and ARC stood for Aircraft Radio and Control, thus keeping the iconic ARC name. He also lived a mile from ARC and knew a number of the pioneers of the company and was a

RCARC OFFICERS

PRESIDENT

Dennis Cobb WA8ZBT
972.705.1464
ddcobb@rockwellcollins.com

VICE-PRESIDENT

Bob Kirby K3NT
319.360.0500
k3nt@arrl.net

SECRETARY

Jim Brown AF5MA
972.495.2209
jhksbrown@verizon.net

TREASURER

Mike Montgomery WD5TX
972.705.1498
dmmontgo@rockwellcollins.com

ACTIVITIES

OPEN

WEBSITE MANAGER

Mike Hollingsworth W5QH
972.571.6060
w5qh@arrl.net

STATION TRUSTEE

Steve Phillips K6JT
972.517.3332
k6jt@arrl.net

NEWSLETTER EDITOR

Jim Skinner WB0UNI
214.535.5264
wb0uni@arrl.net

DATABASE MGR

Joe Wolf N5UIC
972.705.1388
n5uic@arrl.net

W5ROK CLUB STATION

972.705.1349
461-290

VE SESSIONS

Dallas tests are held 4th Sat of each month at 1000 hrs. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

Irving tests are held 3rd Sat of each month at 0900. Fifth 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 1430, ending no later than 1645. **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 at 972.302.9992.

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

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

Richardson The Richardson Wireless Klub (RWK) VE team hold license testing on the third Thursday of each month at St. Barnabas Presbyterian Church, 1220 West

Beltline Rd. Testing begins at 1900 hrs in room 12. Enter through the Northern most door on the east side of the church building. For further information contact Dave Russell W2DMR, at 972.690.9894 or E-mail warhog4@tx.rr.com.

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President's Message

Hello to everyone. Finally I got recovered from the New Year. Our Christmas in January Meeting had a very good turnout. Bob Kirby (K3NT) and myself got the new 2 Meter antenna up on top of Rockwell for Steve Phillips (K6JT). Steve I hope it is still working ok for you. That is about all I have for this month. I hope to see you at the next meeting.

73,
Dennis Cobb
WA8ZBT
RCARC President

Secretary's Report

There was no official meeting in January; hence there are no minutes to report.

Christmas in January (Continued from page 1)



W5ROK-1 Packet BBS.

Thanks to Dennis, WA8ZBT, and Bob, K3NT, the W5ROK-1 packet station now has a new antenna. It has increased the signal strength from the BBS dramatically. Whereas the level in Plano was about S3 before, it is now S9+ and connections as well as data transfer occur very quickly with no apparent need for retries.

The BBS has been used successfully to pass many National Traffic System messages since the improvements

were made. Stations in Plano, Garland and Richardson report no problems at all in accessing it.

If you have not tried connecting with the BBS before, and you have a packet TNC connected to your 2 meter rig, now is a good time to try it out. The BBS uses the call sign W5ROK-1 (although connecting with W5ROK also works) and it is on 145.050 MHz. I have not had time to check if connections can be made to other packet BBS systems on that frequency, but if you connect and do a "JHEARD" command, you will see all the stations and the approximate dates they were heard.

Thanks again to Dennis and Bob for their great work in making the W5ROK packet station usable again. It provides an important backup for ARES and NTS messaging should the Internet fail over our area.

(Contributed by Steve K6JT, Trustee W5ROK)

RCARC Community Service Activities

Siren Testing. Dennis Cobb WA8ZBT, John McFadden K5TIP and Jim Skinner WB0UNI participated in the Richardson emergency siren testing on 5 February 2014. The testing was cancelled at the last minute due to over-cast. The siren testing is performed on the first Wednesday of each month. The sirens are monitored by amateur radio operators and reports made using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.

WildRide Bike Rally

The WildRide Against Cancer Bike Rally will be held on Saturday, May 17, 2014. This rally benefits the Richardson Methodist Hospital's Cancer Center.

Please mark this date on your calendar and plan to volunteer for communications again this year. More information will come later as plans are finalized.

The planning committee is looking for corporate sponsors for this year's rally. There are several levels of sponsorship. The sponsorship can be money or in-kind donations.

If you know of a company that would help sponsor the rally, please email me with the name of a contact person. kilgore1317@sbcglobal.net

(By Doug Kilgore KD5OUG, WildRide Communications Coordinator)

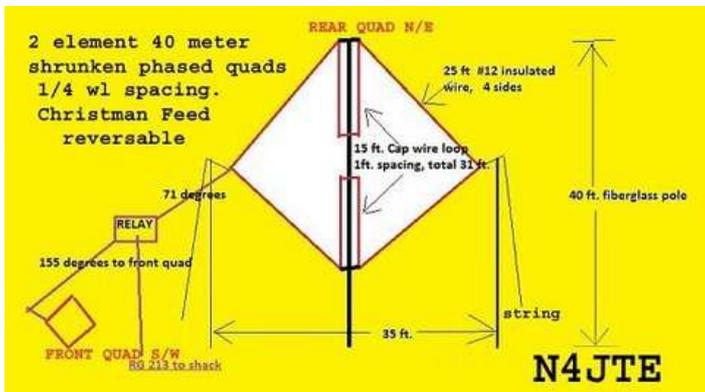
(Submitted by Bob Kirby K3NT)

Small Backyard; Big Signal—Shrunken 40 Meter Phased Quads:

By Bob Raynor, N4JTE

"Editor's Note: Due to the popularity of some of eHam's older articles, many of which you may not have read, the eHam.net team has decided to rerun some of the best articles that we have received since eHam's inception. These articles will be reprinted to add to the quality of eHam's

content and in a show of appreciation to the authors of these articles." This article was originally published on: 05/20/2011



Let me state this up front, this is not an antenna project for the faint of heart, nor does it describe an all band, miracle working, coax fed multi DX pile up buster.

It is however a 2 element small footprint 40 meter phased, reversible, downsized quad array that surprised me big time and I am Real picky. So that's what I am going to describe here with the hope that someone out there will find the same enjoyment I get from this sucker.

I began this project with a lot of unknowns that could only be proven after I built it. This one is way beyond my modeling abilities so real world backyard testing was the only way to go.

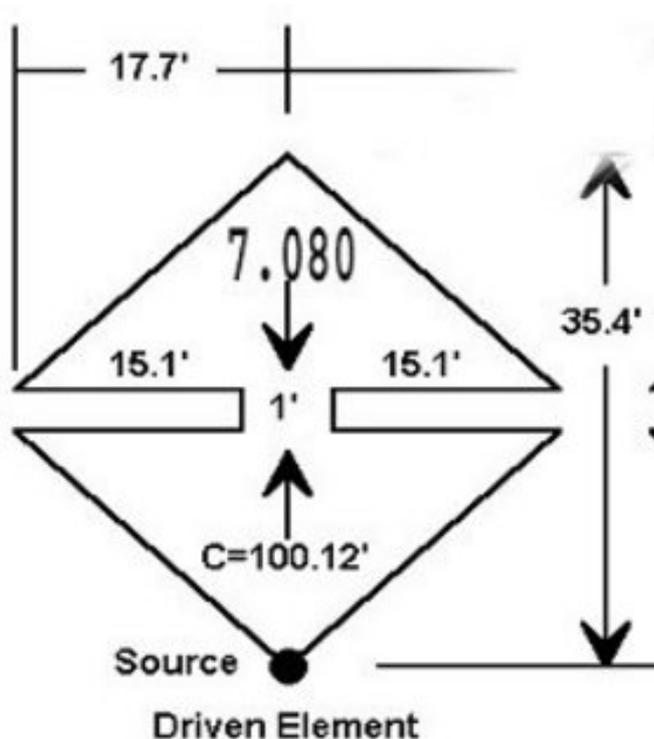
How do you shrink 2 full size quads without killing the gain and bandwidth? Is there any way an almost ground mounted diamond shaped quad array will do anything?

Lastly, the big question, could I use a very successful reversible phased vertical Christman, (ON4UN) method of feeding to get that gain and front to back I enjoyed with phased verticals at 1/4 WL spacing.

Well the easy answer is a big Yes and then some. Let me preface everything to follow by stating that this monoband design can be used on any band when extrapolated dimensions are applied. Thanks to Mr. Cebik, sk, I read of a way to capacity load a quad and shrink it in all dimensions by 25% a substantial amount when space is at a premium. He added the extra wire in two horizontal dimensions.

That was my first attempt and it was a nightmare to build with all the floppy wires and anchor strings but it tuned to 7.080, exactly where he predicted, but way too tricky and flimsy to build. My radio was in surgery so I had free time to try a different, hopefully, simpler configuration.

I killed two birds so to speak and attached the capacity load wires to the 40 ft fiberglass center pole and went for vertical polarization by feeding an outside corner to avoid the high current points at the top and bottom corners of the cap wires and possibly screw that up. To be honest it was all guesswork!

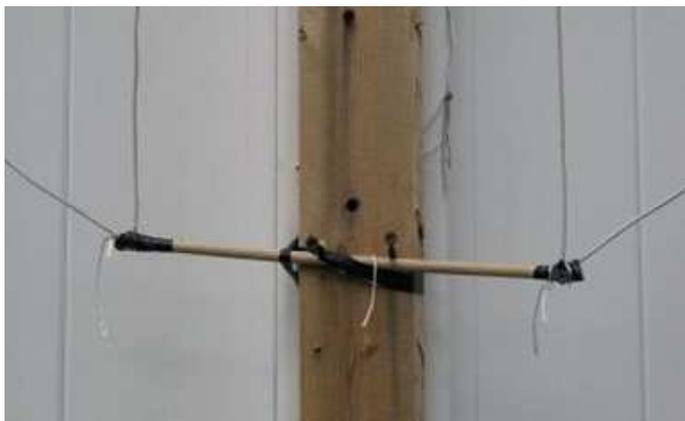


Ended up with a much more stable and doable design but would it change anything drastically? Actually no, but for some reason the frequency dropped to 6.9, I did not bother changing anything until the other element was installed, mutual impedance you know!

So I put the second quad up with the exact same dimensions and watched this experiment blow around in 35 mph winds before checking each for resonance.



Long story short, a little pruning got me to 7.150 on both. I hooked up the previous phaselines to the outside corners and checked at the radio. I got a 1.7 swr in each direction, workable with no tuner required.



Front to back was around 4 S units. Usable bandwidth is from 7.135 thru 7.185. The ability to work Corsica and then, with a flick of the switch, contact a Columbia, SA station is a lot of fun especially when both stations report a “booming”5-9 plus signal report. Rig is IC 735 with AL 811H at 400 watts.

Bottom line is that I am writing this at 3am after spending another fun night working NE and SW DX stations at will on first call. Often I am the first station to place the DX station on the summit and that’s a trip! The quad array is surpassing all expectations and I am very happy with the perceived gain and front to back, subjective I know but this design is gonna be here to the next “Big Idea”.

What I Learned:

1: The Christman, ON4UN reversible system works great on quads not just ¼ WL phased verticals.



Expert waterproofing, Not! See www.n4jte.blogspot.com for phasing details.

2: A quad correctly shrunk by 25% will do a very credible job on 40 meters if DX is your thing.

3: Vertical polarization on a quad is worth the effort especially at low heights in a diamond configuration.

4: This array outperformed a 40 meter EDZ at 60 ft. the later it got on the band.

5: It is better than a 2 element vertical array previous installed on same poles and much quieter than expected with local QRN.

FINAL THOUGHTS:

As I said, this article/project is not for everyone and probably will end up in the “what’s next” category but if you are trying to work DX in two opposite directions with a signature, consistently strong signal, I guarantee you will be astounded with the results on 40 meters at such a low cost and if modified will work as well on your band of choice!

Tnx for reading, Bob the Builder N4JTE

(Reprinted courtesy of eHam.net)

Upcoming Events

FEBRUARY	
27	Skywarn Training for Hunt County in Greenville at F. Warren Civic Center 6:30 - 8:30PM Basic Only.
MARCH	
1	Irving ARC Hamfest all day on Saturday. See http://www.irvingarc.org/iarchamfest.html
1-2	ARRL International DX-Phone. Details at http://www.arrrl.org/arrrl-dx .
APRIL	
5-6	Texas State Parks on the Air. Saturday & Sunday. See http://www.tsputa.com
20	Rookie Roundup-Phone. Details at http://www.arrrl.org/rookie-roundup .
MAY	
17	WildRide Against Cancer Bike Rally. See article in this newsletter. Details at http://www.methodisthealthsystem.org/WildRide .
REGULAR ACTIVITIES	
Daily	DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz
Daily	DFW Late Traffic Net (NTS) at 8:30pm 146.72 – PL 110.9Hz
Daily	DFW CW Traffic Net (NTS) at 7:00pm and at 10pm on 3541 KHz www.k6jt.com
1st Wednesday	Richardson Emergency Siren Test. At noon using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.
2nd Wednesday	ARES North Texas HF Net Every month— 3860 KHz at 830 pm—930pm
Thursday	Sabine Valley Amateur Radio Association Net Every Thursday night at 7:00pm on the K5GVL/R 146.780 MHz (+) PL 114.8Hz

Rockwell-Collins

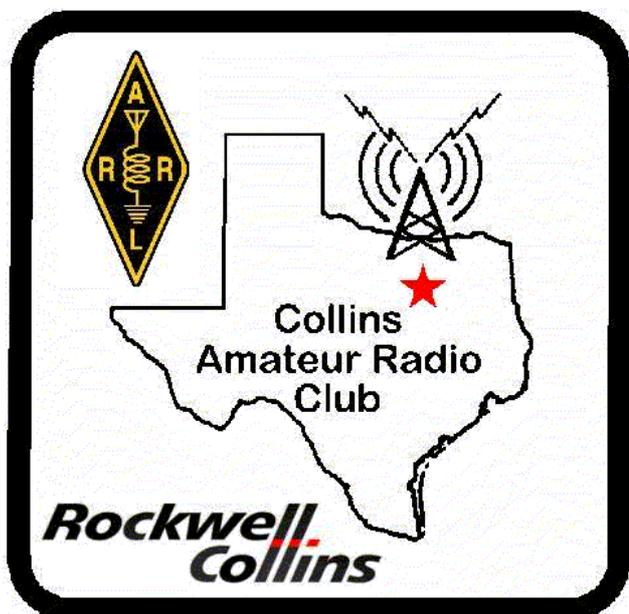
Amateur Radio Club

Mail Station 461-290

P.O. Box 833807

Richardson, TX 75083-3807

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

Tuesday 25 February 2014

1700 Social 1730 Meeting

Methodist Richardson Medical Ctr
At Bush/Renner/Shiloh Intersection

Second Floor Conference Room 200

NEXT SIGNALS INPUTS DEADLINE:

→→→ 14 March 2014 ←←←