



THE RICHMOND HAM

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DECEMBER 2012

The RICHMOND AMATEUR RADIO CLUB will meet Friday, December 14, 2012, 7:00 PM, at **the Bon Air United Methodist Church, 1645 Buford Road.**

PROGRAM: There will be a short business meeting followed by our annual holiday social. Please bring your favorite holiday finger foods or snacks to share.

Coming Events:

December Meeting, December 14, 7:00 PM. Annual Christmas gathering – bring your favorite finger food or dessert.

VE Testing Session, January 12, 2013 9:am at the Bon Air United Methodist Church

Christmas, December 25 – Don't forget to send Santa your wish list!

Frostfest will be here before you know it! Feb 2, 2013 is sneaking up. Earlybird tickets are available at www.frostfest.com

Club Members!

If you are not receiving your copy of the Club's monthly newsletter, please contact Richard, WA4FEH, RARC's Treasurer, at wa4feh@gmail.com or phone 743-3899.

From The Prez

The Year in Review

As we close out 2012, I wanted to mention some of the Club's accomplishments and to acknowledge some of the folks responsible for those accomplishments. The risk, of course, is that I fail to include everyone, so please understand that this is not meant to be a comprehensive list. I know there are many who serve behind the scenes and contribute in ways that we never know. But here are just a few things we can be proud of and people we should thank:

- Under the leadership of Bruce McAlister, W4BRU, our signature program, the radio school, offered four license preparation sessions and a Morse code class to 43 individuals seeking a first or upgraded license. Instructors in

addition to Bruce were: Fritz Schumacher, KI4HWQ; Blake Forbes, KK4FLN; Maylon Pearman, KG4RPQ; Buck Vaughan, KR4NL; Armand Hamel, WA1UQO.

Our Volunteer Examiners, headed by Allan Johnson, WA3J, with many others assisting, conducted 11 license exam sessions, including one at Field Day. The volunteers administered 136 tests to 105 people resulting in 13 new Extras, 13 new Generals, and 41 new Techs.

- In February, we had a very successful presence at Frostfest headed by Tom Ebbert, KG4BIZ, with help from a number of you who manned the table.
- In a March event organized by Mac McNeer, K4YEF, the Club offered a weekend compressed license course and testing session for emergency medical personnel from around the state. A number of EMT's are now licensed as a result.
- In April, we offered our first D Star Academy to help new D Star users understand the intricacies of this digital mode. The training was conducted by Jim Bates, KJ4WLH, and Allan Johnson, WA3J with a little help from the president.
- In May, Marshall Ervine, N4XBP, in addition to his duties as SCC registered agent and archivist of Club documents again coordinated a very successful yard sale and silent auction that raised a substantial portion of our annual revenue. Marshall was assisted by too many people to list here, but check out the June newsletter for

some of the names. And Marshall also found time to audit the Club's books and file our SCC reports. (Glad he's retired now.)

- In June, we participated again this year in a joint RATS-RARC Field Day event. Chris Walker, N4CBW, coordinated the event in which a number of members participated.
- Roy Schultz, KI4MCX, headed our public service effort. Roy, along with many volunteers, provided communications to a wide range of community events including the March of Dimes Walk-A-Thon, MS Bike VA, and Special Olympics.
- Jim Bates, KJ4WLH, devised and coordinated our first ever Radio Run in the month of June where eight members completed the challenge by making at least one daily contact for the month.
- Thanks to Art Williams, W4TY, Ron Chase, KD4XA, Barbara Chase, WA4VUO and Pip Sager, WB4FDT, the Club was provided documentation which allowed us to correct our founding date to 1916.
- Chris Walker made a major update to our website, www.rarclub.net.
- Ron and Barbara Chase handed off the editorship of this newsletter to Armand Hamel, WA1UQO, who seamlessly continued the tradition of excellence.
- Jim Bates and Armand Hamel shared net control duties this year for the RARC D Star Net every Wednesday night, and Tom Flippen, KD4CMK, conducted the ten and six meter nets throughout the year.
- In October, Jim Bates coordinated our participation at the Boy Scouts

Jamboree on the Air where literally hundreds of Boy Scouts and their families were exposed to amateur radio. Jim was assisted by Armand Hamel, Dave Thomas, KB4IQT, Austin Thomas, N4CVA, and yours truly.

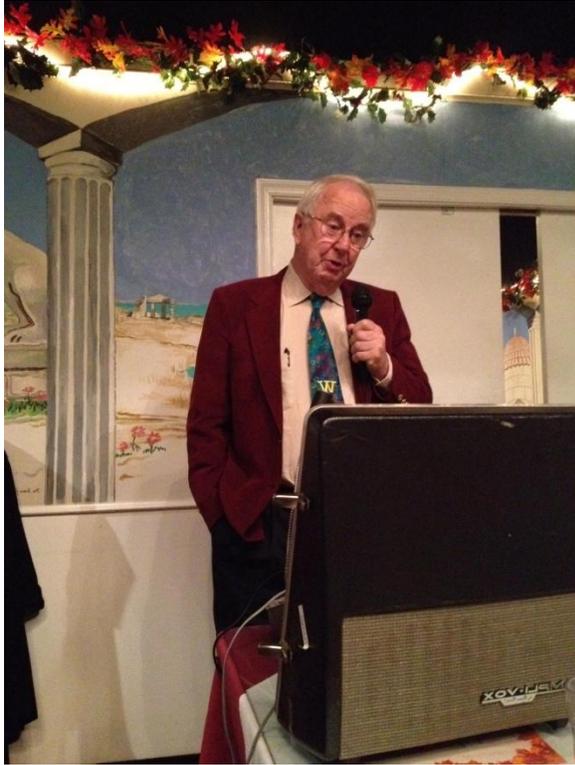
- We made a number of upgrades to our D Star repeaters this year. Jim Bates performed a number of software upgrades to the gateway server and registered many new users. We installed an amplifier on the UHF repeater in August. And Mike Owens, K4RKO, and Ron Chase, with a little help from yours truly, performed some antenna maintenance in the summer.
- Club Vice President Pete Fundinger, AA4PF, enlisted a number of informative speakers for our programs each month. And our Treasurer, Richard Arnold, WA4FEH, managed to pay all the bills and still have money left over.
- And let me give a special public thank you to Patricia Johnson, N8WEA, our outgoing Secretary who did such a great job of taking minutes at club and board meetings and getting those ready for publication. And as many of you figured out during the year, she was largely responsible for coordinating the refreshments at club meetings.

So overall, it was another productive year for the Richmond Amateur Radio Club thanks to you, the members.

73, Win

November meeting minutes

The November meeting was held at the annual banquet at Nick’s Roman Terrace on November 9th. Our guest speaker Bob Eshleman, W4DR, gave a terrific talk of his DXpedition to Navassa island in 1954. For those of you who missed this one, you can read his article in the October 2012 issue of QST. As always great food and wonderful conversation made for an enjoyable evening.



D-STAR Note

Our digital repeater usage continues to grow as more members acquire D-STAR radios and install D-STAR hotspots. In addition to our regular Wednesday night net on the VHF D-STAR repeater, we link that repeater to Reflector 025C at 9:00 PM on Wednesdays for the National Capital Region D-STAR net. On Sunday nights at 9:00 pm, we link the UHF repeater to Reflector 002A for the Southeast D-STAR Weather Net. Information on gateway registration and linking is on the Club website at <http://rarclub.net/repeaters/D-STAR/> or contact Jim, KJ4WLH or Win, WA4SSG, for assistance.

RARC VE News

Testing for the month of November had the following results: 26 tests given with 2 new Extras, 2 new Generals, and 6 new Techs!

The next VE testing session will be Saturday, January 12th at 9:00am, at the Bon Air United Methodist Church.

If you have questions about a session, please see our website, www.rarclub.net/ or contact Allan, WA3J, at 804-399-8724, or wa3j@arrrl.net.

Club Info...

- RARC meets on the second Friday of each month at 7:00 PM, at the Bon Air United Methodist Church, 1645 Buford Road.
- We offer 10-week license prep classes in September and March with exams following.
- Members provide VE testing sessions on odd-months during the year.

FCC EXAMS EVERY MONTH on the SECOND SATURDAY. For January and all odd-numbered months: Bon Air United Methodist Church, 9 AM. Call coordinator, Allan Johnson, WA3J, 399-8724, or visit <http://www.rarclub.net/>.

For February and all even-numbered months, FCC test sessions are provided by the RAVE group. Coordinator, Pat Wilson, W4PW (932-9424) has information on his website <http://w4pw.org>.

RARC has the first D-STAR digital repeater in the area. 147.255 (+) and 443.7125 (+). We now have the gateway tied into the worldwide D-STAR network.

The Club sponsors several radio nets each week. Join in for the informative discussions and fun.

Sunday	7:00 PM	50.135	USB
	7:30 PM	52.525	FM
Wednesday	7:00 PM	28.475	USB
	8:00 PM	147.255	D-STAR Repeater
	8:15 PM	145.730	Packet

- Join the Richmond Amateur Radio Club. You don't have to have a ham license, just have a genuine interest in the hobby.

Annual Dues are:

80 and over	\$0
Age 12 and under	\$5.00
Age 13 to 18	\$10.00
Regular Membership	\$15.00

- Lots of information about the Club and our activities is available on our website, www.rarclub.net. Check it out!

2013 Club Dues Reminder

Club dues are due and payable November 1st of each year. We gladly accept your dues any time in the month of November; however, the longer you wait to send them in the greater the chance your name will not be in the club roster and you will not be receiving the newsletter.

Thanks, Richard Arnold, WA4FEH, Treasurer

Morse Code Plays Role in New Spielberg Movie

Producer Steven Spielberg has used Amateur Radio or Morse code in three of his last four movies: *Super 8* (2011), *The Adventures of Tin Tin* (2011) and *Lincoln* (2012). Members of the Morse Telegraph Club ([MTC](#)) -- an association of retired railroad and commercial telegraphers, historians, radio amateurs and others with an interest in the history and traditions of telegraphy and the telegraph industry -- played an integral part in the production of *Lincoln*.

According to International President of the Morse Telegraph Club James Wades, WB8SIW, several MTC members -- including Tom Perera, W1TP; Derek Cohn, WB0TUA; Kevin Saville, N7JKD, and Roger Reinke -- provided telegraph instruments to equip the 16 operating positions portrayed at the War Department set. Jim Wilson, K4BAV, and his son Matt had roles as extras. Wilson also worked with production staff and the actors to explain telegraph technology and the role of the telegrapher in the 1860s.

"Nine of the 16 telegraph positions depicted in the War Department were fully operational," Wades said. "These instruments could be

operated in any combination through the use of a specialized computer program and custom built terminal units for the process. When necessary, a hand key could be inserted in the individual telegraph loops so messages could be improvised."

Wades, who was employed as a Technical Advisor for the production, worked with set designers over a period of months to develop the War Department telegraph scenes, coordinating the process of procuring the necessary instruments and serving as an historical consultant as the telegraph scenes were developed. He also worked with the producers to develop historically appropriate message traffic that fit the sequence of the script; however, as the movie was edited, he explained that the final product evolved into a more generic facsimile of Morse traffic. "Those with a background in landline telegraphy will hear the occasional snippet of message traffic in the audio track of the movie," he said. "We are very pleased that Mr. Spielberg and his staff took the time to treat the telegraph with dignity and respect. It is a pleasure to be associated with a high quality motion picture that can genuinely be classified as not just entertainment, but as a work of art."

(Thanks Bruce: W4BRU)

Still putting your Christmas wish list together?

Win Grant, WA4SSG, sent this in for those of you who haven't yet finalized your wish list for this Christmas. "I worked TF3ML in Iceland a few months ago. I have attached pictures of his mobile/portable operation. I was thinking this is the solution to restrictive covenants prohibiting antenna structures. This is all on wheels, something most covenants don't mention. The tower is a 4 ton, 28 meter tower on a trailer with two rotators and multiple antennas".





(Thanks Win: WA4SSG)

RARC Members, I need your help!

I'm looking for 10 volunteers to help RARC with the FrostFest 2013 event. I need 2 volunteers to help set up the RARC booth on Friday, February 1st from 6:00pm until (you're done or) 8:00pm - whichever comes first. I also need 2 volunteers per shift to represent RARC for 2 hour shifts during the FrostFest event on Saturday, February 2nd:

7:30 AM - 10:00 AM

10:00 AM - 12:00 PM

12:00 PM - 2:00 PM

2:00 PM - 4:00 PM (take down)

I'd really like to have 2 volunteers per time slot, more is better, but please consider being flexible if all the time slots are not filled! We have been given 4 tickets to the FrostFest event - The folks who volunteer for the 7:30 - 10:00 shift and the 2:00 PM - 4:00 PM shifts will receive the free tickets!

Please e-mail or call me for scheduling information! You can see the updated sign up sheet on the web at:

<https://docs.google.com/spreadsheet/ccc?key=0AoN0dWVWHj-tdDj0V2pNajZ0dUwyYjKjU1hLZHJjQmc>

Thank you - Jim Bates

mailto:jlbbates4@gmail.com

(804) 592-1068

Cub Scout Ham Radio Presentation

I need a couple of people to help with the Cub Scout Ham Radio presentation on Monday Jan 14th. I received a call from the Cubmaster, David Conrad, who'd like to have us do a presentation of Ham Radio to his Cub Scout Pack. The Pack is located in the West End and it will probably be around 6 or 7pm and last an hour or so. Please contact me, Jim Bates (KJ4WLH) for information - (804) 592-1068 or jlbbates4@gmail.com

Antenna Modeling – The Practical Use

What do these software products all have in common: EZNec, cocoaNEC, NEC 2, and NEC-Win?

- A. They are intimidating, obscure, and un-intelligible software programs somehow related to Amateur Radio.
- B. They each provide a means to use mathematical sets of formulas to simulate antennas in the "real world."
- C. Electrical Engineers, PhD's, Nerds, and the socially unacceptable are the only humans who know the "secret and arcane" art of antenna modeling using these software tools.
- D. These are very expensive software products, well out of the reach of a typical Ham.

No, the answer is not "C"; the correct answer is "B"! Yes, really - I'm not kidding...

One of my favorite things to do in Amateur Radio is trying to model the "perfect" antenna. I've "invested" (or wasted depending upon whom you ask!) a lot of time with EZNec (on Windows) and cocoaNEC (on Mac) and I really enjoy them a lot. I've often asked myself questions like:

- I wonder what that dipole would look like in my back yard?
- What does a 3 element, 2-meter yagi do at 8' above the ground?
- How does a j-pole really radiate?
- Can I make my own Buckmaster (and save a TON of \$\$)?

Recently, I was able to put my "investment" (of time) to good use. I'd decided that I wanted to put up a 40m dipole and remove the doublet that was in its place. Sure the doublet worked OK, but I'd recently discovered just how inefficient that antenna radiates on it non-harmonic frequencies. It doesn't really matter what "it" is, but I like things that work efficiently and my doublet surely didn't.

I had to opportunity to "design" my own dipole. How tricky can that be you ask? As tricky as you want to make it. Since I knew how to use EZNec and cocoaNEC, I didn't just want a flattop dipole with it's 70+ Ohm feedpoint and 1.8+ SWR across the frequency band for 40m (see Figure 1). I used cocoaNEC

to model a dipole, sized for 40m, about 45' above the ground – which was very close to my QTH's backyard setup – to see what a regular dipole would look like.

Since the 40m antenna is lower to the ground than the optimal height, I started changing my model by changing the legs of the dipole. I started off by slightly raising the legs by 10 degrees at the insulator and saw the feedpoint resistance drop a little. Eventually, I managed to find a nice combination of dipole leg "angle", based upon the height over ground. I was also able to adjust the length of the legs to get the lowest SWR across the lower part of the 40m band. The SWR model is show in Figure 2.

During November of 2012, I managed to find some time to hang my 40m dipole based upon the calculations. I hung the wires and balun, trimmed, re-hung, trimmed, re-hung, etc. for a few hours. When I was finished, I used my analyzer to see just how close I was. Figure 3 shows the graph based upon the numbers my analyzer showed. The curve is about as close to a match (compare Figure 3 to Figure 2) as I could ever expect! I was so pleased – it has been a while since a project that I'm working on has turned out so well!

As I'm writing this, I still can't believe just how accurate the EZNec and cocoaNEC programs are. I know it's not rocket science, but I was able to design an antenna based on my requirements, build the antenna, and finally, measure to see that it matches the antenna design.

Once all the measurements were complete, I got right on the air. The ARRL was having a Sweepstakes competition and the contacts were rolling in! Perhaps band conditions were great or my antenna worked even better than I'd dreamed ☺ Either way, there were many contacts to be made! It was a great way to end a weekend!

If you think that you'd be interested in trying to model your own antenna, RARC will be offering a 3 or 4 week "Introduction to EZNec Antenna Modeling" class in the late winter/early spring.

Jim Bates, KJ4WLH

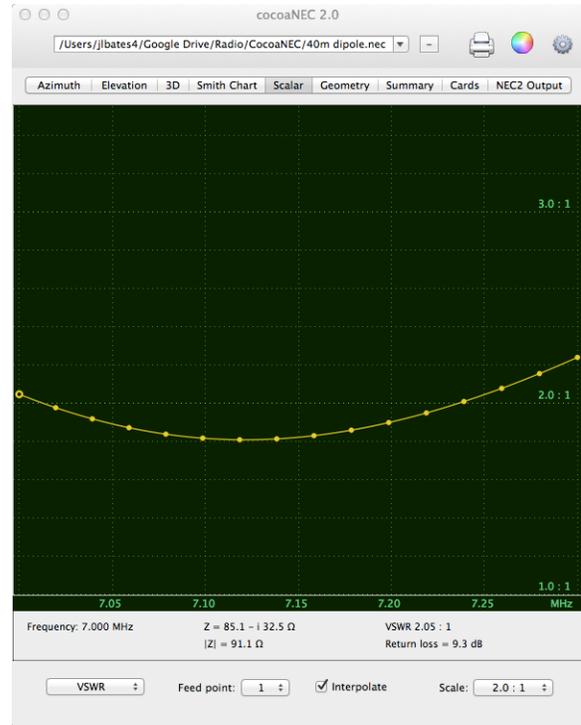


Figure 1 - 40m Dipole 45' above ground

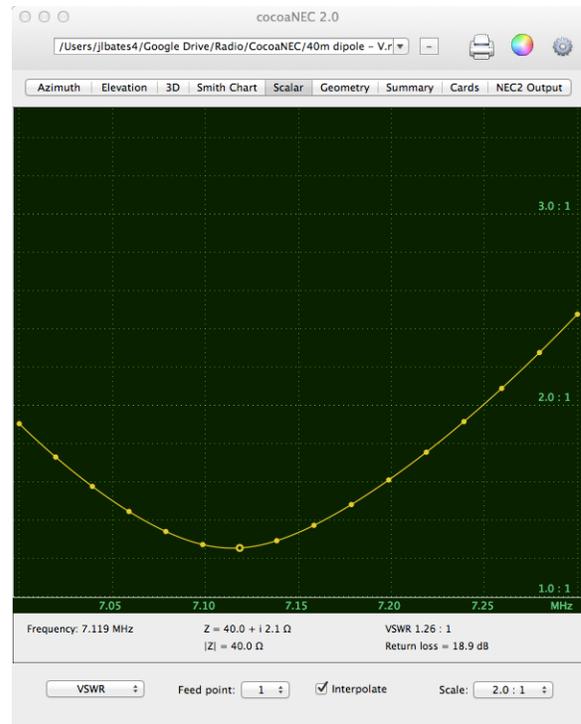


Figure 2 - 40m Dipole in V configuration

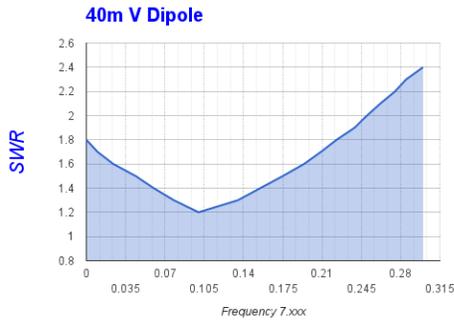


Figure 3 - KJ4WLH actual 40m dipole

Rookies Ride the Wave in the ARRL CW Rookie Roundup

Newly licensed CW buffs can get their copying skills in shape on Sunday, December 16 as the [CW edition of the ARRL Rookie Roundup](#) takes to the airwaves! The Rookie Roundup combines a competitive event with some on-the-air training, with the goal of bringing fun and Elmering into the 21st century.

Who is a Rookie? Any amateur licensed for three years or less, regardless of license class. If you received your license in 2010, 2011 or 2012, you're eligible to compete as a Rookie; stations licensed before 2010 can only submit checklogs, but they will be recognized in the final results. If you're a Rookie new to CW, get on the air and listen for stations calling "CQ RR" -- or call "CQ RR" yourself! You need not send any faster than you can copy -- people will slow down for you and you *will* work stations. If you're an Old Timer, or a member of a club that promotes CW operating, break out your straight key or paddle, send slowly and work some Rookies. You can show them how much fun CW can be! The Rookie Roundup is a great warm-up for [ARRL Straight Key Night](#) (held on New Year's Eve) and the [North American CW QSO Party](#) (scheduled for January 12-13).

Staight Key Night

Every day is a good day to send CW, but January 1 is reserved for Straight Key Night. Enjoy CW as it has been sent and enjoyed since the earliest days of Amateur Radio. This 24-hour event is not a contest; rather it is a day dedicated to celebrating our CW heritage. Participants are encouraged to get on the air and simply make enjoyable, conversational CW QSOs. The use of straight keys or bugs to send CW is preferred. There are no points scored and all who participate are winners. Full information can be found at <http://www.arrl.org/straight-key-night>



The SWAP SHOP

Club members may list their wares in the newsletter. Send descriptive information to Armand at wa1ugo@arrl.net, or call me at 804-454-0564. The Swap Shop is presented in the newsletter as a benefit to our members. RARC takes no responsibility for items sold or traded in this newsletter. The ad will appear three times unless extended. Interested parties will contact you directly. **You must be an RARC member to place an ad.**

For Sale: Kenwood TK-981 FM transceivers for 900 MHz, used in good condition, bench checked, 15 watt, preprogrammed for local and national simplex and repeater frequencies. Includes microphone, power cord and mounting bracket. These are being made available at cost to promote local activity, price \$125. Get yours now and join us on simplex or the 900 MHz repeater. Also available, 30 watt capable transceivers for \$145, trade-ins taken. Contact Dave Meier, N4MW, n4mw@msn.com

Alpha Delta brand OCF 7-Band 300 Watt (Buckmaster Antenna) Good condition Buckmaster OCF antenna resold by Alpha Delta. New price \$207 @ <http://hamcall.net/7bandocf.html> My price \$150.00 Contact Jim Bates <mailto:jl Bates4@gmail.com> (804) 592-1068

Thought for the Day

Some minds are like concrete, thoroughly mixed up and permanently set.

73 de:

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Maylon Pearman	KG4RPQ	SECRETARY		
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