



THE RICHMOND HAM

Published Monthly by the Richmond Amateur Radio Club

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August 2018

THE RICHMOND AMATEUR RADIO CLUB will meet Friday, August 10th 2018, 7:00PM, at the Bon Air United Methodist Church, 1645 Buford Road.

Coming Events:

RARC VE Testing Session. Sept. 8th.

This Month's Program:

Boatanchors!! by John De Majo, K5HTZ

July 2018 RARC Meeting Minutes

Meeting Date: July 13, 2018

Meeting Time: 7:00 P.M.

Presiding Officers: Jim Bates, K8OI, President; George Golding, W3PPY, Vice President; Tom Newman, KJ4LVC, Secretary; Ken Leidner WV0L, Treasurer. Directors: Allen Johnson, WA3J; Tom Flippin, KD4CMK; Win Grant, WA4SSG; David Robinson, KJ4LHP. Registered Agent for SCC and Trustee for W4ZA A.C. McNeer, K4YEF; Trustee for W4FJ Mike Owens, K4RKO. Newsletter Editor Armand Hamel, WA1UQO.

Meeting was opened by Jim Bates and the members reciting the Pledge of Allegiance. Each member was recognized by giving their name and their radio call sign. One new Extra upgrade was recognized. It was noted that many prizes had been made available to winners of this 50/50 drawing. Mention was made of members who had recently made many contacts on 6 meters. Minutes were approved by vote of the members. Treasurers Report was given by Ken Leidner indicating that with revenues received from 50/50, dues

and the 5 new members paying at the recent field day had resulted in \$240.00 in income. Expenses had been for high pass filter, newsletter and postage, and D-star UPS battery had come to \$292.98 for a balance of \$7,180.96. Six applications for membership were then presented and all were approved by the membership. The November banquet was being planned to be held at King's Korner tentatively for \$15 per person. A survey to be taken at a future club meeting would be to determine a more accurate attendance number and refine the costs. Win Grant, WA4SSG discussed the problems found with the club radio equipment and how it was finally being resolved. Bruce MacCallister, W4BRU reported on the remote station and said attempted solutions had not worked and more plans were underway to resolve the issues. From a show of hands requested by Jim, 2 members were found to have completed the June Radio Run.

On new business Phil, WB2DHY, explained that he was setting up a stand alone web page or a website as part of the club website that would include the recently taken video of the Russian Amateur Radio Operators given in June, 2018. Jim directed him to set it up as he saw fit. During the 50/50 drawing 29 numbers were selected as winners. After the business portion of the meeting we adjourned and after a short break was taken the meeting was continued with a presentation by the Radio Builders Group. This included photos of equipment and explanations of equipment shown with an explanation of how it was built and how it worked.

Respectfully submitted, Tom Newman, KJ4LVC, Secretary

From The Prez

August 2018

I'm following up on my previous month's (year's?) article about projects. I've decided that I'm a "boondoggler" - yep, that's right - a "BoonDoggler". As defined by Webster: "a wasteful or impractical project or activity often involving graft. Example: The project is a complete boondoggle—over budget, behind schedule, and unnecessary"

I have a lot of experience with BoonDogging; plenty of stories, a "fun money" account that has been emptied repeatedly, and occasionally something that works - otherwise, I'm just along for the ride...

The latest BoonDoggle is a home made "sinker launcher." I'm sure you've seen ads for the EZ Hang



being sold for the low, low price of \$80. I just can't, for the life of me, get that one... It's taken me a while, but I finally decided to build my own. The backstory? Oh, sure - now pull up a seat and listen...

I've made a couple of runs at building things that will get a 1oz lead sinker up across a tree limb; but really they've all been less than spectacular. I've used a fishing rod - held by an unwilling bystander (one of my progeny); I've tried HOLDING the fishing reel AND launching a sinker at the same time; I've tie wrapped an open faced reel to the bottom of a slingshot (I'm gonna simply claim that as the WORST idea ever - I mean, if you just wanna watch the monofilament SHOOT off the spool into a pile of knots, sticks, grass, anything on the ground - that's the way to do it!) Oh well, I digress... I have EXPERIENCE with all kinds of sinker launching BoonDoggles... So, while looking up some stuff on Amazon I DISCOVERED something which IMMEDIATELY got my creative juices flowing!

Here comes the "Wisdoman Professional Slingshot Wisdoman Stainless Steel Outdoor Hunting Sling

Shot High Velocity Catapult with 2 Rubber Bands and 50 Extra Slingshot Ammo" - Oh BABY!!! (I've got a list of parts at the end - if you care...)

Now, what makes the "Wisdoman Professional Slingshot Wisdoman Stainless Steel Outdoor Hunting Sling Shot High Velocity Catapult with 2 Rubber Bands and 50 Extra Slingshot Ammo" just so special? The 3/4" mounting ring on the bottom of the handle! YES!!! A place where you can MOUNT a piece of PVC pipe and then put the fishing reel!!! Woo Hoo; now I'm off to find just the right, most special fishing reel for a new project - whoops, boondoggle... Heck yeah, the classic Zepco 33 - closed faced (I've learned my lesson!) spinning reel will definitely do the trick! I figured I needed something like a 6" or 8" piece of pvc pipe; looked around and took a big risk (\$1) on a 6" piece. Placed the order and began the horrible waiting process of 2 days for Amazon Prime to deliver to my front doorstep.

All things being equal, it actually worked out in practice about as good as I could hope! The only thing that I changed up was purchasing (swapping out really) some 4x12mm screws to replace the rather short screws for the slingshot mounting bracket (Lowes - part #138634).

So, my problem is that I might have actually completed something that doesn't qualify as an official "BoonDoggle" - this thing might even work! Wire antennas, here I come!

73 de K8OI

1.0 <https://www.merriam-webster.com/dictionary/boondoggle>

2.0 <https://www.hamradio.com/detail.cfm?pid=H0-005739>

RARC VE News

FCC EXAMS EVERY OTHER MONTH

RARC offers VE Testing Sessions on the second Saturday of odd months except June to cover Field Day instead of July: Bon Air United Methodist Church, 9 AM.

The September testing session will be on the 8th at the Bon Air United Methodist Church, 9 AM.

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

RSS – a quick summary of RARC news

Look near the top of the club web site, <http://rarclub.net/>, and on the left you see an icon that looks like something radiating a signal. Actually it is a quick way to check on new entries on the website called an “RSS feed.” Click it and you get a summary of the last few posts. You can have it put as a link in your on the browser list as you see in yellow. So each day or four you click the that link and you get a quick list of the most recent posts. If one looks interesting, click it in the list and it takes you directly to it. If everything looks boring, just go back to what you were doing.

Reported by Bruce MacAlister, W4BRU

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

Regular Membership \$20.00

Lots of information about the Club and our activities is available on our website, www.rarclub.net.

Nets

RARC has the first and only D-STAR digital repeater in the area. 147.255 (+ 600), 443.7125 (+ 5) and now 1284.0000 (-20). In addition to our Wednesday local D Star net (below), we link the D Star VHF module for the National Capital Region D Star Net on Wednesday nights at 9pm. On Tuesday nights at 9pm, we link our VHF module to the North Carolina D Star Net, and on Sunday nights at 9pm to the South Eastern D Star Weather Net.

Beginning on March 5, 2014, the RARC D Star Net which meets on Wednesday nights at 8:00pm will be accessible on our three D Star modules, all of which will be linked.

You can use any of the three frequencies, 2 meters, 70 cm or 23 cm, and you should hear and be heard by everyone.

If you participate in the net via DVAP or DV Dongle, you must link your device to Ref 062D rather than to any of our modules. Since the W4FJ stack will all be linked to Ref 062D, anyone linked to that reflector will be connected to the net.

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 Rptr
	8:15 pm	145.730	Packet

MRA

Interested in information or support of the **Metropolitan Repeater Association (MRA)?**

Call Ed, KG4SNK, at 804-513-1947. The sole business of the MRA is to own, operate and maintain the 145.430 repeater.

Show and Tell!

If you have an item, idea, latest and greatest, or whatever gizmo; please bring it to the RARC meeting. We have a table (usually) set up near the front where you can place your item and share/discuss it with others as they arrive. We also have a section of the agenda set aside for members to discuss their “Show and Tell” item(s). No need to be tentative; we are INTERESTED in what you are doing, how you are doing it and, in true Ham fashion, how much it costs!

RADIO 101, #14

By John DeMajo, K5HTZ

In past articles we have looked primarily at the engineers and manufacturers who gave us the many innovations that helped make Ham Radio the popular hobby that it is today. While these pioneer entrepreneurs and scientists provided us with great advancements in radio, some of the great “rigs” and technical advancements from the Twentieth Century were attributable to the talents of enterprising Hams who, through basement and garage experimentation, learned to design and construct their own equipment. This month's article is devoted to the art of ham radio “home brewing.”

There is no disputing that Ham Radio actually began as an outgrowth of early Twentieth Century amateur electricians designing and building their own crystal sets and spark transmitters. These early technical geeks soon discovered that they could use their handy work as a means to communicate among their peers, and thus was born the hobby we know as Ham Radio. Although commercially made radio devices came on the scene as early as 1910, most early sets were considered laboratory instruments, and the average tinkerer could not afford the hefty investment needed to procure a factory made set. Through the use of guide publications by recognized authorities such as the ARRL, Hugo Gernsback, A. Frederick Collins and others, the average amateur electrician could gather the knowledge and skills required to construct a working radio. At that same time, several manufacturers of electrical components turned their attention to supplying items such as

capacitors, transformers, and other parts that facilitated the work of the amateur builder.

The science of receiver design evolved rapidly through the 1920s, and by 1930, the amateur station owner had a number of choices when it came to economically priced commercially manufactured receivers designed for short wave reception. In that same era, transmitter manufacturing lagged well behind. Because of the many variations that were possible in transmitter design, the complexity, and the higher costs involved, commercially manufactured transmitters were out of the question for most Depression Era amateurs. Many amateurs of that era were still being well served by the use of simple tuned oscillator type transmitters that were constructed on wooden bases referred to as "bread boards." As late as November of 1930, QST Magazine was still featuring transmitters built on unshielded wooden boards.

There were a few manufacturers at the time who were willing to take the risk of offering factory built transmitters, the most formidable being Thordarson Transformer Company and Hallicrafters. The greatest number of transmitters produced in that Depression and pre-WW-II period, however, were home made. Looking back at some examples which still exist today, many of the transmitters produced by amateur builders, rivaled commercially made units. The ARRL Handbook, QST articles, and Radio Handbook, all popular reading material for early Hams, emphasized good construction practices through entire chapters devoted to good design and execution. Furthermore, great savings could be realized on labor, marketing and distribution costs, all of which were factored into the cost of commercially sold equipment. Home construction therefore provided the means for many who could not afford factory made transmitters, to get on the air.

Even after the Great Depression and the World War II manufacturing blackout had passed, the satisfaction of "home brewing" one's own equipment still carried forth well into the second half of the Twentieth Century. In the post-war years, kit assembled radios became a major commodity for several electronics sales companies. Hams who did not necessarily have the facilities or skills to fabricate a radio from scratch, were now able to reap the savings and the satisfaction of constructing their own gear. It was not until the era of complex solid state SSB and digital VHF-UHF engineering that it became almost impossible for the average Ham to build

transmitters and receivers that adapted to current technology.

As a Ham who started out in the 1950s, this author still misses the thrill of going to local "mom and pop" radio repair shops and gathering used transformers, tubes and other parts from discarded TV sets, for the purpose of building equipment for Ham use. The further demise of Heathkit and discontinuation of Allied Radio's Knight Kits left a definite void in the hobby. Today, new HF gear, with price tags often ranging well into the high hundreds of dollars, can be a serious impediment to a newly licensed General Class ham being able to get on the air.

In some cases, we find that trend changing as new kit radios, such as the BitX line of products, again provide the Twenty-first Century Ham with some degree of ability to design and build his or her own gear. Our hobby has been responsible for the development of many great innovations in electronics. For today's Ham, satellite, digital modes, and linked repeaters provide exciting challenges. Unfortunately, these innovations often come with hefty price tags even for seasoned Amateurs on a budget. It is the opinion of this writer, that the survival of the hobby will depend much on there being alternatives for the aspiring ham, especially younger folks who are in school or just entering the workplace. Fortunately, kit built radios provide an opportunity as do recycled radios passed down by our Elmers. Like our Depression Era ancestors who used their ingenuity to overcome financial restraints of the time by building their own equipment, we must be able to offer low cost alternatives in order to attract the next generation of young amateurs.

Next month, we will continue to explore the great era of kit building when we take a nostalgic look at the work of companies like Eico, Knight and Heathkit. Stay tuned!

Examples which accompany this month's article include "home brew" transmitters and receivers from the Museum of Yesterday collection including a 1930s crystal controlled Novice transmitter, a 250 watt CW transmitter based on a design from the 1938 issue of "Radio Handbook," a classic two-tube 807 MOPA as well as some home made receivers from the Great Depression era.



20 Watts Input on 80, 40, and 15 meters



The 20-watt Novice transmitter is shown in a 7 X 5 X 1.5 inch aluminum box (Pratt, AC 1387) which features a vacuum tube socket, a group of "switchable" tubes should be fitted in the top of the box over the socket and also to the front panel to prevent vibration.

A Three-Band One-Tube Novice Transmitter

BY LEWIS G. MCCOY, W2UP

THIS POWER TRANSMITTER described in this article has many features that make it especially appealing to the amateur. First, and most important to the beginner, it is very easy to build and get working. The transmitter is a crystal-controlled, modular unit capable of working at 20 watts input on the 80, 40, and 15 Mc. Novice bands.

All of the components for the rig, including the power supply, are mounted on a 2 X 7 X 1.5 inch aluminum chassis that is housed in a 7 X 5 X 1.5 inch aluminum box. Encasing the rig in a metal case positively eliminates the problem of TVI because no radiation is emitted from the chassis. In addition, the 80, 40, and 15 Mc. bands on 11 is a single meter to read a frequency that is not needed.

Another feature of the transmitter is a built-in keying circuit. The keying circuit permits the operator to listen to the keying signal when he wishes to listen to the signal. Special connections were made in the design to take care of the keying circuit. One of these is the use of a relay to key the transmitter. The relay is connected to the transmitter and the keying circuit. The relay is connected to the transmitter and the keying circuit. The relay is connected to the transmitter and the keying circuit.

- An inexpensive transmitter
- covering the three Novice frequency bands
- Power supply and a keying circuit are included.



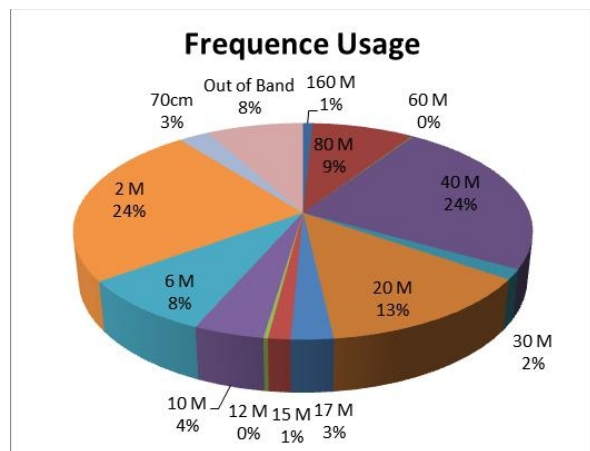
Remote Station Update

RARC set up a remote ham station on April 2017, located at the church. We have been up and running for about a year and a quarter (15 months). So we thought we would provide some information on the usage to our members.

The station is available 7 days a week, 24 hours a day with required down time on Sunday from 8 AM to noon, due to church services. All members of the RARC have access to use the Remote station through the Remote Hams software (see <http://www.remotehams.com/> for detailed information). Also CW is supported.

We have 30 members that have used the remote station at least once. The median or middle number of logins is 11. This means that half of our users have more than 11 logins and the other half have less 11 logins. However, the average number of logins is 31. This means that we have a few users that use it more than most, we are top heavy. The average user is on for 5 minutes per session.

We support the Ham bands from 160 meters to 2 meters and 70 centimeters. The bands are mainly used from 6 AM to 10 PM. The top 5 heaviest used bands, in descending sequence are: 40 meter, 2 meter, 20 meter, 80 meter, and 6 meter (see chart below). The busiest hours in sequences are: 6 AM, 1 PM, 8 PM, 7 PM, and 9 AM.

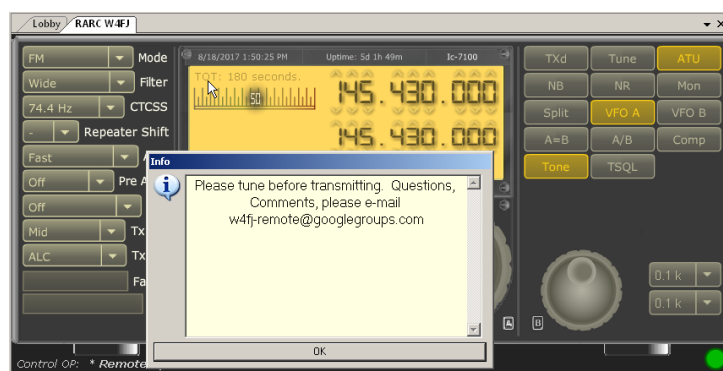


We want to thank all of the users of the remote station. If you are not able to put up an antenna or your radio is in the shop, here is a way to stay of the air. It also works great when you are away

from your home location. Say out of town or on vacation. You can even use it if your radio doesn't support the HF bands and you want to give it a try. Maybe it's not the best rig at 10 meters, that all Hams can use, but it is better than no access to the band. Software works on a Windows laptop or Android tablet or phone and all you need is an internet connection.

Here is a table of some information on the top 5 users.

Name	Call sign	# Login s	Per login		
			Time on	# of Cmd s	# TX Cmd s
Chris M Pohlad-Thomas	kc1e	174	0:11:13	306	66
John F Drum	w4bx i	135	0:10:34	63	14
Bruce R Mac Alister	w4br u	143	0:04:06	75	5
Kenny Underwood	kn4u nd	116	0:03:30	166	6
James L Bates IV	k8oi	91	0:02:17	72	6



The SWAP SHOP

Club members may list their wares in the newsletter. Send descriptive information to Armand at wa1uqo@arrl.net, or call me at 508-838-8353. 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.**

COMPLETE AMATEUR RADIO STATION

At age 91, must sell my amateur radio station after operating some 50+ years.
In last 11 years have checked into Central Virginia 6M SSB Net 50.215 MHZ USB
(web site www.50215.NET).

All items included for \$1500 cash:

ICOM I-C 746 Pro all band transceiver, includes instruction manual

Matching power supply (original box), foot switch can also be used

Tailor-made cover

Ear phones, RCA stereo 10R-216

HO Square loop antenna, mounted set for 6 meter band

100' coax, 40' green copper grounding wire

50' hard copper grounding wire

Dual tracking one thousand channel Pro 2052 scanner with owner's manual (serial #96012176-10A-99) with AC adapter

Serious inquiries only.

Floyd Callihan K4ROG

(804) 424-6009

Kenwood TS-520-S, with CW and SSB Crystal filters. The radio is in good shape, with AT-230 Antenna Tuner and MC-50 Mic.
All 3 - \$400.00.

Assorted 75 ohm cable lengths- \$30.00

Assorted meters: Transmatch SWR meter, SWR/Watt meter and Antenna Rotator: \$50.00

Contact benvec@gmail.com KF4HEV

Antenna equipment: New, never installed

Moved from house on ¾ acre to HOA townhouse not long after purchasing this gear. No hope of erecting it here, so must sell.
Items in clean, like-new condition.

myAntennas.com Model OCF-4010E off-center fed dipole. 40/20/15/10M 65 feet long. Integral 4:1 current balun. Rated 3 kW
ICAS; fully assembled including end insulators \$90.00

antennaTensioner.com Model 30-100. Maintains 30 to 50 pounds tension on antenna. Useful if one or both ends of wire
antenna are supported by moving trees. Tension adjustment is set and visible from ground. \$50.00

Misc. : 250 ft (approx.) 3/16" black Dacron rope (USA), pulley, large screw eyes (All included with purchase of both items
above)

Tom Tinsley KJ4WQ ttinsley@wlu.edu

Thought For The Day!

A lot of people become pessimists from financing optimists.

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Tom Newman	KJ4LVC	Secretary		
Ken Leidner	WV0L	Treasurer		