



THE RICHMOND HAM

Published Monthly by the Richmond Amateur Radio Club

P.O. Box 35279, Richmond, Virginia 23235

February 2025

THE RICHMOND AMATEUR RADIO CLUB RARC Meeting in person!

Our monthly meeting is on Friday February 14th, 2025, 7:00PM, at the Bon Air United Methodist Church, 1645 Buford Road.

This months meeting will be in-person and also on Zoom.

<https://us02web.zoom.us/j/88518058584>

QR Code for Zoom Link



Richmond Amateur Radio Club (RARC) Monthly Meeting Minutes Friday, January 10, 2025

(held on Zoom only due to weather)

Business Meeting

Call to order

President Darrell Basigner WW4F called the meeting to order at 19:00 EST (23:00 UTC).

Recognize Visitors

RARC welcomed the following visitors to our meeting:

Tim Clapper K3XI

Tom Hall AI4TH

Michael Miller KN4VA

Harper Trow, No Call Yet

Constable Heartless KO4BMA

Approval of past meeting minutes

Jim Rubin W4PKR moved

Bruce MacAlister W4BRU seconded

Treasurer's Report

Treasurer Ken Leidner WV0L presented

December 2024 Checking Account

balance was \$18,754.96

New Member Applications

Treasurer Ken asked for a motion to approve the following new members:

Russell Martin KQ4HNX, Extra Class License

Michael Miller KN4VA, Extra Class License

Harper Trow, No Call Yet

President Darrell moved

Bill Catogni N4WLC seconded

Welcome to our three newest members!

School Update & Elmer Corps (Bruce MacAlister W4BRU, Head)

Bruce MacAlister shared that Spring 2025 school registration info is in the Newsletter. The Elmer Corps is currently paused until classes start, but Bruce did reach out to the past Tech graduates.

D-Star Repeater – status

Win Grant W4WIN performed maintenance and there is a planned hardware upgrade. The repeater is working well.

Remote Station – status

President Darrell said the Remote Station is working well.

RARC Net Status /Activity

6 Meter Net (Sun. 7:00 PM) - 50.135 MHz USB

no updates

80 Meter Net (Mon. 8:00 PM) - 3.858 MHz LSB

no updates

Virtual CW Band hamradio solutions/vband/ (Tues 8:00 PM) Armand Hamel WA1UQO said the group is planning to return after taking a holiday break.

10 Meter Net (Wed. 7:00 PM) - 28.475 MHz USB

Tom Flippin KD4CMK is Net Control Operator (NCO)

D-Star Net (Wed. 8:00 PM) - 147.255 / 443.7125 / Reflector 097B

no updates

6 Meter 52.525 MHz FM (Thurs. 7:00 PM)

no updates

RARC Group Activities

no updates

- Local Club Activities / Announcements
- Central Virginia Contest Club (W4MYA)
no updates
 - Richmond Area Telecommunications Club (W4RAT)
President Darrell said RATS is holding Winter Field Day at Pocahontas State Park on January 25th and 26th. Bill Catogni said park admission is free.
 - Dominion DX Group (K4VAC)
no updates
 - Central Virginia 6 Meter SSB Net
President Darrell said the 6 Meter Tailgate is set for April at the Hatcher Memorial Baptist Church with a date TBD.
Club Publicity – updates
President Darrell announced the Board is collecting any previously made publicity materials.
Old Business
none
New Business
Duane Brankley KK4JNN proposed that RARC be represented at the upcoming RavenCon science fiction convention.
Announcements
President Darrell reminded the club to please support the Newsletter (see Armand Hamel) and is looking for meeting program ideas for the latter half of the year.
Motion to conclude business meeting
Bill Catogni N4WLC moved
Treasurer Ken Leidner KV0L seconded
Business Meeting closed at 19:20 EST (23:20 UTC).

Meeting Program

Jason Gnatowsky KG4FJC presented on Virginia's 220 MHz linked repeater network.

Respectfully submitted,

Will Jackson KR4CE, Secretary

From The Prez

Check out Darrell's thoughts on page 6.

RARC VE News

We have two different groups that provide testing. One is free, but only offers testing sessions on the second Saturday of odd months except June (Field Day) replaces July. The next session will be on **Saturday March 8th 2025** at 10:am

**Chesterfield Library Bon Air Branch
9103 Rattlesnake Rd
North Chesterfield, 23235**

The other one cost \$15.00, but offers testing sessions on the 1st Saturday of every month. RARC offers Free VE Testing Sessions on the second Saturday of odd months except June (Field Day) replaces July. Currently all testing starts at 10:00 AM and is at: Chesterfield Library Bon Air Branch 9103 Rattlesnake Rd North Chesterfield, VA 23235.

Pre-registration Required. Walk-ins Accepted. Pre-Registration required for Techs and for special needs applicants. Anyone taking the Tech exam needs a FRN from the FCC (Google obtaining a FCC FRN) and bring that info to the session. 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

KC4TS Cats Vet (Cats Volunteer Examination Team) offers VE Testing Sessions that cost \$15.00 on the 1st Saturday of every month. Currently all testing starts at 10:00 AM and is at: Gospel Light Church 2109 Anderson Hey Powhatan VA. Check-in is between 10am and 12pm and we stay as long as needed to finish all the exams. Walk-in candidates are welcome! You just need a valid ID, an individual FCC FRN, and the testing fee of \$15 which goes directly to the ARRL (cash or check made payable to "ARRL VEC"). We can provide pencils and a very simple calculator or you can bring your own. See <http://kc4ts.org/> for more information.

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.

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 \$22.00

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

QR Code to RARC Website



Nets

RARC has the first and only D-STAR digital repeater in the area: 147.255 (+ 600), 443.7125 (+ 5) and 1284.0000 (-20). In addition to our Wednesday local D Star net (below), we link Module C (VHF) on Tuesday nights at 9pm, to REF 054C for the North Carolina D Star Net.

The RARC D Star Net meets on Wednesday nights at 8:00pm and is accessible on our three D Star modules, all of which will be linked together via REF 097B. So if you are in RF range of the repeater, you can join the net on any of the three RF modules and be heard by everyone.

If you participate in the net via DVAP, DV Dongle or a Hotspot (such as Pi Star), you should link your device to REF 097B rather than to any of our modules which will allow you to be heard by everyone.

Any questions, contact Win – W4WIN at wingrant@gmail.com

Sunday	7:00 pm	50.135	USB
Wednesday	7:00 pm	28.475	USB
	8:00 pm	147.255	D-Star Rptr
Thursday	7:00 pm	52.525	FM

MRA

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

The sole business of the MRA is to own, operate and maintain the **145.430** and **224.42** repeaters.

For information please visit our website at <https://sites.google.com/view/kg4mra/>



50.215Mhz @ 8:00am daily

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!

Articles Requested!

Everyone has a story to share. Your first rig, your first contact, your most memorable QSO? How about a description of your shack with a picture? Old to the hobby – New to the hobby, there are lots of interesting stories out there to share. Consider writing and article for the newsletter. Any topic, any length any format, all will be welcomed. Any questions, send me an email at wa1uqo@gmail.com or call @ 508-838-8353.

Yes, FT8 is Radio

By Will Jackson, KR4CE

As a dual computer science/civil engineering major, I really love how things work. Although I too prefer phone because I’m a die-hard extrovert, FT8 is neat. Recently members of the Dominion DX Group (DDXG) worked a rare DX contact together via a late night text group chat. It was truly fun. SV1GA was operating at Mt. Athos, a special monastery in Greece. Lauren Ware (W4LEW), Jon Bennett (N4QA), Tom Mundy (N3GTG), Adam Humphry (KQ4OTH), and I jumped on this DXing opportunity and had great satisfaction in the process. All of this was over FT8. I’ve particularly enjoyed starting the ARRL’s DX Century Challenge (DXCC) Award to work 100 (and more) countries/entities through DDXG. Understanding how digital modes work is intriguing. The tones sent over RF by a computer program to make FT8 work are actually sophisticated engineering. I was even at Dennis Farmer (K4DAF)’s shack and coincidentally heard FT8 on his old school SRR-13A. Extra Test Question #E2E03 reads, “To what does the “4” in FT4 refer?”. And the answer is, “Four-tone continuous-phase frequency shift keying.” There is a lot more going on under the hood than just “computers talking to each other”. Plus, there’s more than just switching modes in WSJT-X. We radio operators are more innovative than we give ourselves credit or explain to people. While adding and subtracting parts of the phone wave for SSB has existed for some time, hams keep pushing our capabilities with weak signal digital modes. It’s a

bummer to me these conversations are still happening as if digital modes are “actually radio.” There hasn’t been a significant new phone mode in some time. Yet the digital capabilities to overcome poor propagation are ever-growing. We may miss that human touch, but it’s important to note how helpful these technologies are. Further, some people really enjoy them. FT8 is fast. If you’re a DXer like me, you don’t have to sit through a pile up. Ham radio is truly a wonderful hobby. We should all strive for ways to make it more fun, especially for the younger folks who are enjoying the technical marvels of it.

Mentoring of new hams began with 2-meter controlled net

On 28 January a 7pm Tuesday night “new hams net” started on the MRA-145.43 repeater.

This ties to a February 5th workshop in a church classroom to help some new-ish Tech graduates get on the air, figure out what kind of transceiver they want to buy for a start, discuss antennas for their homes and cars, and whatever else they are curious about.

Emily Boots, WB4EMY, and her cohort of five recent graduates, all women, is the driving force. I agreed to be their mentor (old-time ham word for that: Elmer). They agreed to be the RARC genie pigs to figure out what is most useful to new hams. We will build on that.

Tom Flippin, KD4CMK, contacted Brewer Pedin, W4MGA, president of the MGA (Metropolitan Repeater Association), who agreed to set aside 7pm on Tuesday nights for the new hams net. It is a controlled net not a wild and crazy ham gathering. The current plan is when classes are over and the exams are passed in mid-May, a formal workshop for new hams will be held using what we learn from the ladies. We are discussing the timing of a regular workshop for new HF-rated hams, those who pass the General exam with some of the same equipment and antenna questions.

Bruce MacAlister, W4BRU



Tom Flippin's high school classmate Emily Boots got her license. Bruce MacAlister was looking for some new hams to help develop a mentoring program for the RARC. Emily had bonded with some other women in the Tech class so they decided to become Bruce's "test case" naming themselves the "Ham Radio Chicks." In the picture from left to right the "chicks" are Lynne Davidson, KQ4YLD, Nora Pozzi, KQ4YLE, Emily Boots, WB4EMY, Allison Andrews, KQ4TWH, with Tom Flippin, KD4CMK, as chaperon to mentor (Elmer) Bruce MacAlister, W4BRU.



D Star Update

Our D Star repeater stack continues to work well. Many of our Wednesday night D Star net participants check in by connecting a hotspot to REF097B. Most of the digital mode hotspots use a Raspberry Pi running PiStar software. I recently configured my Zumspot to try out WPSD, the free hotspot software by W0CHP. It supports all the digital modes in addition to D Star. <https://w0chp.radio/wpsd/> I removed the micro SD card from my Zumspot, downloaded the WPSD image for my Zumspot and copied it to a new micro SD card. With just a few minutes of configuration, my Zumspot was up and running with WPSD. My original PiStar image is available on the original micro SD card if I ever need it. I heartily recommend that you give WPSD a try. There are many YouTube videos that will walk you through the process if the instructions are not sufficient.

We have acquired a small Linux computer (that you can hold in your hand) which we are configuring to be our D Star gateway that connects the Icom D Star repeaters to the D Star network. Last year Icom released a new version of their D Star repeater software, and all D Star repeaters will eventually be required to run the new Icom software. Users should not notice any difference in the way we link our repeaters. This change is necessitated because the version of Linux which runs the Icom software is no longer supported, and the new gateway computer will run a current (and supported) version of Linux along with the latest Icom software.

We will announce the cutover to the new gateway computer in advance as we will lose internet connectivity for a few days, but the repeaters will still operate locally for those who access them via RF.

Win

Harvey Wells TBS-50C

The Harvey Wells TBS-50C is a vintage amateur radio transmitter that was part of the TBS-50 series produced by Harvey-Wells Electronics. It was introduced in 1947 and covered the 80 through 2 meter bands, offering AM and CW modes. It's capable of producing about 10 watts on 6 meters AM and 0.5 watts on 2 meters. It required the use of a carbon microphone, whereas the "D" modification upgraded it for use with crystal or high impedance dynamic microphones.

Some local history about the Harvey Wells from Bob Eshleman, W4DR:

The November, 1954 issue of QST announces the addition of Navassa Island to the DXCC list. QST says "This island is a United States possession located approximately 35 miles due west of Haiti, 80 miles due east northeast of Jamaica and 110 miles due south of Caimanera, Cuba".

QST also says "DXCC credit will be given for creditable confirmations dated on or after November 15, 1945."

Initially, KC4 was the prefix for Navassa. The first operation from Navassa I, in the post-WWII period, was

KC4AB , three teenaged ops W4VZQ, W4QCW (now W4DR) &

WN4HBC, in August 1954. A Harvey Wells TBS-50C was used in the operation.

Picture is the one listed in the for sale listing. 73,

Ronnie, WU4G



From the Prez,

Our Treasurer, Ken Leidner/WV0L, recently provided RARC's Board with the following membership analysis. With his permission, I am pleased to share his analysis as it highlights some facts about our club's demographics.

It is interesting to note that over half of RARC's membership have an Extra Class license. Perhaps many, like myself, may have taken advantage of the club's amateur radio license classes to upgrade their license.

Another noteworthy point is that 55 of the 87 Extra Class license members are 70 years old or over.

%	#	Class	#	Age >=	Min	Max
4.35%	7	None	0	70	40	64
11.18%	18	Technician	7	70	18	80
27.33%	44	General	20	70	36	95
3.11%	5	Advance	4	70	69	77
54.04%	87	Extra	55	70	27	93
	161					

The total current membership stands at 161 with the average age being 67.1, the median age 70.0, the minimum age 18 and the highest age being 95 years old.

The average number of years as a member in RARC is 6.8, the median number of years is 5 and the highest number of years as a RARC member is 43 years.

What are the takeaways? The total membership points to the strength, stability and success of our club. The median age is an indicator that we need to continue to add to our number to ensure RARC's success in the future.

Fortunately, we have a school training new hams. We can support these new hams by taking part in Bruce's "Corps of Mentors". We just added a "New Comers VHF Net" (MRA repeater 145.430) on Tuesday's nights at 7:00 PM and we are considering more meeting programs targeting new hams. Please let me know if you have additional ideas.

By the way, if you have not yet renewed your 2025 RARC membership you will receive reminder email from Ken. If you are a life time member, you still need to complete the renewal form, but your dues are waived.

73, Darrell / WW4F

The SWAP SHOP

Club members may list their wares in the newsletter. Send descriptive information to Armand at wa1uqo@gmail.com, 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.**

For Sale:

Harvey Wells TBS-50C - functional transmitter, excellent condition - collectors, this is a nice display unit from W4DR (this is a later obtained duplicate of his original) - \$150

Icom IC-756Pro w/mic, PowerPoles on power cable - New lower price: \$600

Tektronix 465B w/ 1 probe - \$150

Dentron MT3000A Antenna Tuner - One meter missing face cover, cabinet scratched on all sides and top - asking \$150

MFJ Versa Tuner V MFJ-989C - needs some minor repair - only \$100

Drake MN2700 Antenna tuner - \$300
Murch UT-2000A - works great - paint flaking off - \$150
Yaesu FT-736R transceiver w/mic 2m&70cm all mode with built in power supply - \$400
TYT TH-9000D 2m mobile 60w - \$90
Tailtwister T2XR - rotator only, no control head, new in box, bought for a spare - \$800
Astron RS-20A 20A Power Supply - \$95
Astron RS-50M 50A Power Supply - \$225
TrippLite PR-40A 40A Power Supply - \$120
Opto Electronics Handi Frequency Counter Model 3000 - \$150
Diamond DPK-4NM-N mag base w/ MA9-5N antenna 900 MHz - \$50
RigExpert USB Transceiver Interface Standard w/cables for Icom - \$80
Realistic 300 Channel Pro 2004 - \$40
250' nylon 3/8 (tower) rope w/ ratchet pulley - \$50
Most of this is from K4DET estate. New items have been added at <https://c-v-c-c.us/> Look for the K4DET Estate+
Contact: Ronnie Bolton, WU4G 804-651-3504 or wu4g@comcast.net

Wanted:

SWR Meter good for HF and 1Kw. Contact Jon Bennett at motexa@verizon.net

Thought For The Day

"Friends are people who know you really well and like you anyway." — Greg Tamblyn

Darrell Basinger	WW4F	President	(804) 219-8167	president@rarclub.net
Lauren Ware	W4LEW	Vice President	(804) 513-4950	vicepresident@rarclub.net
Will Jackson	KR4CE	Secretary		
Ken Leidner	WV0L	Treasurer		

The Maker Movement and the Radio Club

Remember the Maker movement with its Maker Faires and Maker Fests? We were thick with them before the COVID-19 pandemic. The Richmond (Virginia) Amateur Radio Club (RARC) displayed and demonstrated in every local Maker Fest since their start in 2014. Then it all stopped.

In November 2024, the "RVA MakerFest Resurgence" took place and the RARC was there with members of the Powhatan Area Radio Club (PARC) and Richmond Amateur Telecommunications Society (RATS) lending support.

In the past we focused on making radios and gadgets and the tools we used to make them. We had a small HF operation on the side, but the Maker part dominated. This restart of the local Maker movement was to be held at a high school in a less visible location than the well-known science museum. We were not sure whether we would have many visitors, so we decided to have a good amount of equipment for the hams. We set up one VHF station to demonstrate Winlink on VHF, and two low-power HF stations. We brought a bunch of handhelds. If no one showed up, at least we would have fun playing radio.

We should have been putting up antennas and getting on the air from the beginning! I watched passersby notice the antennas sticking up and come over to see what they were about. It had not occurred to us that we were making stuff that did not have an apparent use. Showing how we used this gear we had made was a big step forward. It

resulted in lots of conversations about ham radio and what you can do with it, from balloon chasing to marathon support to talking to distant lands.

We were outside in a V-shaped grassy area. We put three 6-foot tables in a U shape, with the stations on the side tables. The keys were especially important. They were designed and produced by industrial designer Rob Thomas, KC4NYK, for the classes leading up to the 2022 ARISS space station contact at Woodson Middle School in Hopewell, Virginia. Middle schoolers and early teens love codes and ciphers. Therefore, Morse code is attractive. And it is a "language" their parent does not know! We showed the kids how to use the keys and handed them a souvenir phonetic Morse code to take home, and they began using code. Their parents hovered over them, interested in seeing their children so engaged.

The poster shown at the event was laid out by Rob, with content developed by the team. It attracted plenty of attention and, like the antennas, drew people to the tables to ask questions. We often heard, "I did not know ham radio still existed. I had a [named an older relative] who used to talk on the radio all the time." It is nice for them to see amateur radio operators very much in existence, with 3,000 in the greater metropolitan area and 17,000 in Virginia.

Get on the Air with Ham Radio!

What Can You Do with Ham Radio?

Build your own radio and talk to someone in Europe, South America or even California!



Put your radio in a robot! Send it up in a balloon! Launch it in a rocket! The sky is the limit!

Learn Morse Code with light, sound and radio to talk with your friends!

Do geo-location with radios, that we Hams call "Fox Hunting!"

And Did You Know?

- * Radio Amateurs, or "HAMS" as they are called, invented the "chat room" almost 100 years ago - and they didn't even have the internet!
- * Hams were the first "geeks" to organize their own "Users Group" called the ARRL that supports license training and mentoring of new Hams to help you get started. Like helping you put up your first antenna!
- * Plus - Hams are the first on the scene during natural disasters providing critical emergency communications for emergency operations.
- * Your FCC license means that YOU are part of FEMA, VDEM and the Department of Homeland Security and authorized to pass critical emergency traffic on the airwaves.

PLEASE JOIN US!

3,000 HAMS in RVA - 17,000 in Virginia - 780,000 in the US!

Come join us and build "hands-on high tech" projects with your own hands! Connect with the wider world with radio, electronics, coding and STEM education



SCAN ME

Ham Radio - It's a Contact Sport!

THE RICHMOND HAM February 2025

On the front table we had a computer connected to an SDR receiver showing a spectrum display. “Seeing” radio signals attracts people and results in questions. Also on the front table were examples of ham-built gear. Having gear that’s opened up gets the most interest from passersby and gives hams a chance to explain what the “guts” are and what they do. Next is the test equipment. We selected a digital multimeter, a NanoVNA spectrum analyzer, and a soldering iron. Beside them were the keys, the phonetic code strips, some wooded coasters with Morse code on them, some ARRL brochures, older copies of ARRL’s *On the Air* magazine to give away, and our business cards, which contain information on our exam prep classes. The QR code on the back leads to the “Get Licensed” page of the club’s website.

The table on the left had the VHF station mostly demonstrating Winlink, with explanations of how ham radio is used in emergencies.

The table on the right had one HF station in the morning and a second station in the afternoon.

Over the 12-hour day, about 20 hams attended. There was plenty of interaction with the public.

By Bruce MacAlister, W4BRU



THE RICHMOND HAM February 2025

