



THE RICHMOND HAM

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July 2022

THE RICHMOND AMATEUR RADIO CLUB RARC Meeting Virtually Happening and in person!

Our monthly meeting on Friday July 8th, 2022, 7:00PM, at the Bon Air United Methodist Church, 1645 Buford Road, and also a virtual one. The Zoom meeting will start at 7:00pm.

Upon joining the meeting you will be muted. You may exchange greetings with members through the chat feature (keyboard).

Cell phone and tablet users please use Landscape orientation for better imaging.

Kenneth Leidner is inviting you to a scheduled Zoom meeting.

Topic: RARC Monthly Meeting - Virtual
Time: July 8th, 2022 07:00 PM Eastern Time (US and Canada).

Every month on the Second Fri.

Please download and import the following iCalendar (.ics) files to your calendar system.

Monthly:

https://us02web.zoom.us/meeting/tZwoduGoqzMvEtBdpM3wG1LJ7Ro1ZcdB0qf1/ics?icsToken=98tyKuGgqzoiGtGdtRGDRpw-GYj4WfTwmFxyj7d_mA_IUDd0My_cYdBNY4h8FPqA

Join Zoom Meeting

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

Meeting ID: 885 1805 8584

One tap mobile

+13017158592,,88518058584# US
(Germantown)

+13126266799,,88518058584# US (Chicago)

Dial by your location

+1 301 715 8592 US (Germantown, MD)

Meeting ID: 885 1805 8584

Find your local number: <https://us02web.zoom.us/u/kbj882gslc>

Ken Leidner , WV0L

This Month's Program:

This months topic will be on the use of VHF Simplex and the most common frequencies used in this area. Check out the club posting here, <https://rarclub.net/commonly-vhf-simplex-frequencies-area/>.

Richmond Amateur Radio Club Meeting Minutes June 10th, 2022

The regular meeting of the Richmond Amateur Radio Club was called to order at 19:04 on June 10th, 2022 on Zoom and in-person by President John DeMajo, (K5HTZ) with a Quorum present online. Agenda was displayed on screen.

Members Present:

Check-ins on Zoom and in-person at the Church.

Last month's Minutes – Approved unanimously.

Treasurer's Report:

1) Ken Leidner, (WV0L) gave the Treasurer's Report. We had an ending balance of \$19,998.74. The Report was approved unanimously by voice vote.

2) 2 new membership applications : Anthony Harbour (AI4EM) Extra, and David Franco (KQ4ALE) Technician – Approved unanimously.

3) Allan Johnson, (WA3J) announced that on Field Day, VE Testing will take place at Laurel Park at 14:00 hours.

4) Dave Turner's Brother-in-Law (WP2AGY) is currently sailing across the Atlantic Ocean and will be primarily on 20 meters. Dave will coordinate contacts and scheds with him.

4) Bruce MacAlister (W4BRU) announced that Tom Flippen's (KD4CMK) wife, Mary has passed away.

5) Ken Leidner, (WV0L) and Bruce MacAlister (W4BRU) have been updating the Club Website and would like people to check the calendar and verify existing Nets.

Show and Tell:

President John DeMajo, (K5HTZ) has found a group working 3.885 mhz AM (80 meters). He is

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building a +500 watt linear amplifier to participate in the group.

Meeting adjourned at 19:32.

Program

Tonight's presentation is by Ken Leidner, (WV0L) on RSS (Really Simple Syndication).

The next general meeting: July 8th, 2022 at 19:00.

Minutes respectfully submitted by:

David F. Robinson, (KJ4LHP), Secretary

From The Prez

Well it's already the beginning of July, and I just can't believe how time is racing past us. I hope that those members who were able to participate in field day activities, were successful in making plenty of contacts. The new FCC technician pool has now kicked in, so the educational team is busy reviewing the material and updating our material for the upcoming September classes. A reminder too that it's getting close to election time, so if you are interested in possibly serving RARC in a leadership capacity, please step up and let us know.

As many of you will be enjoying the summer months and vacationing, I wish everyone a safe and productive summer.

73,

John K5HTZ

RARC VE News

We have two different groups that provide testing.

1. 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 September 10th.

2. The other one cost \$15.00, but offers testing sessions on the 1st Saturday of every month.

1. 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

2. 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.

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) to REF 062A for the National Capital Region D Star Net on Wednesday nights at 9pm. On Tuesday nights at 9pm, we link Module C (VHF) 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 062D. 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 062D 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
	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!

A 1KW Grounded Grid Amp in the spirit of 1960.

When I was first licensed, back in 1960, the art and science of ham radio was pretty much limited to AM and CW on the HF bands. Yes, there were a few adventurous hams who were testing 2 Meter AM, but for most General ops at the time, AM and CW ruled the bands.

As a high school student, I remember fondly the nightly 40 meter local rag chew group in New Orleans, many of whom were Signal Corps vets from WW-II or the Korean wars. They were joined by a couple of Bell Telephone linemen, a local TV shop operator who was a ham, and a medical doctor who was a driving force in furthering the hobby in that area. I greatly enjoyed those informal sessions, and I learned a great deal by listening to the those experienced ops.

Today, AM is a but a small niche for hams, however, I discovered that there are still a few groups of hams, most operating from up in the New England area, who are holding similarly educational discussions in the evenings around 3885 Khz AM. As the owner of several restored vintage AM transmitters from the 1960s, I decided that I might like to join in, since many of these folks are former broadcast engineers who, like me, enjoy building or restoring their own vacuum tube based equipment. I hadn't really thought about how noisy the amateur bands have become, compared to what they were in the early '60s, but I soon realized that being able to talk to the world on a single 6146, is a rare event these days. After a few unsuccessful attempts to get through the noise with a couple of 60 watt transmitters from my collection (a Knight T-60 and a WRL Globe Scout), I figured it was linear time.

Looking at the specs for the 600 watt Yaesu linear that I normally operate on SSB, it soon became apparent that a modern amplifier's 20% duty cycle rating renders it useless for AM transmissions of

any length. So it was apparent that if I wanted to be able to reliably reach people in places further up the coast, that I would need an "old time" AM linear amplifier. A bit of research yielded nothing in the way of present day equipment that would handle the task, so I decided to set out and "home brew" my own 1KW grounded grid amp.

Surprisingly, parts are still around if you know where to look. Things like chassis, tube sockets, and certain types of 5KV rated capacitors are easily available from Allied Radio and other major suppliers.

The problem comes in when trying to obtain power transformers, tubes and chokes. It took about six months of carefully combing the pages on EBAY each day, but I was able to locate a 5200 volt CT, 500 MA transformer, two 5 henry chokes rated at 5KV, and some oil filled filter caps. I probably could have located some working 866 rectifiers, but I decided to go with solid state "plug-in" replacements since the idea of hot mercury flying around in my shack is not appealing.

Once I had constructed the power supply, and proven that it could reliably deliver 3KV at the rated current without releasing the smoke, I went on to build the RF deck. I had some previous experience with 813s as my Elmer had a 1Kw transmitter that used these tubes. Surprisingly, there are still a lot of NIB 813s around on EBAY and from vintage tube dealers, so I was able to hook onto a pair, along with the unique 10 volt CT transformer needed to power the hungry filaments. Building the iron core bifilar filament choke was a fun experience, and under chassis wiring of a grounded grid amp is surprisingly simple since most of the tubes' other elements are simply grounded.

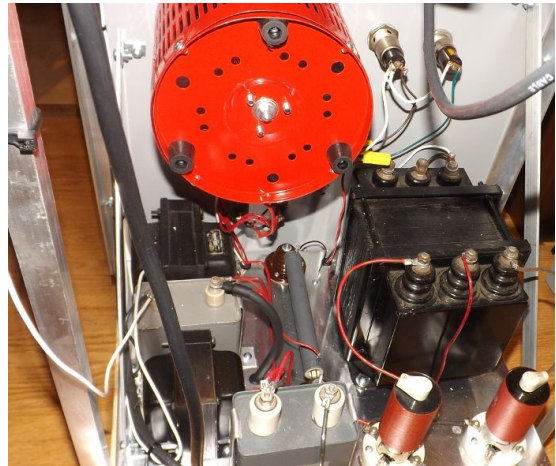
I now have the amplifier complete, and I am just putting on the finishing touches, which include trial-and-error testing of the tank coil tap placements, and also enclosing this electrocution machine in expanded metal sheets that will allow ventilation, yet shield the unsuspecting from the 3000 volt plate potential.

I plan to complete testing withing the next few weeks and place this animal on the air. In the photos, you might note that it is dressed with an RCA Broadcast logo from an old 1KW transmitter that was being parted out. That piece caught my eye because we had a backup transmitter with the same logo when I was an intern at a New Orleans commercial AM station. The meter panel is also from an old RCA tube job, so these components are back in good company. Hopefully this will give my AM signal the kick it needs to allow me to join in with these other veteran hams in the world of AM.

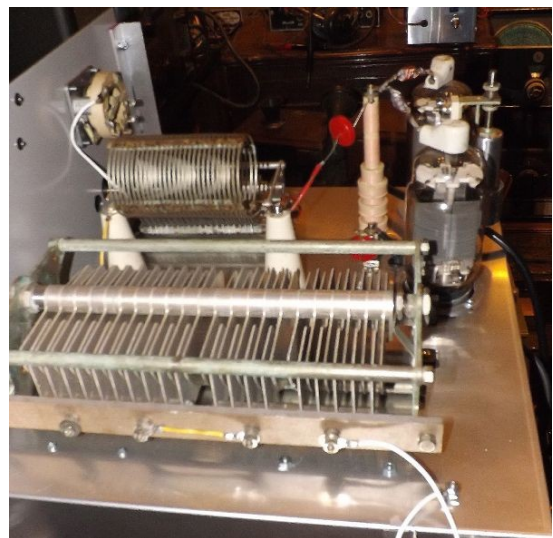
John DeMajo K5HTZ



The face of the dual 813, 1 KW Grounded Grid Linear amplifier. The plate transformer is fed through a 2.5KVA Variac, which enables limiting of the output level. The red and green filament and plate indicators are from a New Orleans area power plant switchboard that my engineering company demolished back in the 1980s.



The power supply deck. The 5200VCT, 500MA transformer is conservatively rate



The almost completed RF deck showing the two 813s, along with tank circuit components. RARC was helpful in obtaining the parts as the tube countersink trim was made by talented RARC member KC4NYK and the variable capacitors were purchased at one of the 6 Meter Net's yard sales. Most of the other components were purchased off of EBAY.

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 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.**

Estate Sale! I have a long list of Ham equipment I am going to sell either locally, on QRZ or eBay. Hams can email me at n4nqy@arrl.net for a spreadsheet of what's for sale. Included is HF equipment, VHF and UHF mobile radios and handheld radios (both analog and DMR) and various accessories. JB Edmonds, N4NQY.

Test equipment, misc. Electronics: An acquaintance of Scott, AE4TC is trying to clean up his dad's collection of avionics, electronics, test equipment, racks, transceivers, receivers, surplus etc. This is Mr Sternheimer's collection, he owned the A&N stores here in Richmond. There's several rooms full of equipment. Some new stuff still in the box. There's ham equipment, meters, cable, and so on. He is looking to get rid of this stuff and looking for people who can appreciate it. Please contact him directly, his name is Zach. zastarri@comcast.net

For Sale:

1. Ameritron AL-80A linear amplifier. Very good condition. Bought 3 years ago (used) and I never used it. Made full power when I got it. \$500. If interested, call Dennis, KG4UT, cell (804) 709-5717.
2. MFJ Kilowatt dummy load. Bought new, never used. \$75. If interested, call Dennis, KG4UPT, cell (804) 709-5717.
3. Boonton Model 250-A Impedance Bridge. Very Good condition. I replaced filter caps. This reads the parallel combination of resistance and reactance over the range of 500 KHz to 250 MHz. I bought this for a project I was working on, and it did fine, but no longer have a need for it. \$75. If interested, call Dennis, KG4UPT, cell (804) 709-5717.

ANTENNA ROTATOR FOR SALE:

THIS IS A YAESU G-800SA. IT IS BRAND NEW NEVER REMOVED FROM THE BOX. NEVER HOOKED UP OR USED. SOLD AS IS. COMES WITH A GC-038 BRACKET AND 125 FEET OF NEW 8-CONDUCTOR ROTOR CABLE. PRICE: \$ 550.00. Contact JERRY WILLIAMS, KJ4IT. 804-730-0221.

Thought For The Day

"Be yourself" is about the worst advice you can give some people.

John DeMajo	K5HTZ	President	(504) 858-7689	jdemajo@demajo.net
Allan Johnson	WA3J	Vice President	(804) 318-6951	wa3j@arrl.net
Dave Robinson	KJ4LHP	Secretary		
Ken Leidner	WV0L	Treasurer		



Tomorrow's Tube TODAY!

NEW RCA 813

gives 260 watts output with less than 1 watt Driving Power!

IT'S A FACT! This sensational new RCA Beam Power Transmitting Tube actually requires less than one watt driving power to give 260 watts output in Class "C" Telegraph service. Needing no neutralization, a pair of 813's makes a bang-up final for that quick-band-change, high-power transmitter.

The new 813, is among the finest transmitting tubes RCA has ever developed, employs a new stem structure which makes practical a compact tube—only 7½" long—having very short heavy leads and low lead inductance. Because of its design, this new high-power beam tube can be operated at full ratings up to 30 megacycles without neutralization.

Other noteworthy features of this new tube are: Heavy-duty thoriated-tungsten filament, oversized graphite plate, dome-top bulb with cushion mount supports, low screen current, and a new Giant 7-pin base having short shell and wide pin spacings.

Typical Operation (Class "C" Telegraphy)

Filament Voltage	10 volts (a. c. or d. c.)
Filament Current	5 amperes
D-C Plate Voltage	2000 volts
D-C Screen Voltage	400 volts
D-C Grid Voltage	-90 volts
D-C Plate Current	180 milliamperes
D-C Screen Current	15 milliamperes
Driving Power	0.5 watt
Power Output	260 watts
Price, \$28.50 Amateur Net.	



View of modified glass stem assembly showing individual lead leads.



Cut-away view showing short, heavy leads to terminal pins.



Radio Tubes

RCA MANUFACTURING COMPANY, INC., CAMDEN, N. J.
A Service of the Radio Corporation of America