



# THE RICHMOND HAM

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April 2018

The **RICHMOND AMATEUR RADIO CLUB** will meet Friday, April 13th 2018, 7:00PM, at the Bon Air United Methodist Church, 1645 Buford Road.

## Coming Events:

Special Olympics, June 8<sup>th</sup> & 9<sup>th</sup>. Sign up @ <http://rvahams.com/signup/>

## This Month's Program:

### DMR – what it is – setting it up

Bruce MacAlister, W4BRU, will give an introduction to setting up DMR on a TYT-380 transceiver. He will cover getting a "Radio ID", finding a "Codeplug" for your area, and loading it into your radio. He will also give a little background into DMR.

This is an introduction to the April 28 Saturday Seminar (9am to noon) given by DMR guru Mike Baker, N4LSP. Mike will tell you more about the structure of DMR, how the channels, zones, etc. are set up, all you can do with DMR, and cover the more capable Motorola DMR transceivers.

**You can sign up for Mike's seminar by filling out the club's registration form on the website (<http://rarclub.net/wp-content/uploads/2018/03/RARC-Radio-School-Registration-form-Spring-2018-3.pdf>) and bringing a freshly printed \$10 to the seminar.**

## March 2018 RARC Meeting Minutes

Meeting Date: March 9, 2018

Meeting Time 7:00 PM

Presiding Officers: Jim Bates, K8OI, President; Tom Newman, KJ4LVC, Secretary; Ken Leidner, WVOL, Treasurer. Directors: Tom Flippin, KD4CMK; Win Grant, WA4SSG; David Robinson, KJ4LHP; Trustee for W4FJ, Mike Owens, K4RKO; Armand Hamel, WA1UQO, newsletter editor.

Jim opened the meeting by welcoming members and guests. All were asked to introduce themselves and give their call signs. We then were led in the Pledge of Allegiance by Jim. Jim encouraged members in their classes, seminars and tests that would start the next day at 9:00AM. He then checked with the members about participation in a baseball event.

The minutes for the February meeting were voted on and accepted.

Ken gave the treasurer's report for the month of February. In summary the month had been very good with monies received from 50/50, new members and dues, plus school fees. Books for the classes had been bought and the new projector that was being used for the first time that night had been purchased in February. The report was voted on and accepted. He received 6 new applications for membership. All were voted on and accepted.

Bruce Mac Alister, W4BRU reported that the RARC Radio School Registration on Feb 27, netted 28 students. There were 8 for Technician, 11 for General, 4 for Extra, 7 for Antenna Modeling (Held March 3rd), 5 for D-Star, 3 for Remote Station, and 5 for DMR. It was noted that the school tends to get one or two more students added the first meeting of license classes. The first seminar on March 3rd got an additional student who paid on site. The Saturday Seminars that were experimented with in the fall were well received and so it was decided to give more of them this spring. On a Saturday morning you get to dive in pretty deeply into a topic led by an expert. The prices for the License Prep classes went up from \$15 to \$20 the first time in a decade or two. The Saturday Seminars are set at \$10 each or \$20 for all of them. The License Prep students get one seminar at no extra charge. The price increase helps cover school costs like new white-boards and a new projector while providing income for the club.

Tom Flippin reported the remote station had been sent for repairs and was back. The D-Star repeater is working great.

For New Business Jim announced that the board is working on developing a policy for the club concerning the donations of radios and other equipment given to the club. The club intends to handle the radios and equipment in appropriate and efficient manner.

After the 50/50 drawing, a motion was made and approved to end the meeting followed by a break and then the presentation. The presentation was made by Chris Pohlad-Thomas and was titled "Do U FT8"  
Respectfully submitted by Tom KJ4LVC.

### Letter from the President

April 2018

FT8 - have you gotten on board yet? Made any contacts? Set up your computer, alerting and logging software and just having a blast? No? Really??? I guess you can lead a horse to water but ...

Welcome to the Springtime of 2018; though the occasional snow shower doesn't really seem to help me understand what season we are actually in at the moment. Also, having cruddy weather on the weekends impacts yard work for those who are still "contributing" to Social Security as we're kinda "busy" Mon - Fri...

I'm almost always playing with some kind of software package related to amateur radio and the past month has been no exception. Many years ago, Icom released their version of remote control software. It was terrible! I mean, really, REALLY awful - difficult to set up, you pretty much needed a home network with WIRED only connectivity, and it crashed/lost connection a lot. I gave it a pretty poor review on eHams, stuck the software distribution CD-ROM back in it's case and on the shelf.

A lot of time has passed from the initial v1.20 release and Icom has made great strides improving their product; current release is around v1.90. I have an IC-7100 and IC-7300 in the outdoor shack that I use for remote control and I was thinking; "Hey, I seemed to remember that Icom was advertising the waterfall display on the IC-7300 showing up with their remote software - I wonder if it's really working properly?" So, off I went to get it up and running just to "see" how it worked in "real life."

Well, the Icom software works wonderfully now - if

you have a modern Icom rig with a USB interface - it's awesome. I don't have any of the Icom rigs with a built in Ethernet port - but that sure would be nice! I think the IC-7610 does; maybe it'll be a standard feature coming soon. Anyway, I digress - the 7300 with the waterfall display was great! It's not the same as watching a waterfall display on a Flex; but it's the only game in town if you want to see a display like that. The Icom software worked with the rig perfectly; there will always be some tweaking necessary to get it online - BUT, the software dealt with network latency (and the occasional drop) perfectly. I never had the connection fail. There are, of course, software features that I'd love to see included - but if you just want to use your rig with 100% full audio fidelity (no voice/audio compression) it's a great solution. Downside - yeah, it's \$100 for the Icom RS-BA1 software suite - licensed to only YOU; no good for a club station but perfect if your wallet feels too full and you wanna roam the wastelands of your living room while holding a qso.

If you're feeling particularly extravagant; Icom sells their R28 USB Encoder - which, as you would likely imagine, give you a nice big knob to spin on your desk. Yep, put on a Heil headset with a great quality mic, spin the knob and chat with the world - nice way to play radio... Ok Ok Ok... Enough about remote ops; sometimes I think I enjoy just getting stuff to work as much as using it.

The other project on the back burner is the Raspberry Pi D-Star gateway and yep; pretty much project complete! We have a working prototype and it can do all those crazy things that prototypes are supposed to do - make you want to play radio even more!

Are you still reading these ramblings of a madman!?!? Turn off your computer and go make a contact!

See you Friday night - 73 de K8OI

### 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 May testing session will be on the 12th at the Bon Air United Methodist Church at 9:am.

If you have questions about a session, please see our website, [www.rarclub.net](http://www.rarclub.net) or contact Allan, WA3J, at 804-399-8724, or [ve@rarclub.net](mailto: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](http://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 007D rather than to any of our modules. Since the W4FJ stack will all be linked to Ref 007D, anyone linked to that reflector will be connected to the net.

<b>Sunday</b>	7:00 pm	50.135	USB
	7:30 pm	52.525	FM
<b>WEDNESDAY</b>	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, #10**

**By John DeMajo, K5HTZ**

No discussion of the history of Radio would be complete without a mention of Powel Crosley, Jr. Crosley, who was born in 1886, was the son of a wealthy attorney. He became an early 20<sup>th</sup> Century industrialist by opening a plant in Cincinnati where he manufactured automobile parts, and eventually Crosley automobiles. He was also the owner of the Cincinnati Reds baseball team.

In the early 1920s, Crosley's seven year old son became interested in electricity and asked his father for a radio. As the senior Crosley was searching for a manufactured set for the boy, he found that the prices of most commercially built radios at the time were well over one hundred dollars, which he considered unreasonable for a household appliance. Instead of buying his son a radio, he purchased a book titled “The A-B-C Of Radio” by Waldemar-Kaempfert\*, and he and his son built the family's first receiver. Having become quite interested in radio himself, he realized that there was a growing market for inexpensive radios and radio parts. This prompted him to expand his Cincinnati automobile parts plant into what would become one of the country's most impressive and profitable radio manufacturing enterprises. Crosley's first commercially produced radio was the “Harko” which sold for seven dollars in the early 1920s, and thus made radio an affordable luxury for many American families. Through deployment of mass production techniques that he had learned from Henry Ford, Crosley, by 1924, was the largest manufacturer of radios in the world.

In 1925, he introduced an inexpensive one-tube radio called the Crosley "Pup" which was a step up from the popular crystal sets of the day. His idea for mass marketing this radio involved the use of a mascot dog named "Bonzo," which happened to be patterned after the Crosley family's pet of the same name. Much like the iconic RCA phonograph dog "Nipper," Bonzo's likeness appeared not only on advertising material, but also in the form of plaster toys which were distributed through dealers. The campaign was highly successful and the "Pup" took its place in radio history alongside the popular Westinghouse Aeriola Jr. and RCA Radiola III.

Over the years, the Crosley radio factory produced home appliances, radios, phonographs and ultimately television sets, as well as automobiles and accessories. This included military equipment during the manufacturing blackout of World War II. By the late 1970s, however, the Cincinnati manufacturing empire was shrinking mainly due to over-seas competition. The Crosley name was then licensed out and can still be found today on novelty radios produced in Asia.

But manufacturing was only one part of Crosley's success. At the same time that he was building his radio manufacturing empire, he realized a new opportunity to further the sales of his radios. In order to provide a greater range of entertainment for his potential radio purchasers, he decided, early on, to enter the field of broadcasting. Beginning with a five-watt breadboard transmitter in his living room, and using the call letters 8CR, Crosley established what was to become WLW, one of America's most notable pioneer radio stations. The experimental station rapidly gained listenership, and after a short time, Crosley graduated to higher wattage commercial transmitting equipment and moved the station to his manufacturing plant. His transmitter upgrades seemed to always come in exponential proportions as he went from 5 watts to 50 watts, then 500 watts, 5000 watts, and by 1929, WLW had become licensed as one of twelve 50,000 watt clear channel stations in the United States. But "Positive Power" as Crosley became known, was not satisfied with the coverage that 50,000 watts afforded, and in 1933, with the assistance of political connections that reached all the way to the White House, Crosley was able to secure the nation's only conditional FCC license that allowed an AM broadcast station to exceed the imposed 50,000 watt power limit.

He then engaged a consortium of manufacturers that most notably included RCA, Westinghouse and General Electric, to create a never before attempted experimental transmitter capable of generating a signal in excess of 500,000 watts. Using his original Western Electric 50KW transmitter as the exciter, the 500,000 watt modulated RF amplifier boasted proportions that included a cooling pond with 600 gallons per minute of distilled water circulation for cooling the twenty-four five-foot high UV-898 final amp and modulator tubes, two 35,000 pound oil filled modulation transformers, plate voltages in excess of 12,000 volts, and a bank of 33 volt DC motor-generators capable of producing 4500 amperes of direct current exclusively to light the tube filaments. The transmitter's RF output was radiated by a specially designed 830 foot Blau Knox "diamond" antenna which extended skyward from the WLW transmitter site in Mason, Ohio, a rural location just outside of Cincinnati.

As the new transmitter was readied for operation, Crosley mounted an advertising campaign, letting the entire country know that he would soon be able to blanket the continental United States with programming that would include what was to become some of Hollywood and radio's greatest talent. On the night of May 2, 1934, President Franklin D. Roosevelt, seated in his office at 1600 Pennsylvania Avenue in Washington DC, turned the same ceremonial key that had been used by former president Woodrow Wilson to open the Panama Canal, in order to remotely switch on the plate voltage to WLW's new 500,000 watt monster transmitter in Ohio. That night, the signal that radiated from the "Nation's Station" was heard not only by listeners across the entire North American continent, but also by ships rounding Cape Horn, and by the Royal Family in Buckingham Palace across the Atlantic.

Despite its apparent technological success, the experiment was plagued with regulatory problems. The Canadian government immediately registered official complaints with the U.S. Government because WLW's signal was obliterating Radio Canada. American stations 750 miles away in Buffalo, New York were being over-powered as well. In houses for miles around the transmitting plant, light bulbs could not be turned off even though no electrical wiring was connected to them. Farmers in Kentucky reported that they could hear WLW's audio emanating from their barbed wire fences, and household appliances in the three-state area around Cincinnati were reported to be vibrating to the tune of musicians performing on

the station. Most troubling though was the broadcast industry and major networks' complaints that WLW's powerful signal was being heard throughout markets in every city, thereby giving WLW an unfair advantage over networks and their local station affiliates when it came to procuring advertising revenue.

In that same era, however, WLW produced some of radio's most memorable programs which included shows such as "Moon River," "Avalon Time," and live broadcasts of sporting events. Local talent whose careers were launched by "The Nation's Station" as WLW came to be known, rose to national fame because of the wide coverage of the 500,000 watt signal. The careers of Red Skelton, Lowell Thomas, Rosemary Clooney, Red Barber, The McGuire Sisters, Little Jack Little, Smilin' Ed McConnell, and Virginia Payne's longest running radio soap opera "Ma Perkins" were only a few of the WLW local performers who went on to national fame as a result of having been heard over Crosley's mega-station.

By 1939, official complaints against WLW's unfair power advantage had become too intense to ignore. As World War II was approaching, and the FCC was evaluating the impact of radio broadcasting on the country, mainly due to the 1938 CBS Orson Wells "War Of The Worlds" fiasco, Crosley's conditional license to operate the 500,000 watt transmitter was curtailed and eventually canceled by the Commission.

The Crosley company remained in the radio and appliance manufacturing business for decades, both during and after the war. The company is credited with having developed the "Buzz Fuse" bomb, which was heralded by General George Patton as winning the "Battle Of The Bulge." The company also made jeeps, motor cycles, air planes, and other transportation devices used in the war. In 1945, as the war was ending, Powel Crosley sold his company, for a handsome profit on his 1920s investment, to AVCO, an investor owned manufacturer of electronic devices, and by the late 1950s, the Crosley name had been licensed to a number of small manufacturing firms that produced household appliances. Today the Crosley name still appears on electronic devices made in Asia, although there is no longer any direct business connection to the former Powel Crosley empire. Crosley died in 1961.

Like Edwin Armstrong, David Sarnoff, Philo Farnsworth, Bill Halligan and other pioneers of radio,

Powel J. Crosley, Jr, earned his place in history as one of the moguls of the "Golden Age of Radio."

Shown, along with this month's article, are a few Crosley items from The Museum Of Yesterday's collection. Photos include:

1. The musuem's Crosley "Pup" along with our original "Bonzo" Crosley mascot dog,
2. The Crosley Model 547 (1936) and the Model 6519 (1938), which were two of Crosley's most popular "economy" home radios of the WLW high power era. Note that both sets have WLW marked at the 700 Kilocycle position on the dials.
3. Advertising photo of Powel Crosley with Bonzo and the Crosley "Pup" radio,
4. Photo of the 500,000 watt WLW transmitter which was abandoned many years ago, but still remains in place at the Mason, Ohio transmitter site.

\*An original 1920 copy of "The A-B-C Of Radio" by Waldemar-Kaempffert is housed in The Museum Of Yesterday library in Chesterfield, VA.

Additional note: There is an excellent and interesting YouTube video tour of the WLW 500,000 watt transmitter available at: <https://www.youtube.com/watch?v=CbHjcwloTiY>



The musuem's Crosley "Pup" along with our original "Bonzo" Crosley mascot dog



The Crosley Model 547 (1936) and the Model 6519 (1938), which were two of Crosley's most popular "economy" home radios of the WLW high power era. Note that both sets have WLW marked at the 700 Kilocycle position on the dials.



Photo of the 500,000 watt WLW transmitter which was abandoned many years ago, but still remains in place at the Mason, Ohio transmitter site

### Great Job Guys!!

At the last RARC exams 3/10/18, the following two people, James DeGrandis ( WR6Q) and Tim Adams (KX4JP) went from no license to extra and new club members.

RARC wants to say congratulation for all of the hard work and studying that had to go into this achievement.



Advertising photo of Powel Crosley with Bonzo and the Crosley "Pup" radio

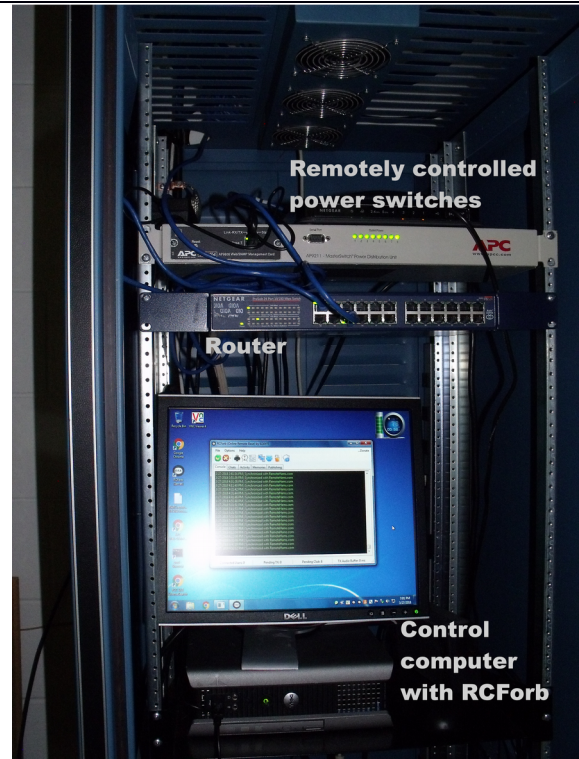


### RARC remote controlled station pictures

The Richmond Amateur Radio Club's (RARC) remotely controlled HF-VHF-UHF station lives in a locked cabinet within a locked closet on the second floor of the Bon Air United Methodist Church that graciously provides space for RARC meetings and classes. The closet is so narrow that getting one picture of the entire station is not possible. Two pictures show the bottom and top of the cabinet.

In the picture of the bottom starting at the top is the computer with the RCForb server software. That is what the remote operator with the RCForb client on his/her computer uses to control the station. It is connected to the Internet and to the RemoteHams server for security and functions. The computer runs Windows 7 and is set to automatically "boot up" and start RCForb if it loses power. Below the computer is its keyboard. Then you see the Icom 7100 control head lighted up. It sits atop the 7100 transceiver body that is all black and difficult to see. Below the 7100 is the 35amp Astron linear power supply. It sits on a UPS (universal power supply) that powers the computer and supplies backup power in a power failure.

The picture of the top shows the Ethernet router-switch. Above that is the APS remotely-controlled power switch. Station controllers can log in to that switch and turn on and off the router, computer, and Astron power supply individually. It is how we reset the station if it is being misused or has a fault.



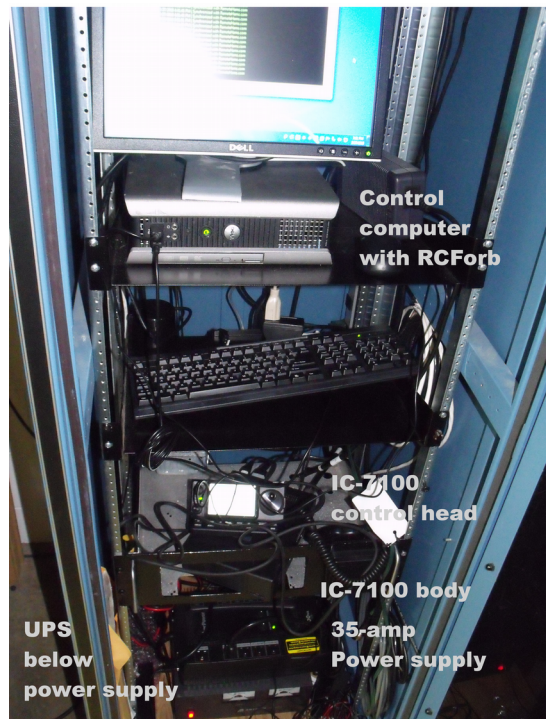
Remote cabinet upper

### More than 30,000 New Ham Licensees and 7,000 Amateur Radio Exam Sessions in 2017

For the fourth year in a row, more than 30,000 new licensees joined the Amateur Radio ranks, and the ARRL Volunteer Examiner Coordinator (VEC) conducted more than 7,000 Amateur Radio exam sessions, serving some 35,350 candidates for a new or upgraded license. At the end of December 2017, the US Amateur Radio population stood at 748,136. At nearly 378,000, Technician licensees represented the largest segment, with General (174,206), Amateur Extra (145,034), Advanced (41,938), and Novice (9,056) trailing.

ARRL VEC Manager Maria Somma, AB1FM, said, "Despite the optimistic influx of 32,196 newcomers last year, the net growth of 5,349 — about 0.72% over December 2016 — reflects some 27,000 expired or cancelled licenses in the FCC database over the past year. In making the case for changes to the entry-level license, the ARRL Board's Entry-Level License Committee referred to "the large number of Baby Boomers (roughly born 1945 – 65) [who] will soon be aging off the licensee rolls." The committee predicted the likelihood of "a significant decline in the number of hams, unless we take steps to reverse it."

From the *ARRL Letter*, April 4, 2018



remote cabinet lower

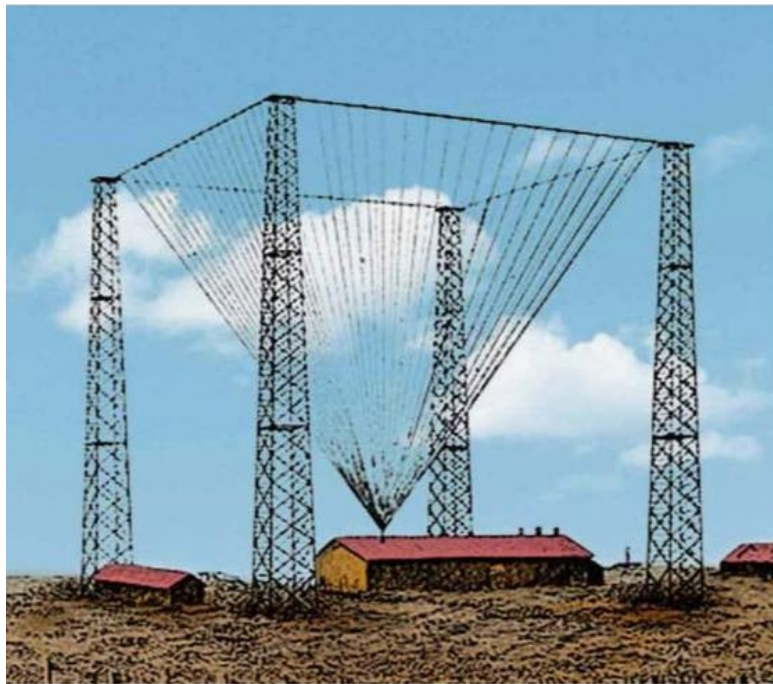
### The SWAP SHOP

Club members may list their wares in the newsletter. Send descriptive information to Armand at [wa1uqo@arrl.net](mailto:wa1uqo@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.***

### Thought For The Day!

***The worst time to have a heart attack is during a game of charades.***

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George Golding	W3PPY	Vice President	(804) 318-6951	<a href="mailto:w3ppy@arrl.net">w3ppy@arrl.net</a>
Tom Newman	KJ4LVC	Secretary		
Ken Leidner	WV0L	Treasurer		



***I only operate QRP***