



THE RICHMOND HAM

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July 2019

THE RICHMOND AMATEUR RADIO CLUB will meet Friday, July 12th 2019, 7:00PM, at the Bon Air United Methodist Church, 1645 Buford Road.

Coming Events:

Berryville Hamfest, August 4th

Field Day Of The Past, Sept 20-22

This Month's Program:

How does the whole QSL Card system work?
Presented by Sheila Blackley, K4WNW.

Richmond Amateur Radio Club

Meeting Minutes June 14, 2019

The regular meeting of the Richmond Amateur Radio Club was called to order at 19:00 on June 14th, 2019 at Bon Air United Methodist Church by President John DeMajo, (K5HTZ).

Members Present:

All present signed RARC Log Book.

President John DeMajo(K5HTZ), gave some information on interfacing handhelds to computers for programming.

Last month's Minutes – Motion to accept by Dr. Joe Palsa (K3WRY), carried.

Treasurer's Report:

Ken Leidner, (WV0L) gave the Treasurer's Report. The equipment sale netted \$2085. We had an ending balance of \$11,414.61. The Report was approved unanimously. Ken

presented 2 prospective members: Eve Weaver (KN4UMA) and Adrian Birmingham (KN4UMM). Motion to accept by David Robinson, 2nd by Tom Flippin, approved unanimously.

New Business and Announcements:

1) Cystic Fibrosis Run needs 6-8 volunteers including 2-3 SAG riders. Volunteer Training will be on 8/12/19. Contact: John DeMajo, (K5HTZ) has contact information.

2) A Radio Maker Fest is being planned at the Southern Railway Museum on the 2nd weekend in November.

3) Field Day of the Past has approached us to set up an Amateur Radio exhibit on September 20-22.

4) Dr. Joe Palsa called our attention to the June Va. Section Update Newsletter, which contains a write-up on a Traffic Handling Test which was held at the request of the American Red Cross and included FEMA, Homeland Security, and local and regional emergency managers. The exercise was deemed a great success.

5) Jason Pye (KD4LEM), from RATS gave a short presentation on Field Day

6) John DeMajo, (K5HTZ) gave a short Show and Tell on the Raspberry PI and a new 7" monitor available for it.

Adjournment:

Meeting was adjourned by vote.

Program:

Ken Zutavern, K4ZUT gave a demo of some simple test equipment that new hams can use. The next general meeting will be at 19:00 on July 12th, 2019 at Bon Air United Methodist Church.

Minutes respectfully submitted by

David F. Robinson ,(KJ4LHP)

Secretary

From The Prez

I thoroughly enjoyed my first Field Day as a Virginia resident and member of the RARC. As I prepare this message, I have not yet heard the results, but just from my observations at the outing, I am confident that it was a successful exercise. This month, we celebrate America's birthday. It's a good time to reflect on the freedoms that we enjoy as Americans and as ham radio operators. Our July meeting will feature speaker Shiela Blackley, K4WNW, from DXCC, and our August speaker will be Win Grant, W4WIN, who will give us some pointers on dealing with home owner's associations and their covenants. A reminder too that volunteers are needed for the upcoming bicycle run and for the Radio Maker's fest that will be held at the Richmond Railroad Museum this year. Also, our

RICHMOND THE HAM July 2019

nominating committee will be seeking nominees for leadership positions for the coming term, so please contact Mac McNeer, K4YEF if you are interested in serving the club as an officer or director. Finally, I will be showing an original 1920 Clarence Tuska receiver at this month's meeting show-and-tell segment. This will augment an article on Tuska and his role in founding the ARRL that appears in this month's newsletter. I look forward to seeing everyone including the new licensees from Field Day.

John, K5HTZ

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.

The September testing session will be on the 14th 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.

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!

RARC Volunteers Needed

The Richmond Amateur Radio Club has been asked to participate in Field Day Of The Past in Goochland in September. I plan to put an all band transceiver along with an all band MFJ vertical on a tripod on site as a special events station. The operating position will be in a restored caboose that sits on the track directly behind the Pullman car display that is manned by the Richmond Railroad Club guys. We are in need of volunteers to staff the station for the three day weekend. Customarily, there are an estimated 30,000+ visitors to the fair each year, so this is a good chance to show off Amateur Radio to a lot of people in a small time frame. Volunteers will be admitted to the fair for free, so it's a good chance to see some really interesting exhibits at Field Day of the Past too. If anyone would be kind enough to help out with this, please contact me at any of the contact points listed below. The dates are September 20-22 which is Friday, Saturday and Sunday. Contact: John DeMajo, K5HTZ at 504-858-7689 or jdemajo@demajo.net
Thanks and 73

John, K5HTZ

Clarence Tuska

I recently acquired a rare Tuska receiver for the Museum Of Yesterday collection. As a serious collector, I believe that all of the radios in my collection have a history and a story to tell, so I decided that it was time to learn more about Clarence Tuska and his work. In my studies of Radio's history over the years, I discovered that while Hiram Percy Maxim (aka the "Old Man") was credited with founding the ARRL, that Tuska was also heavily involved in the organization's beginnings, and may have actually given Maxim the idea of a relay league of radio operators. With some research, I was able to locate the notes of a speech that Clarence Tuska delivered to the Olde Tymer's Radio Banquet at Hartford in 1937, in which he described how the American Radio Relay League came to be. The following information was taken from that speech.

The story of the unlikely partnership of Hiram Percy Maxim and Clarence Tuska begins in Nyack, New York around 1907. In Tuska's words, "It was a spark transformer, decoherer and brass ball spark gap at first, and it worked." Soon, with some improved hardware, the Nyack station could pick up signals coming from the Boston Navy Yard some 25 miles away.

In a short time, the Tuska family, along with son Clarence, moved to Hartford where Clarence met one Harry Chapman, a fellow experimenter. Chapman had improved on the basic spark station of the day by including a mineral detector, loose coupler and other improvements. After seeing the Chapman station, Tuska knew that he had to incorporate the superior detector and headphones into his own station. But where could he procure these items? In those early years, radio parts were scarce, and one was considered lucky if there was an electrician in the area who could help supply radio specific devices.

About that time, Tuska teamed up with his high school friend Bill Ball. Ball was in the electrical business and had sources for supply of wire and components. Tuska was able to acquire Brandes headphones at a discount, so the partnership of Ball & Tuska was formed with the idea that procuring in quantity would permit more people to begin experimenting with radio. The partners offered not only supplies, but also complete stations that they constructed. It was through that association that Tuska met Hiram Percy Maxim.

Maxim, who had little experience with wireless at the time, happened upon a Ball & Tuska radio in a store window. Interested in acquiring a good receiver, he asked if he could take the set home to try it with the intention of purchasing it assuming that it worked satisfactorily. The next day, the set was

returned to the store with no sale. When Tuska was informed that the set didn't meet Maxim's expectations, he and Ball decided to pay a visit to Mr. Maxim in order to learn of his objections.

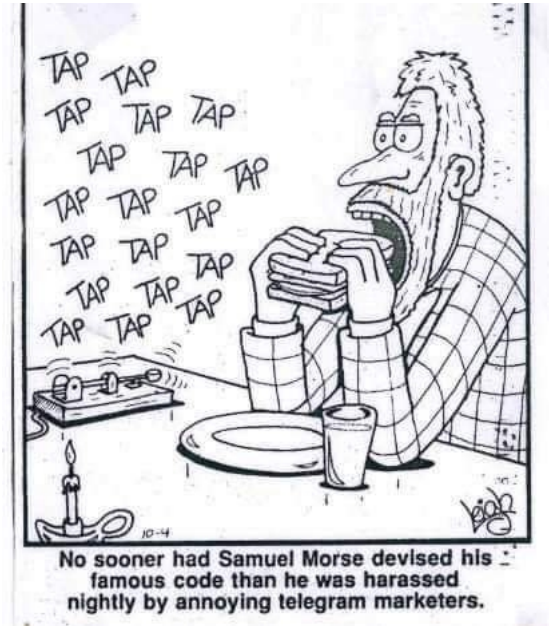
Maxim's objection was primarily that the set's appearance was that of a toy, He wanted a good receiver and was willing to pay the price. Tuska's response was that if Maxim was willing to pay, Ball & Tuska could build him an excellent station. Maxim agreed, and thus began the association of Maxim and Tuska.

Tuska spent much time teaching Maxim and his son, Hamilton. Hamilton, who was twelve at the time, caught on easily and soon was a joint operator with his father in the station called SNY. In that same time frame, Tuska established contact with another early experimenter, J. F. Arnold of New York, who was building audion amplifiers. That year, Federal regulations were enacted that required more accurate control of signals. Maxim, with Tuska's assistance, continued to upgrade the equipment in order to meet the new rules, and shortly thereafter, Ball and Tuska was dissolved. Maxim and Tuska, however, continued their friendship.

It was in a meeting in Maxim's office that Tuska first advanced the idea of a relay organization. The two men knew of other operators who could relay messages. Tuska put forth the idea that if messages could be relayed from one station to another in the New England area, why couldn't that relay be extended to cover other areas of the country or the world. Thus was born the concept of a national organization of operators who could reliably act as an organized radio network. Tuska's uncle, George Ruddell, who was also present in that meeting in Maxim's office, produced the first call book and map of the locations of all licensed operators. Maxim agreed to participate in the effort, and in 1914, the Radio Club of Hartford was formed by charter members Sam and Bob Minor, David Moore, Bob Woodward, Maxim and Tuska.

In his speech, Tuska also reveals that it was he, not Maxim, who first posed the idea of QST as an official organ of the organization. Maxim was opposed and had reservations as to whether there would be enough material to fill a monthly publication, but fortunately he deferred to Tuska, whose vision proved to be right.

So in closing, we see that while Hiram Percy Maxim was instrumental in founding the League, it was actually Clarence Tuska who first envisioned the network of radio operators, and the mission that would ultimately become The American Radio Relay League.



Programming Bargain VHF UHF Radios

Our RARC school and licensing program is bringing many newly licensed techs into our fold. In some cases, a new tech may elect to get on the air with the acquisition of an inexpensive Asian made hand-held transceiver such as those offered by Baofeng, Wouxun or Leixen. While these radios have some limitations, they generally sell for under \$100, and can serve as a good first radio for a new ham who wants to test the water. I have to confess that a \$70 Leixen dual-band is what is installed in my car, simply because with the increase in car burglaries in the area, having an inexpensive radio stolen is not nearly the tragedy of losing an expensive Icom, Kenwood or Yaesu to a thief.

As a license instructor, one of the first questions I usually get from a new ham is “how do I program this thing.” That really hit home a couple of weeks ago when my own daughter passed the Tech exam and was presented with a new Baofeng as a gift from her mother and me. Anticipating that she would want to avoid complicated programming from the keypad, I ordered a \$22 USB program cable, specifically designed for that radio, from the Baofeng dealer. After laying out the information we wanted to upload, we attempted to write the program to the radio using first the recommended software, and then with a free program called CHIRP. In both instances, she received communications errors every time the program tried to connect to the radio. Fortunately, I remembered that I had a similar problem when I tried to program my mobile radio using the manufacturer supplied Leixen USB to RJ-45 cable.

For a new ham with limited technical experience, something like that could be a show stopper. When it happened to me, I decided to go out to some of the chat groups to see if anyone knew what was causing the problem. As it turned out, the programming cables that are supplied with many of the Chinese radios, have knock-off chips that do not function correctly with the USB device drivers in Windows Ver. 8 and 10. One recommendation was to install the previous generation of driver from Windows 7, however this can cause problems if you use other USB devices that require the newer driver.

I found the solution to be in purchasing a USB UART with a CP2012 chip that meets US specs and therefore functions with the drivers in Windows 10. With this, I successfully built a new cable. These USB to serial converters are available through Amazon, Marlin P. Jones, and several other electronics hobbyist suppliers.

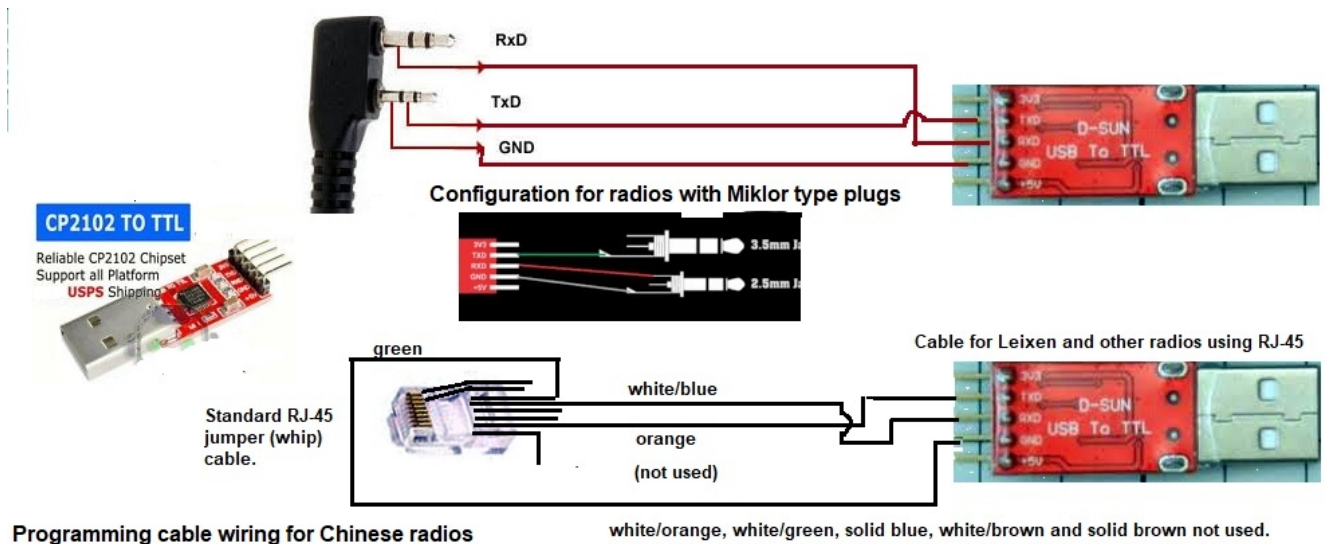
Powerwerx does make a Windows 10 USB cable that works right out of the box with the Baofeng and Wouxun hand-helds. These cables are generally orange in color, rather than the black ones supplied by the Asian radio manufacturers. Like the OEM cables, they have a plug that has both the 1/8" headphone plug and the smaller mike plug, molded into a single connector, so it fits right into the radio's remote mike connector. In the case of the Leixen, the cable has to terminate in an RJ-45 plug that connects to the radio through the microphone input connector. If you decide to purchase a CP2012 board, you will probably need to make your own cable. I have provided diagrams below for making cables to fit both types of radios.

Basically, the adapter converts the USB com port to something that resembles the old RX-TX com port output that was available via the nine pin serial ports found on older computers. In the case of the radio that uses an RJ-45 connector, you can simply purchase a short Cat-5 network whip cable and cut the plug off of one end. If the cable is wired according to standard color code, the white/blue, orange and green conductors are all that need be connected to the USB converter. White/blue connects to the RX terminal, orange goes to the TX terminal and Green goes to ground. Slipping a piece of 3/4" heat shrink tubing over the USB adapter will protect it from injury, and make for a neat cable construction. The remaining five wires in the Cat-5 are not used, and they can be cut off at the end of the cable that connects to the USB adapter.

In the case of the hand-helds with the two jack mike inputs, a diagram is provided below, however one suggestion is to cut the USB adapter off of the manufacturer's cable and install the new UART adapter, keeping with the configuration shown in the accompanying diagram.

In closing, it is important to mention that the software used to communicate should match your radio. The adapters we discussed are only a vehicle to successfully connect to the radio to the computer. Uploading and downloading data reliably is the duty of the programming software recommended for your radio. Leixen has several different software versions, depending on when the radio was made, so download the software that matches your radio's BIOS. CHIRP is a universal serial communicator, that works with most radios, however there are reports of unexpected results on some models, so proceed cautiously when using any generic software.

Programming your radio through a computer is generally much easier than trying to enter data via the radio's keypad. Of course a worthwhile suggestion from seasoned operators is to understand both methods in the event that you are faced with having to modify your radio's program in a situation when no computer is available.



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.**

Wanted

Wanted: one (1) Arduino UNO main board. Will buy or trade.

Contact Alex Sahhar KN4QGQ at agsahhar@gmail.com

A donation of an older 2 meter rig (base or mobile, it doesn't matter) that doesn't do the CTCSS (PL) tones. I want to try creating my own tone generator to make these old radios work with the local repeaters. If successful, I will share the schematics and code with the group. The radio needs to be in working condition. Thank you. Please call Dan (w4erf) 540-872-5946 or email chronobot2001@gmail.com

For Sale: Kenwood TS430s, PS430 power supply and AT250 antenna tuner for sale \$950 plus shipping in US. It passed all the tests, USB, LSB, CW & AM on the Ham bands. Bought new in the box, 1984. call Bruce Haynes at brucehaynes@comcast.net

Thought For The Day!

The older you get, the better you realize you were.

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