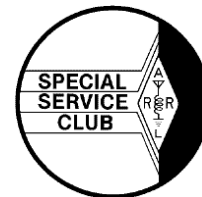




# THE RICHMOND HAM

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March 2013

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**The RICHMOND AMATEUR RADIO CLUB** will meet Friday, March 8th 2013, 7:00 PM, at the Bon Air United Methodist Church, 1645 Buford Road.

**PROGRAM:** Amateur Radio Emergency Communications.

### Coming Events:

**March Meeting,** March 8, 7:00 PM.

**VE Testing Session,** March 9, 2013 9:am at the Bon Air United Methodist Church.

**Tailgate Fest,** April 27<sup>th</sup> at the Scottish Rite Temple at 4204 Hermitage Rd.

**Public Service:** March 16, Instant Classic Marathon. Pocahontas State Park, 7 to mid afternoon. Contact Brad Price KI4BWJ at KI4BWJ@KI4BWJ.org

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### Club Members!

If you are not receiving your copy of the Club's monthly newsletter, please contact Richard, WA4FEH, RARC's Treasurer, at [wa4feh@gmail.com](mailto:wa4feh@gmail.com) or phone 743-3899.

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### Getting to know this month's speaker

Anthony Harbour, KG4YXP, will give a presentation on amateur radio emergency communications. The presentation will provide a brief history of the ARES and RACES programs, an overview of the local ARES and RACES teams in the Greater Richmond area, and information on how to get involved in amateur radio emergency communications. Anthony has been licensed as a ham since 2003 and he currently serves as the District Emergency Coordinator (DEC) for the Virginia Capital District of the ARRL Virginia Section ARES Program. He has worked in Emergency Medical Services for the past 36 years, both as a career and volunteer Paramedic and he currently serves as a volunteer Paramedic with the Goochland County Fire-Rescue Department. Anthony's ham radio interests include emergency communications, experimentation, and kit building.

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### From The Prez

Our Club has two signature programs which define us: our excellent radio school which prepares many aspiring hams to obtain their first FCC license and many current hams to upgrade their licenses, and our D Star repeater. You know that I'm a D Star enthusiast, and I promise that this will (probably) be my last evangelical writing about

D Star as president. But I wanted to summarize where we are with D Star.

In 2008, the membership decided to retire the analog FM repeater on 147.255 MHz and replace it with an Icom digital repeater using the D Star protocol which was introduced around 2004. You could say we were an early adopter. Icom only offered a couple of single band radios and one HT at the time. The repeater was located at the church where we meet on Buford Road, and given the height of the antenna, coverage was pretty limited. When I got my first D Star radio, an IC-92AD handheld, I had to drive from my house to the Stony Point shopping center to be able to access the repeater when I checked into the Wednesday night D Star net. One could legitimately ask: what's the point of having a radio that is only useful over such a small area? But we are hams, and this was a new mode. That's the point.

In late 2009, at the request of the RARC Tech Committee and with the Board's blessing, I began a quest to find us a repeater site that offered better coverage. I'll skip all the details other than to say that after our initial request to locate on the roof of a downtown building was turned down, we tried again, and were eventually successful in convincing the entity which controlled the building that amateur radio in general and a digital repeater with worldwide linking capability in particular, offered something to the public in terms of an emergency communications resource.

When the repeater antenna moved from about 35 feet above ground to 320 feet above ground, coverage improved as expected. After less than a year at the new location, the board approved buying the UHF module and a computer server along with Icom's gateway software to permit linking of our repeaters to the worldwide D Star network.

In the past six months, we have added pre-amps to the repeater receivers and power amps on the transmitters. Most of the cost of these enhancements has been borne by the D Star users in the Club who have purchased and donated these items to the cause. In fact, from the outset, Club members have contributed money and key components of the D Star project to reduce the burden on the Club treasury.

As with any new technology, it takes a while for people to adopt. I've heard all the arguments about how expensive Icom's D Star radios are, and I don't dismiss them. I simply say that a D Star capable radio can be purchased for a little more than a comparable analog FM radio, and all of the D Star radios are excellent analog FM radios too.

There are a lot of "silent" 2 meter FM repeaters around the country that were deployed years ago, but sometimes go for days or weeks without repeating a signal. I'm happy to report that D Star use in Richmond has, in my opinion, finally reached that critical mass where our repeaters are seeing usage exceeded by only a couple of the wide area analog FM repeaters in the area. While the D Star machines are not exactly busy, it is not unusual to hear 10-15 discrete callsigns on the D Star repeaters each day. The D Star infrastructure has a neat feature that tracks, by callsign, every transmission through the repeaters. Go to <http://w4fj.dstargateway.org/> to see a listing of all the callsigns that have accessed our repeaters since midnight of that day. See the screen shot of a recent day's activity on W4FJ.

I've helped a number of hams program a new D Star radio in the past month, so I know there are new D Star users among us. The internet gateway which connects us to other D Star repeaters around the world has been rock solid (thanks to Jim, KJ4WLH, our gateway administrator). The new hardware additions in the past few months have improved our coverage, especially on the 443.7125 MHz machine where you can now access the repeater on an HT with less than 1 watt in many parts of the area.

The Club's commitment to sponsorship of our D Star repeater has paid off. We are offering something unique in the area, and local hams are using our facilities with increasing frequency.

73,  
Win

### RARC VE News

The next VE testing session will be Saturday, March 9<sup>th</sup> at 9:00am, at the Bon Air United Methodist Church.

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 wa3j@arrl.net.

### D Plus Dashboard - A Typical Day on W4FJ

The screenshot shows a web browser window displaying the D Plus Dashboard. The page has a title bar with the URL 'http://w4fj.dstargateway.org'. Below the browser window, there are two tables. The first table is titled 'Remote Users' and has four columns: Callsign, User Message, Last TX on, and Type. The second table is titled 'Last Heard' and has five columns: Callsign, User Message, Last TX on, and Time. At the bottom of the dashboard, it says 'Status as of 2013/02/20 20:12:43'.

Remote Users			
Callsign	User Message	Last TX on	Type
AB4SF		C	DV AP
K4DRR		listening	DV AP
KJ4WLH	FM17ei Midlothian Va	C	DV AP

Last Heard			
Callsign	User Message	Last TX on	Time
WA1UQO	ARMAND,CHESTERFIELD	C	2013/02/20 20:12:09
WA4SSG	RICHMOND, VA USA	C	2013/02/20 20:10:28
KG4SNK		C	2013/02/20 20:09:59
N4MW	New Kent	C	2013/02/20 20:08:40
KJ4WLH		C	2013/02/20 20:06:55
AB4SF		C	2013/02/20 20:04:00
KE4BUO	PATRICK/RICHMOND VA	B	2013/02/20 18:27:09
K4DRR	Dennis Newport News	B	2013/02/20 17:54:25
KG4PEQ		C	2013/02/20 16:55:42
WA3J	Allan is Portable	C	2013/02/20 16:31:47

Status as of 2013/02/20 20:12:43

### 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.

**FCC EXAMS EVERY MONTH on the SECOND SATURDAY.** For January and all odd-numbered months: Bon Air United Methodist Church, 9 AM. Call coordinator, Allan Johnson, WA3J, 399-8724, or visit <http://www.rarclub.net/>.

For February and all even-numbered months, FCC test sessions are provided by the RAVE group. Coordinator, Pat Wilson, W4PW (932-9424) has information on his website <http://w4pw.org>.

RARC has the first D-STAR digital repeater in the area. 147.255 (+) and 443.7125 (+). We now have the gateway tied into the worldwide D-STAR network.

The Club sponsors several radio nets each week. Join in for the informative discussions and fun.

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 Repeater
	8:15 PM	145.730	Packet

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
Age 12 and under	\$5.00
Age 13 to 18	\$10.00
Regular Membership	\$15.00

- Lots of information about the Club and our activities is available on our website, [www.rarclub.net](http://www.rarclub.net). Check it out!

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### NEW DUAL BAND BEACON SYSTEM ON THE AIR IN RICHMOND AREA

A new dual band six meter and ten meter beacon transmitter is active on 28.231 MHz and 50.078 MHz using the callsign **WA4FC/B**. Installation was completed by **KD4GIE**, **N4MW** and **KD4BPZ**.

The beacon transmitter was designed by Dave Mier, **N4MW** along with programming assistance from Fred Towers, **WB4KXS**. The station consists of an old MRI synthesizer, an arduino based keyer and a dual band amplifier to provide 5 watts of power. Antennas are located at 200 feet AGL and consist of a M2 HO Loop for 50 MHz and a Ringo AR-10 for 28 MHz.

**WA4FC/B** has been active on both bands since 2007 but previously from separate locations. Previously the 6 meter station operated on about 50.079.5 MHz.

For further details and pictures visit <http://www.fieldcomm.org/beacons>. Reception reports can be submitted at the same URL. For information about other beacons on the air in the Richmond area, please see <http://www.n4mw.com/beacons.htm>.

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### February meeting minutes

Meeting Date: February 8, 2013

Meeting Time: 7:00 PM

Presiding Officer: Win Grant, WA4SSG, President; Pete Fundinger, AA4PF, Vice-President; Richard Arnold, WA4FEH, Treasurer; and Maylon Pearman, KG4RPQ, Secretary

Win Grant called the meeting to order and two guest were welcomed.

The January minutes were approved.

The January Treasurer's report was provided by treasurer, Richard Arnold, AA4FEH. Richard reported one new membership application from Bill Palsa (who just passed his tech exam), was approved. Welcome to the club Bill.

Bruce MacAlister, W4BRU reported on the spring classes for Amateurs. The registration will begin March 5. Classes for tech, general and extra will be taught on Tuesday nights. \*(please note this is a change from what was announced at the meeting.) Antenna Modeling with EZNEC will be Thursdays, April 11, 18, 25, 7:00 to 9:30 PM and Morse Code if there are enough students - Thursdays, March 14, 2013 through May 16, 2013. Bruce reported that class registration can be found on the RARC website.

Joe Palsa, K3WRY, reported no new ARES activity.

Win thanked Jim Bates, Tom Ebbert and many others who help setup, manned the table and took down the RARC table at Frostfest.

Win asked for volunteers to bring refreshments to meetings and passed around a signup list.

The club still needs volunteers for the 100 year anniversary in 2016. A committee has been formed but more members and a chairman are needed.

In old business:

A donated power amplifier was installed on the VHF D-star repeater.

There was no further business, so the meeting was adjourned and turned over to the speaker for the evening, Gordon Bubba Winn, WW4GW, who gave a nice presentation on antennas.

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### Thanks again to All!

I wish to thank each volunteer who worked the RARC table at the 2013 Frostfest! It was a sacrifice for those volunteering to take time away from finding good deals and chatting with old friends - at least those that were not talking at the table!!! Again, thank you for your generous offer and service - I appreciate it very much.

Jim Bates - KJ4WLH

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### Refreshment Schedule

We currently have the following commitments for upcoming meeting refreshments. Wouldn't your name sure look great on the list?

March - Bruce MacAlister  
April - Pete Fundinger  
May - Marshall Ervine  
June  
July  
August  
September  
October - Dave Thomas

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### February Board Meeting Highlights

The RARC Board of Directors met on February 5, 2013. Below is a summary of that meeting.

1. The Board voted to make a \$300 contribution to the Bon Air United Methodist Church in appreciation for use of the facilities by RARC. This is consistent with past practice.
2. The Yard Sale will be held on May 11, 2013. If there are sufficient contributions of ham gear, a silent auction will be held at the May 10, 2013 regular Club meeting. Marshall Ervine will be the coordinator.
3. The Club hopes to conduct a joint Field Day with the RATS Club again this year. We are looking for someone to coordinate RARC's participation.
4. The Board discussed the frustrations we have experienced with SERA accurately listing our repeaters in their journal which is the only way that repeater information can be submitted to the ARRL Repeater Journal. We will try once again to get the correct information in the SERA listing.
5. The Board discussed having a meeting program where attendees actually

build a small project during the program and take home the completed project. We will take an informal poll of the membership to assess interest.

6. The next Board meeting will be on May 6, 2013. Contact the officers and directors if you have topics you would like the Board to take up.
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### Spring Tailgate Fest

The date has been set for April 27 and the time, as usual, will be from 8:00 A.M. until 12:00 noon.

The location is the same as before, in the parking lot of the Scottish Rite Temple at 4204 Hermitage Rd. Richmond. There is no charge to participate and all are welcome to bring anything you want to sell or just browse around and greet old friends or get to know the people you talk with on the radio but have never met in person

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### 2012 Marks All-Time High for Amateur Radio Licenses

01/15/2013

As 2012 came to a close, ARRL VEC Manager Maria Somma, AB1FM, had a good reason to cheer: The number of radio amateurs in the US reached an all-time high of almost 710,000. "2012 was definitely a banner year for the number of Amateur Radio operators here in the US," she said. "It is amazing to see these new numbers and to know that Amateur Radio is experiencing such a healthy trend."

In looking at new and upgraded licenses, as well as licensees per ARRL Division, Somma also crunched the numbers looking for growth within each license class -- and all of Amateur Radio -- over the last 40 years. "This is an all-time high for Technician, General and Amateur Extra class licensees," she said. "When looking at the three current license classes, the number of Technicians, Generals and Amateur Extras peaked in December at 345,369, 163,370 and 130,736, respectively."

Somma explained that the total number of US amateurs in the FCC database also continues to grow each year: "As of December 31, 2012, the number of licensees reached an all-time high of 709,575; year-end totals were 702,056

for 2011 and 696,041 for 2010. The number of licensees increased at an average rate of 21 per day, while the number of US licensees has increased by 7 percent since 2008!" More than 3000 new licenses were issued in 2012 than in 2011, while upgraded license activity remained steady in 2012.

In the past 40 years, the number of Amateur Radio operators in the US has grown at a remarkable rate:

- December 1971: 285,000
- December 1981: 433,000
- December 1991: 494,000
- December 2001: 683,000
- December 2012: 709,500

*Source: 1971, 1981, 1991: print editions of [Radio Amateur Callbook](#). 2001, 2012: [www.ah0a.org/FCC/Graphs.html](http://www.ah0a.org/FCC/Graphs.html). Please note: While the number of licensees has grown considerably over the years, we realize that these numbers include some who are no longer active in Amateur Radio. A recent survey of ARRL members, however, indicates that more than 80 percent of those responding are active.*

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### History of 73

From the 1969 ARRL "The Radio Amateur's Operating Manual" The traditional expression "73" goes right back to the beginning of the landline telegraph days. It is found in some of the earliest editions of the numerical codes, each with a different definition, but each with the same idea in mind - it indicated that the end, or signature, was coming up. But there are no data to prove that any of these were used.

The first authentic use of 73 is in the publication 'The National Telegraph Review and Operators' Guide,' first published in April 1857. At that time, 73 meant "My love to you!" Succeeding issues of this publication continued to use this definition of the term. Curiously enough, some of the other numerals then used have the same definition now that they had then, but within a short time, the use of 73 began to change.

In the National Telegraph Convention, the numeral was changed from the Valentine-type sentiment to a vague sign of fraternalism.

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Here, 73 was a greeting, a friendly "word" between operators and it was so used on all wires.

In 1859, the Western Union Company set up the standard "92 Code." A list of numerals from one to 92 was compiled to indicate a series of prepared phrases for use by the operators on the wires. Here, in the 92 Code, 73 changes from a fraternal sign to a very flowery "accept my compliments," which was in keeping with the florid language of that era. Over the years from 1859 to 1900, the many manuals of telegraphy show variations of this meaning. Dodge's 'The Telegraph Instructor' shows it merely as "compliments". The 'Twentieth Century Manual of Railway and Commercial Telegraphy' defines it two ways, one listing as "my compliments to you"; but in the glossary of abbreviations it is merely "compliments". Theodore A. Edison's 'Telegraphy Self-Taught' shows a return to "accept my compliments". By 1908, however, a later edition of the Dodge Manual gives us today's definition of "best regards" with a backward look at the older meaning in another part of the work where it also lists it as "compliments".

"Best regards" has remained ever since as the "put-it-down-in-black- and-white" meaning of 73 but it has acquired overtones of much warmer meaning. Today, amateurs use it more in the manner of a "friendly word between operators".



**The SWAP SHOP**

Club members may list their wares in the newsletter. Send descriptive information to Armand at [wa1ugo@arrl.net](mailto:wa1ugo@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 add.**

**For Sale:** Kenwood TK-981 FM transceivers for 900 MHz, used in good condition, bench checked, 15 watt, preprogrammed for local and national simplex and repeater frequencies. Includes microphone, power cord and mounting bracket. These are being made available at cost to promote local activity, price \$125. Get yours now and join us on simplex or the 900 MHz repeater. Also available, 30 watt capable transceivers for \$145, trade-ins taken. Contact Dave Meier, N4MW, [n4mw@msn.com](mailto:n4mw@msn.com)

**Thought for the Day**

Learn from the mistakes of others. You can't live long enough to make them all yourself.

**73 de:**

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<b>Maylon Pearman</b>	<b>KG4RPQ</b>	<b>SECRETARY</b>		
<b>Richard Arnold</b>	<b>WA4FEH</b>	<b>TREASURER</b>		

From the 1960's to 70's, Huguenot High School had a very active amateur radio club. Mac McNeer, K4YEF, was the club sponsor when he was a chemistry teacher at Huguenot. The school club's callsign was WA4RPI, which confused a number of people who assumed the club was associated with Richmond Professional Institute, now known as Virginia Commonwealth University.

Not pictured in this 1966 photo are two additional RARC members who were students at Huguenot at the time, but got their licenses after high school. They are Fritz Schumacher, KI4JLM, and Maylon Pearman, KG4RPQ. See if you can spot the two current RARC members who are still involved in amateur radio 47 years after high school.

