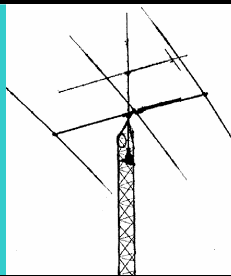


The AARC Beacon



*Serving radio enthusiasts
and communities in
Central Virginia –
The Radio Club for
Central Virginia*

Volume 2011, No. 2



February 2011

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Meeting Notice

The next AARC meeting will be held on **Tuesday February 8, 7:30PM at NRAO**. This is a very important meeting, as it will be the public reading of proposed changes to the AARC Bylaws, and also a strategic planning meeting for the 2011 year. Be sure to attend!

The President's Letter

Jim, K4JEC

My most important remarks at this juncture of our club year are the remarks I made at the Annual Awards Banquet, which if you weren't there, appear in the minutes of the dinner meeting listed elsewhere.

My return to active club participation of three years ago after a longer absence of membership has been marked by a profound, to quote the words of a classic Broadway tune, "Getting to know you, getting to know all about you." Dave was about the best leader one could serve under because he took the time to fill me in on details that were only committed to memory. It seems that a lot of the details of this club and its operations exist only in the memory of certain members. My first debacle came with an effort to list the past leadership of the club, which I am very afraid some detail has been lost forever.

So, one of my goals for 2011 is to commit to written record as much detail of the club and its operations as possible for future members and leadership. Do you know that I did not know the club had a second call sign until we set up a club station at the Boy Scout Camporee at Montpelier two years ago and Dave decided to use W4DO? Let's see, how many years of club membership did it take for that fact to become available to me? I do not like to deal in half-truths, hints and innuendoes nor do I participate in hidden agendas and ulterior motives. I want this club and its operations to be as transparent as possible. I want to share with you every detail that I discover and become aware of as the club moves forward toward 2012. It is my sincere desire to leave this club better off for my having been here. I really believe Dave did that and I want to contribute right down that same path. So, you will have to forgive me if I bombard you with too much detail, but by doing so, I am making it available to you and if or when it becomes too much, just hit the delete key.

Early in my term as vice president, I made the statement, that the degree of success for any program can be measured by the degree of participation by the members. You all make me very proud because the overwhelming number of awards you earned and received at the Annual Awards Banquet can best measure the degree of your participation in this club's programs and activities. That list is also

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included in the minutes for your observation and to commit them to permanent record.

Thanks for being there. You deserve only the best our club can offer!

Veep Peeps

Greg, N4PGS

Have you made your plans for 2011 yet? Amateur Radio plans, that is... Is this the year to

- Put up the new antenna?
- Learn Morse code?
- Design a packet station?
- Build a repeater?
- Participate in a Public Service event?
- Work Field Day?
- Visit Dayton?
- Or whatever...

Do you have a ham radio 'bucket list'? This may be the year to do that special thing. And, fortunately, AARC may be able to help you do it.

With well over a hundred members, we have a very broad experience base to turn to, to help with the things that may be on your list. All you need to do is to come to an AARC meeting, ask around, and you'll be off to a good start getting that project underway. There are plenty of experienced Club members willing to share their experiences and ideas.

No surprise here, I'm going to focus on Public Service activities this year. It's been a long cold winter and I'm ready to get outside and help with a variety of bike races, tours and foot races. I'll probably throw in some RACES activities as well. We are fortunate to have a wide array of events in the Charlottesville/Albemarle region, so there will be plenty of chances to work a Public Service event.

Bring your ideas or list of 'plans' to the next AARC Club meeting and get started on that ham radio activity for 2011.

See you there!

Greg N4PGS

Club Business

Patsy, K4PMC

General Membership Dinner Meeting

Call to Order -- The dinner meeting was called to order by the Vice President, Greg, N4PGS at 7 PM. Greg, N4PGS introduced the special guests:

Tom Hanson & Wife Mary Pat, Executive Director of the 911 Center.

Marge Thomas, Emergency Management Coordinator
Bob Nelson, Assistant Emergency Services Coordinator
Albemarle Sheriff Chip Harding had to cancel due to icy roads in his neighborhood.

All members were invited to state their name and call and introduce their guests. There were 44 members and guests present.

All business was suspended for the evening.

Immediate Past President Dave, K4DND, called the group back to order following dinner and presented the following awards:

Special Service Awards

Jim Crosby K4JEC VP
Patsy Crosby K4PMC Secretary
Don Eason Jr. N4UVA Treasurer
Bill Phillips AD6JV Education Director
Jim Wilson K4BAV Public Relations Director
Jim Owen K4CGY Technical Director
Linda Beard KI5LLB Estate Director
Greg Faust N4PGS Public Service Director
Bob Pattison K4DU Fundraising Director

Other AARC positions/functions

Kenneth Kang KJ4KIH AARC Webmaster
Bruce Budinger AB3BB Volunteer Examiner Liaison
Ron Richey K4RKA On line Swapfest and SERA Liaison
Bob Pattison K4DU Trustee of AARC club call signs
Harry Dannals W2HD Net Control for Monday Night Info Net
Joe Giovanelli W2PVY Amateur Radio Newline transmission
Jim Crosby K4JEC National Weather Service Skywarn Net Control
Jim Owen K4CGY National Weather Service Skywarn Net Control

Special guest awards

Marge Thomas - Emergency Manager for CHV/UVA/Albemarle County
Bob Nelson KE4AQD - Assistant Emergency Manager for CHV/UVA/Albemarle County
Tom Hanson - Executive Director of the 911 Emergency Communications Center
Chip Harding - Albemarle County Sheriff

Presidents Awards

Jon Scott KJ4RPW - N4FWA Memorial Public Service Award
Vic Vickery N3DFS for 14 yr American Red Cross Service
Betty Vickery KG4FQW for 15 yr American Red Cross Service
Stan Hazen K2SSB for net report in traffic format
Bill Phillips AD6JV for Educator of year
Jim Owen K4CGY for 2010 Field Day Co-Chair
Bill Pond N0WP for 2010 Field Day Co-Chair

NPEN Awards

96% Participation
Jim Owen K4CGY, Jim Crosby K4JEC -
94% Participation

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Harry Dannals W2HD, Patsy Crosby K4PMC, Joe
Giovannelli W2PVY
92% Participation
Jerome Ix KI4DLA
90% Participation
Stan Hazen K2SSB
72% Participation
Dayton Haugh AA4DH
70% Participation
Ron Richey K4RKA
64% Participation
Don Bush KE4DDR, Vic Vickery N3DFS
56% Participation
Bill Phillips AD6JV, Jim Wilson K4BAV
52% Participation
Jon Scott KJ4RPW
48% Participation
Kenneth Kang KJ4KIH

Public Service Awards (Events Served and Points Awarded)

Jim Owen K4CGY
MS150 10
GEER 10
08-10 Total 40
Don Bush KE4DDR
JCBR 10
Greene 10
MS150 10
08-10 Total 80
Vic Vickery N3DFS
Greene 10
08-10 Total 30
Dale Castle KD4EAP
MS150 10
GEER 10
08-10 total 50
Donna Jordan KG4FOL
MS150 20
Devils 10
08-10 Total 30
Dayton Haugh AA4DH
JCBR 10
Greene 10
MS150 10
08-10 total 30
Lee Moyer K4ISW
MS150 10
08-10 Total 50
Brad Risk N7IVV
Greene 10
08-10 Total 10
Jim Crosby K4JEC
Bel Monte 10
JCBR 10
Greene 10
Devils 10
GEER 10
08-10 Total 120
Bill Phillips AD6JV
MS150 10
08-10 Total 75

Kenneth Kang KJ4KIH
JCBR 10
Greene 10
MS150 20
08-10 Total 110
Bill Holman KE4KJB
MS150 10
08-10 Total 10
Linda Beard KI5LLB
JCBR 10
08-10 Total 130
Lenny Vincent N4LXP
MS150 20
08-10 Total 60
Greg Faust N4PGS
JCBR 10
Greene 10
MS150 20
GEER 20
08-10 Total 170
Patsy Crosby K4PMC
Bel Monte 10
JCBR 10
Greene 10
Devils 10
GEER 10
08-10 Total 110
John Ball KU4KAE
MS150 10
08-10 Total 10
Jon Scott KJ4RPW
Bel Monte 10
JCBR 10
Greene 10
MS150 20
GEER 20
08-10 Total 110
Claude Elder N3RXO
Bel Monte 10
08-10 Total 30
Elmer Scott KF4UCI
Bel Monte 10
JCBR 10
Greene 10
MS150 20
Devils 10
GEER 20
08-10 Total 210
Ed Taylor KA4VMP
MS150 20
08-10 Total 20
Wes Epperly K4WLE
JCBR 10
MS150 20
08-10 Total 90
Bill Pond NOWP
Greene 10
MS150 10
08-10 Total 50
Rick Thomas KJ4WJK
GEER 10
08-10 Total 10

The first presentation of the Hein Hvatum N4FWA Public Service Award was made by Dave Damon to Jonathan Scott, KJ4RPW.

Installation of 2011 Officers and Directors was made by Dave Damon as he passed the gavel to Jim, K4JEC

Jim Crosby offered these closing remarks:

To wind things up this evening, I would like to thank you for the honor of the role you have given me as your president. When I took a look at Dave's feet, I remember thinking, "My God! How am I ever going to fill those shoes?" I am here to tell you that I can't without a lot of help. So don't leave this meeting with the thought that everything is good, Jim can take care of it because it ain't going to happen. You need to keep looking over my shoulder, bump me back in line when I go astray and provide a little push when I slow down. In other words, I need each and every one of you there marching beside me toward our goals for the year.

Hams have been defined as being very unique members of our world's society. The hobby of ham radio is pretty much a solo activity – individuals crammed into dimly lit ham shacks usually tucked away in a corner of the house or garage. Hams are all about knobs, meters, switches and cables generating squeally sounds and pounding away on their keys or chewing on the grid of a microphone. To work, to study and even pay a fee for the privilege of taking a written exam provided by the feds at a time and place defined by others certainly proves that we are different – different down to being a little rascally and some times unruly but always individuals. It is said that leading a group of hams can be compared to herding cats. It can be done but requires a large supply of fishy smelling bait.

I am comfortable with this because I have a lot of practice. I have a big tom cat at home that actually comes from anywhere in the neighborhood when I whistle for him from the porch. Why, because he knows it's tuna time. And besides that, in the past you have demonstrated beyond any doubt that you can be counted upon to show up, perform and clean up any resulting mess as a group of individuals working together separately.

As many of you know by now, I believe in communications to the extent that I keep your email boxes full. I subscribe to the theory that you have to tell them what you are going to tell them, you have to tell them, you have to tell them you told them and lastly, you have to tell them again. To rise above the din of mass electronic communications of today, one must compete for another's attention just to be heard.

There are some who would say, I am loud, prolific and persistent. Okay, it's too late! You elected me and now you gotta live with that mistake... ERR... choice. Of course, you can always do what Pat does when she gets tired of listening to me. She turns her cell phone off, the vacuum cleaner on and later strengthens her right index finger by exercising the delete key on her computer.

As we leave here tonight, here are some thoughts to ponder: Inspiration is the seed of new ideas.
Motivation is the fuel for progress
Enthusiasm is the prelude to success.
Effective performance is a balancing of all three.
And lastly, let me say a word about tradition. Tradition is good and AARC has a lot of good ones. One was established here this evening with the presentation of the Hein Hvatum Public Service Award. I congratulate Dave's choice for that as well as the recipients of the other President's Awards. There is no stronger proof of your commitment to this club and its purposes than the number of awards presented here this evening. Congratulations to all. I applaud your support.

My parting thought to leave with you is this: Tradition offers a comfort zone for us and our associations, however bad habits like bad policies are often perpetuated in the name of tradition.

Good night! God Bless you! Please remember I only do this because I love you.

Adjournment – The dinner meeting was adjourned at 8:30 PM by Vice President Greg Faust.

For Sale and Wanted...

Ron, K4RKA

For Most recent listings – See www.albemarleradio.org

DX Notes

Alan, K9MBQ

If you are a DX'er or interested in working some new countries, you may have read my announcement last month about the really BIG DXpedition to the Spratley Is (1S0) in Jan. Well, it did not happen and is at least postponed until sometime in the future. Nonetheless, the 35 member team staged people and equipment in the Philippines, chartered an airplane and a ship, but could not get country clearance to go. So, they incurred significant cost and never made a QSO! . . . DXpeditions are expensive even when they fail. The good news is that they will try again.

Other DX info that may be of interest:

- VK9 – Cocos Keeling is planned for 22 Feb-3 Mar on 10-80M (CW only). The CW exchange for DXpeditions is usually your call sign and signal report (e.g. RRR (for his rept to you) 599 de

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K9MBO K). Expect split ops. Web site –

www.g3swh.org.uk/vk9c-g6ay.html

- VP8ORK – South Orkney planned for 27 Jan-8 Feb; all bands with emphasis on 80 and 160M at night. See www.vp8o.com for more info.
- ZS8M – Marion Island; Pierre will be there through March. He is active on SSB - 40M (~2300 local), 17 and 15M afternoon local here. Check QRZ.com for QSL info etc.
- VK0KEV – Macquarie Is; Kevin is there until 30 April, and has been heard on 40M SSB around 0430 local here on the 7130 VK DX net. QSL via JE1LET.

See the ARRL weekly DX bulletin, CQ and QST DX Columns, and the other pubs I mentioned last month for more info.

See you in the pileups! 73, Alan K9MBO



Many good conversations around the room

AARC Winter Dinner

Photos by Jim, K4BAV



Jim K4JEC and Patsy K4PMC greeting arrivals



"Your Better Get Your License" K4DND advises Matt Wilson



Bill AD6JV, John KU4KAE buy tickets from Mike KA4JJD



Childrens Table – Jon KJ4RPW, Elmer KF4UCI, Don KE4DDR, Dayton AA4DH, George AA4D and Donna KG4FOL



Happy Raffle Winner



The AARC is one of only 3 Special Service Clubs in VA



Rapt Crowd listens to new President K4JEC



Incoming president, K4JEC, presents outgoing president, K4DND, with a plaque acknowledging three years of service as president of AARC.



Stan K2SSB and his radio tie

AARC Membership Renewal

Dave, K4DND

It is that time of year again, time to renew your Albemarle Amateur Radio Club membership. This year for the first time you can renew on-line, pay your membership dues, and make a donation to the AARC Repeater Fund using PayPal. If you are interested in using this convenient service, just go to the club website at:

<http://www.albemarleadio.org/node/19>

If you are not comfortable using PayPal, just download the usual membership application from the website by going to: http://www.albemarleadio.org/members/AARC_member_application.pdf. Mail the application in with your check as usual and your membership will be promptly updated.

You may ask why you need to fill out the information again? People change phone numbers, email addresses, call signs, and license class. We need to have your current information in the AARC database.

National Radio Quiet Zone

Dave, K4DND

As you may or may not know, the AARC supports SERA (South East Repeater Association) and coordinates the club repeaters through the Association. Each member state that is encompassed by SERA (GA, KY, MS, NC, SC, TN, VA and WV) has a correspondent that reports on news of interest from the member state. The November issue of SERA's Repeater Journal had an outstanding article by Mo Kittle AD8T, the WV correspondent. Since NRAO is headquartered in Charlottesville, and graciously hosts the meetings of the AARC; and because the eastern border of the National Radio Quiet Zone passes through Charlottesville, and our repeaters have to be registered with and receive the OK by NRAO, I felt that Mo's article should be available to all members of the AARC.

So with many thanks to Mo AD8T for permission to reprint his article, with thanks to Wes Sizemore for permission to reprint his pictures, and with thanks to John Ghormley KJ4UFG, Editor of the Repeater Journal, I hope you enjoy Mo's article reprinted in its entirety.

By Mo, AD8T

Happy Fall season to all WV and other readers. My personal wish is that the delivery of this issue finds you NOT having seen any snow yet! (Sorry if you're a skier). But all of us can take our HTs to the mountain top and enjoy some radio. WELCOME to several new [to me] ops I ran into on the KB8BWZ Elkins repeater 146.775 during the Elkins Area ARN: KD8BSP, KC8YZL, and especially Fred KD8LUG, who was a science student of mine a long time ago. Fred's now in the commercial radio field, and we both look forward to renewing acquaintances.

NRAO GREEN BANK – EXACTLY WHAT IS IT?

There is so much going on at National Radio Astronomy Observatory/Green Bank, WV, (after all, it is all about radio) that I am going to devote most of this column to the RFI issues that concern the Green Bank Interference Protection Group (IPG). Their staff is responsible for minimizing radio frequency interference to astronomical observations from equipment and activities at the Observatory, in the West Virginia Radio Astronomy Zone (WVRAZ), and in the National Radio Quiet Zone (NRQZ). The daily business of NRAO Green Bank, WV (there are other NRAO sites) is to receive signals from deep space that are in the parts of the EM spectrum that are not visible to the eye. These include stars, galaxies, interstellar clouds of gas, pulsars, and other

esoteric RF emitters. Known molecules such as say, ethanol or formaldehyde, can be identified by their emission spectra. Therefore one thing that can be done via radio astronomy is to measure molecular composition of celestial objects, by the same principles by which optical astronomers use visible emission spectra to determine chemical composition of distant visible objects. When these known spectra are shifted lower in frequency ("red shift" or "Doppler shift"), the speed that the object is moving away can be calculated. These and other principles of basic radio astronomy can be found in numerous sources and explored further, if you are interested. Their web site <http://www.nrao.edu> can keep you occupied for days.

RICH [MODERN] HISTORY

Many important scientific discoveries about our universe have been made at Green Bank in its 50+ years. They are not looking for E.T. (although they have been associated with relatively brief SETI projects in the past), they are not sucking anyone's TV signals out of the air (as was claimed by someone who got poor reception in that area); and they are not eavesdropping on communications. They put the site there because of the natural shielding in the Deer Creek Valley, and the fact that the area was rural, and had minimal man-made RF sources compared to urban areas). The proliferation of sources of RF in the last 50 years, either intentional radiators or unintentional, has meant job security and sometimes headaches for those whose job it is to track down and mitigate interference to the sensitive receivers at NRAO.

The sensitivity of their receivers is so far beyond what most people, even radio people, are accustomed to, that it really requires a different mindset to appreciate the steps that are required on a daily basis to ensure the radio telescopes have a quiet enough background to be able to hear the radio emissions from distant targets. (No matter how good your hearing, if you are in a room with many people talking, you cannot hear the speaker. Those with hearing aids can attest that even though their effective hearing sensitivity may be higher than unaided, the background noise renders it ineffective). More on this later.

I spoke with Wesley Sizemore, who has been at Green Bank for 29 years, and is Technical Specialist I. He is the Interference Man. Paulette Woody administers the NRQZ and coordinates the public's FCC applications. Carla Beudet is the RFI group leader on-site and deals with internal Green Bank RFI mitigation measures. Wes has served in various capacities over the years, but is known by many Amateurs as "the" RFI expert on the ground (and frequently on the road), seeking out and mitigating interference sources in the local area. These sources are myriad man-made devices, and often are not thought of by laymen as radiators at all, but we know better, don't we... Wes has used a number of hand-me-down vehicles in the past, from a rusty old Impala, to a Desert Storm truck with a comm hut on the back. Now he has a proper new vehicle that is well-equipped with Icom R8500 and R9000 receivers, spectrum analyzer, discone and directional antennas, DFing gear, and more. He uses 5 computers. He no longer has to stop the truck and get out every 100 yards when looking for power line noise, because

the main gear is in the cab. At his fixed monitoring station he uses an Icom R9500 and AOR AR-One.



Wes's truck E.M.I.T.T. – ElectroMagnetic Interference Tracking Truck. In the background is the new Robt. C. Byrd GBT- over two acres of surface, 17 million pounds; one of the largest moving structures on earth. Photo by W. Sizemore

by all radio telescopes all over the world since radio astronomy began is less than that of a mosquito taking off...or less than the energy released by a snowflake when it hits the ground. Try to understand the implications of that in terms of needing a quiet receiver (low internal noise) and low external noise. The term state-of-the-art is overused, but that is literally what they do every day at Green Bank, not only in electronics but in cryogenics (super-cold). Cryogenic refrigeration systems are used to get the noise temperature to a minimum in the receivers at the focus of the telescopes. The Interference Protection Group's job is to minimize external sources of noise that might disrupt or completely ruin an observation.

RECEPTIVE PERSPECTIVES

As you know, the SI unit of energy flux is the Watt/square meter.



James Watt standing on a 1-square-meter pedestal. Oh, never mind...



Some of E.M.I.T.T.'s receiving and DF gear. Mouth-watering equipment to a ham, but used here for a very serious mission. Photo by W. Sizemore

RF NOISE

Some of the noise sources he has encountered over the years include things you would not be surprised at—power line noise, spurious radio transmitters, electric fences, thermostats--- and things that might not immediately come to mind, such as those little plastic hand-held LED message fans, digital cameras, and a heating pad in a dog house!! RFI from digital cameras can indeed be heard by the sensitive receivers at Green Bank. Hence, digital cameras are not allowed in the immediate radio telescope areas. Their web site has complete documentation with spectral displays of a test they ran with a digital camera. Wes states that those LED fan gadgets put out broadband noise to above 1 GHz. They don't sell those in the gift shop anymore!

SKEETERS AND SNOWFLAKES

It has been roughly calculated that the total energy collected

The universe is incomprehensibly vast, and by scientific measurements, EM radiation has been traveling from the most distant objects for billions of years. Radiation per unit surface area decreases with the square of the distance; think of a wavefront as an expanding sphere with square meters marked on it. As the distance is doubled, the energy flux is ¼ as much because the radius is squared when calculating the surface area of a sphere. If a constant total energy is spread out to 4 times the area, then the flux is ¼ as much. Imagine this sphere expanding across a good fraction of the universe. Hence the total energy flux is infinitesimal by the time it reaches earth. The W/m² is absurdly large for measuring these minute signals. Your cell phone requires about 0.0001 W (1 x 10⁻⁴ W) at the antenna for solid reception. The instruments used in radio astronomy can receive as little as 10⁻³¹ W/m² !!! That is a difference of 10²⁷, or a 1 with 26 zeros behind it. Another way of stating this is a radio telescope receiver can hear a billion-billion-billionth of a cell phone signal. Cellular system applications, like all licensed radio services, have to go through Green

Bank IPG. They review all FCC applications within the NRQZ and make recommendations based on each application. The FCC is still the final authority, but obviously the IPG carries a lot of weight as they protect the valuable national resource that is the NRQZ.

The closest cell tower to Green Bank is around 45 minutes to an hour away. We have numerous cell towers around Elkins, and we are not that much farther away. The signal strengths that NRAO routinely receives are from 10^{-29} to 10^{-31} W/m²Hz – a range of a factor of a thousand, yet all still excruciatingly weak. The human brain cannot internalize a number this small. That's why we have exponents! And that is why there is an Interference Protection Group! Since the W/m² is too large by many billions for their work, radio astronomers use a unit called the Jansky (named after the pioneer radio astronomer Karl Jansky who discovered radio waves coming from our Milky Way. A reproduction of his instrument is located at the entrance to the Green Bank site, and looks like something a ham operator would use, because it was designed for much lower frequencies than what is usually surveyed today by radio astronomers). The Jansky unit is defined as 1×10^{-26} W/m²Hz. The inclusion of the Hz in the definition is due to the fact that radio astronomy is often conducted over a broad range of spectrum, and the total energy will be greater if a larger bandwidth ("more Hertz") is observed compared to the receiver bandwidth. Also the surface area of the antenna is a factor in determining how much energy is collected. The Jansky is therefore an extremely small unit that is appropriate for the tiny energy flux being received by radio telescopes.

MORE THAN ONE ZONE

Actually there are 5 radio zones defined, with different requirements and compliances. These are codified in WV State Code §37A-1-1 Zoning. The larger National Radio Quiet Zone (NRQZ) itself, unique in the USA, is a 13,000 square mile rectangle in WV and VA, centered between Green Bank and the Sugar Grove U.S. Naval research facility near Franklin, WV. Commercial and Amateur repeater applications, including cellular, etc. within the NRQZ must be vetted by the IPG, and at the same time the Green Bank IPG works with Sugar Grove and serves as a clearing house for issues that might affect their work. The 5 defined Zones are

- Zone 5 NRQZ
- Zone 4 10-mile radius of GB
- Zone 3 2-mile radius of GB
- Zone 2 Observatory Buildings – Lab, Dorms, Cafeteria, etc.
- Zone 1 Instrument Zone – "ground zero"

Different specifications exist in each zone as to what levels of RF are permitted at what frequency ranges.

There is a link on their site to some electric fence construction advice. When I read that info, one thing that occurred to me was the high scientific irony of the fact that to minimize interference, the fence must have a good ground. Yet we also need a good ground when we intentionally radiate signals!! The relationship between Green Bank and the Part 97 Amateur service is different than that of the Part 90 services because we don't make a living from our radios. Amateur repeater applications can have stipulations attached to approval, such as agreeing to shut

down when asked by GB. NRAO has a good relationship with the Amateur Service. There are Amateur licensees among the staff and families. During the 1985 Flood in WV, a ham station was actually set up at one of the Observatory buildings. Life and property trumped research during that period.

I hope that now the reader has a better understanding of not only what goes on at one of the state and nation's most famous and important sites, but what technology is required behind the scenes to make it possible for the science itself to be done. There is a very good short video about the NRQZ IPG at the Wired Science web site: <http://tinyurl.com/368ffk>.

Thanks to the personnel at the IPG and NRAO for their help and allowing me to use some info from their web site. Have a good winter, and send me your radio and repeater news at ad8t@sera.org. 73, Mo

AARC Public Service Schedule

Saturday March 26	Bel Monte Endurance Run
Sunday March 27	Jefferson Cup Bike Races
Saturday June 4	Tour de Greene
Saturday June 11	MS-150 Bike Tour Day 1
Sunday June 12	MS-150 Bike Tour Day 2
Saturday August 27	Devils Backbone Mountain Cross
Saturday Sept 24	Great Eastern Endurance Run

Area Hamfests

FrostFest	Saturday February 5 The AARC will have 2 tables again this year. Plan on bringing anything you would like to sell.
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FCC Database Updates

New Calls	
Upgrades	
Vanity Calls	

VE Session Schedule - 2011

Date: Saturday Feb 12 Location: NRAO Rm 230 (ARRL VEC)	Remember the new Technician Question Pool is effective as of July 1, 2010. DON'T study the old questions!!
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AARC Club Officers

President	Jim Crosby	K4JEC	jecrosby@comcast.net (434) 987-2006
Vice President	Greg Faust	N4PGS	n4pgs@arrl.net (434) 978-1962
Secretary	Patsy Crosby	K4PMC	patsycrosby@comcast.net (434) 989-2362
Treasurer	Don Eason Jr.	N4UVA	deason@comcast.net (434) 973-9119
Director	Jim Wilson	K4BAV	jwilsonphoto@earthlink.net (434) 245-7041
Director	Linda Beard	KI5LLB	lindaskyone@embarqmail.com (434) 823-2107
Director	Dave Damon	K4DND	k4dnd@arrl.net (434) 973-5866
Director	Bill Phillips	AD6JV	billp1048@earthlink.net (434) 872-0686
Director	Mike Rein	KA4JJJ	mfr6t@virginia.edu (434) 9774281
Director	Jim Owen	K4CGY	k4cg@yahoo.com 434-296-3044

Contest Calendars

ARRL Contests	ARRL sponsored contests
SM3CER Contest Service - Calendar 2011	Contests all over the world! Also has links to online rules for most contests
Contesting Online	Just about everything contests!

Albemarle Amateur Radio Club
P.O. Box 6833
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<http://www.albemarleradio.org/>



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ISSUE DEADLINE - 25th of each month

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Next Club Meeting : February 8 - 7:30 PM NRAO Auditorium

CLUB MEETINGS and NETS

REGULAR Meeting: Second Tuesday of each month at 7:30 PM
BOD Meetings: Prior to regular meeting at 7:00 PM
Meetings are held at the NRAO building on Edgemont Road.
LUNCH BUNCH: Wednesdays -- Area hams gather at the **Wood Grill Buffet** on Rte 29 North from 11 AM – 1 PM
Monday Night Information Net – Each Monday at 7:00 PM
Northern Piedmont Emergency Net: Each Thursday at 8:00 PM
All Nets are held on the 146.760 repeater

AREA REPEATERS

146.760 (-) 151.4 Hz Tone **WA4TFZ**
146.925 (-) 151.4 Hz Tone **WA4TFZ**
146.895 (-) 151.4 Hz Tone **WA4TFZ**
224.760 (-) No Tone **WA4TFZ**
444.000(+) 151.4 Hz Tone **WA4TFZ**
444.250 (+) 151.4 Hz Tone **WA4TFZ**
Other Area Repeaters
444.775 (+) 151.4 Hz Tone **KF4UCI**
442.075 (+) 151.4 Hz Tone **KF4UCI**
443.000 (+) 151.4 Hz Tone **W4UVA**
145.17 (-) 151.4 Hz Tone **W4FCO** (Fluvanna)
146.79 (-) 110.9 Hz Tone **WW4GW** (Buckingham)
145.450 (-) 151.4 Hz Tone **K4DND** (MJ Hospital)
IRLP Node # 4703
224.600 (-) 151.4 Hz Tone **KG4HOT**

Membership application available in PDF format at http://www.albemarleradio.org/members/AARC_member_application.pdf

