



The Beacon

A monthly newsletter of the Albemarle Amateur Radio Club serving Central Virginia

Celebrating our 50th Anniversary

June

2013

Club Meeting Set for Tuesday, June 11, 7:30 pm

The Albemarle Amateur Radio Club will meet in the National Radio Astronomy Observatory, 520 Edgemont Road, Charlottesville, VA on June 11 at 7:30 pm.

The president has called a board meeting for 7 pm. prior to the 7:30 General Membership Meeting.

Is Amateur Radio Important to You?

By Bob Pattison, K4DU

Amateur Radio is an important part of my life and has been for about 50 years. It has given me the gifts of enjoyment, knowledge and friends. It has also taught me valuable life lessons and taken me places that I never imagined I would go. Not to mention the many hours of joy that I have operating.

As a community within this nation of 300 million + people we are relatively small. At a little over 700,000 our amateur radio population is roughly equivalent to the total annual season attendance at The Ohio State University or the University of Michigan football games. Because we are an aging population we need new blood, and we need young blood. Expanding the pool of amateur radio operators will increase the number of technically competent individuals in our nation (and the world).

I have felt for some time that we should have a goal of increasing the number of hams in the US to a million or more. While I cannot currently have an impact on this issue on a national scale, I can have an impact here. Of all of the messages that I will send this year as President of the Albemarle Amateur Radio Club this is the most important one and one that I hope will have a lasting effect.

If you love amateur radio, share it with as many people as you can. Tell them what excites you about our hobby.

Tell them what you do. Actively recruit, mentor, Elmer and encourage someone to join our ranks. And once they get their license, continue to Elmer them and get them on the air. If each licensed amateur radio operator recruited just one new ham a year for a year or two our ranks would grow well beyond a million. This "Each One Reach One" campaign will pay dividends for our hobby and for our nation beyond your imagination.

Don't worry about the bands becoming over crowded. We can solve that through technology and a growing active population should encourage the FCC to consider further expansion of frequencies beyond what is currently planned.

In the final analysis it is up to each of us to recruit those who will eventually replace us. If you love ham radio take an active part to ensure that it will be there in the future for yourself and others. In the final analysis it is up to each of us.

Foxes in Space!

Coming Soon to your Local Sky -- Want to Hunt for Them?

By Bill Arnold - K4IB

Would you like to participate in a first of its kind, Foxhunt in Space? The Foxes are miniature spacecraft, dubbed "Sprites" that will be launched into low earth orbit in mid-November 2013 for a limited engagement.

Want to find them? . . . With a few fairly inexpensive parts and rudimentary assembly skills, interested members of AARC can take part in a pioneering experiment in space. Does this grab your attention? If so, read on.

Zac Manchester (KD2BHC) an Aerospace Engineering Graduate Student at Cornell, and his group, chaired by his mentor, Mason Peck, PhD, are preparing to launch several small "KickSat" satellites later this year, piggybacked aboard a SpaceX craft, the prime mission of which is to replenish the International Space Station (see CQ April 2013, pp 74-5). Each KickSat will deploy about 100 solar powered "Sprite Satellites" into low Earth orbit. During a recent telephone conversation I had with Zac, he asked us (AARC) to consider joining a growing number of Clubs and Academic Departments who will monitor RF signals transmitted by the satellites.

Each Sprite is a circuit board about the size of two postage stamps, with a mass of 5 grams (that of a U.S. nickel). The board is populated with solar cells, a gyroscope, a magnetometer, a UHF radio transmitter, a micro-controller, a dipole antenna and other components. Individual Sprites will transmit a unique series of characters, usually a few letters, "Like your initials," according to Zac. Currently, three Sprite prototypes are orbiting earth in a Materials Science Experiment Pallet that was mounted on the outside of the ISS in 2011 during the final mission of the Space Shuttle.

All Sprites to be launched this year will transmit a 10mW signal on the same frequency, about 437 MHz. The exact frequency will be determined by the date and time of the launch, so that Zac can coordinate it with the IARU. Signals will be encoded with CDMA technology using PRN spreading codes for unique identification of each Sprite, so that with the proper equipment, ground stations can monitor individual Sprites (see ARRL Handbook 2013 pp 8.15-16). The anticipated life of the Sprites is up to 3 months, although it may be significantly shorter pending the status of the atmosphere.

Monitoring Information

If you have read this far, you may be interested in building a ground station to monitor the Sprites. The following is a list of components, sent to me by Zac, that when assembled, will be able to carry out this mission.

In Zac's words, "Here is some info on the ground station stuff:

"I'm using this **antenna**, but basically any **yagi** will do

<http://www.arrowantennas.com/arrowii/440-5ii.html>

"I'm using this **Low Noise Amplifier**, but again, any decent one will work:

<http://downeastmicrowave.com/PDF/l-1na.PDF>

"Here is the **USB dongle**:

http://www.amazon.com/Receiver-RTL2832U-Compatible-Packages-Guaranteed/dp/B009U7WZCA/ref=pd_bxgy_e_img_y
or,

http://www.nooelec.com/store/software-defined-radio/sdr-receivers/tv28tv2.html#.UYp1_it34ls

"It uses a tiny **MCX** connector, so you'll probably want an adapter for **BNC** or **SMA** like this one:

http://www.amazon.com/Garmin-MCX-BNC-adapter-cable/dp/B0000C5FX5/ref=pd_luc_sbs_02_03_t_lh?ie=UTF8&pssc=1"

"That's it for the hardware. The **software** installation info is here:

[https://github.com/zacinaction/kicksat/wiki/Installing-GNURadio-\(Ubuntu\)](https://github.com/zacinaction/kicksat/wiki/Installing-GNURadio-(Ubuntu))

"and here for Windows (less well tested):

<https://github.com/AndrewBIS/kicksat/wiki/Installing-GNU-Radio-for-Windows-with-Funcube-Dongle>

"I'm still putting together a full guide. I'll post on the Kickstarter page when it's ready."

Best,
Zac

At a future monthly meeting of AARC, Bob Pattison plans to discuss the potential for assembling a group of

interested members to work on this monitoring project.

Meanwhile, if you have questions about this proposal, please contact me via wpa@virginia.edu, or call me at home via the telephone number listed in the current AARC Membership Directory.

Thanks for your attention.

Bill – K4IB

Selected Additional References

1) Zac Manchester's Kickstarter site, devoted to the project, his **UPDATES** are important:

<http://www.kickstarter.com/projects/zacinaction/kicksat-your-personal-spacecraft-in-space/>

2) Excellent article by Mason Peck, PhD about the rationale for creating tiny spacecraft:

<http://spectrum.ieee.org/aerospace/satellites/exploring-space-with-chipsized-satellites/0>

3) Wikipedia article about Kick Sats

<http://en.wikipedia.org/wiki/KickSat>

4 Additional CDMA Details:

http://en.wikipedia.org/wiki/Code_division_multiple_access

5) BBC News Item:

<http://www.bbc.com/future/story/20130215-your-personal-satellite-awaits>

6) Only for those who have read this entire proposal:

Many of these references have links to multiple other sources of pertinent information.



Bob – K4DU and Harry – W2HD arrive for the meeting. (Photo by Jim – K4BAV)

President's Remarks

By Bob Pattison – K4DU

And then it was June! June is a very busy month for ham radio in Central Virginia. We open with the MS 150 (June 8th and 9th), an event we have worked with for years. You might say that the AARC's attachment to public service began with the MS-150 more than twenty years ago. This is the event most of us cut our public service teeth on. **We need your help this year.** If you haven't already done do contact Joe Flamini W4BXG (434-960-9259) or joeclamini@gmail.com and get on the list. You don't have to do both days, but please do what you can to make this event a continued success. No experience necessary. Training and guidance will be provided. Come on in the waters fine!

For those of you who find yourself in Northern Virginia on June 9th there is the Manassas Hamfest at the Prince William County Fairgrounds sponsored by the "Old Virginia Hams". Yes that is the name of the club. Next to Frostfest this is one of largest "nearby" hamfests (No comparisons to Dayton, please). It is a fun show and worthwhile if you need to buy or want to sell some gear. I try to make this show each year. Bring your suntan lotion.

Then of course there is Field Day. Planned this year for June 22nd and 23 Field Day is great exercise and event for the AARC. This year we will again be at the Earlsyville Fire Department (EVFD) on Reas Ford Road. Don't be shy and plan to be there. FD is a great opportunity to meet and greet and to get setup and operating experience. You never know when you will be called to use the skills you acquire at FD. Several years ago just weeks after Field Day the bridges on US 29 between Madison and Greene were washed away. The FD experience we gained was critical in setting up and operating stations in the aftermath of this disaster. There will also be a VE session on Saturday morning June 22nd at 9:00 at the EVFD.

In past years we have used Field Day for several purposes. Of course the prime objective is to give us experience setting up and operating stations in the field. Some of the other functions are to promote amateur radio to the public, get our story in the media, also to give VHF/UHF operators some HF experience, to demonstrate the wonder of radio perhaps planting the seed for a future ham or two and to gather our families together around a summer meal.

We get out of life what we put into it. Be a part of it! Work the MS 150 and Field Day and go to Manassas.

Boat Anchor Special

By Michael F. Rein – KA4JJD

In 1761, the town of "Boone-Towne" was established in New Jersey and named in honor of the [Colonial Governor Thomas Boone](#). Chartered as Boonton in Morris County, New Jersey in 1867, this thriving metropolis boasted a population of about 8400 in 2011. Most of the original town is now, alas, under the Jersey City Reservoir, the first municipal water supply to be chlorinated. I trust early Boonton is not taking this personally.

In 1891, the Loanda Hard Rubber Company was founded and later on became the largest manufacturer of Bakelite, which is, no doubt, in many of our favorite knobs even to this day.¹ This enterprise appears to have encouraged the radio and electronics industries to come to the Boonton area. In the 1920's, radio manufacturers used lots of molded parts and, thereby, attracted the attention of Richard W. Seabury, who developed Radio Frequency Laboratories to exploit that new field. A number of radio and electronics firms formed in Boonton, and were recognized internationally (and by Joe, W2PVY) for the excellence of their products. Most of these firms, including RFL Industries, Aircraft Radio Corporation, Ballantine Laboratories, and **Measurements Corporation** are no longer in existence in their original forms.²

The Measurements Corporation, was founded in 1940 but closed in 1954. Its president was Harry W. Houck, who had worked with **Capt. Edwin H. Armstrong** during the World War I and later on the first superheterodyne sets. In few years Measurements Corp become one of the outstanding developers and manufacturers of a precision line of laboratory standards designed for radio, television, and many other branches of the electronic industry. In July 1953 Measurements was purchased by Thomas A. Edison Incorporated of West Orange, New Jersey.²

But I digress.

So this brings us to the real subject of this article, the **Measurements Model 80 Standard Signal Generator**. First built in 1945, this instrument was still in widespread use (according to some bloggers) in the 1960s and even the 1970s. In a recent personal interview, Joe, W2PVY, said that he used one extensively, remembers it well, and valued it greatly.

The **Model 80** is a true boat anchor, weighing in at 44 pounds on my bathroom scale. It might feel at home beneath the Jersey City Reservoir. It measures 19.1 x 11.4 x 11.1 inches and fortunately comes with two (count 'em, two) handles. It contains the following tubes (that's valves, for its contemporaries): [6SN7](#) [6SN7](#) [6SJ7](#) [6SL7](#) [6V6](#) [6V6](#) [5Y3](#) 955. It generates signals from 2 to 400 Mhz (that's megacycles for its contemporaries) in six bands. The (maybe even *this*) set has a dignified and extensive military history, being much prized by the Army technical staff.



And now to the point: Who wants it??

This fine and historically significant piece of equipment was left on my doorstep about two years ago by K1EE (he is also responsible for many of our mystery items). It has been treated very well in the interval, having sat undisturbed on my basement floor.

You can have it for a ≥\$10 donation to the AARC and some assistance with delivery (i.e. come pick it up, or I could bring it to a club meeting)

I do have the complete owner's manual, which I will email to the lucky purchaser. Let the pileup begin.

References:

¹http://en.wikipedia.org/wiki/Boonton,_New_Jersey

³http://www.radiomuseum.org/dsp_hersteller_detail.cfm?company_id=8578

²<http://www.boonton.org/about>

Public Service Report

By Joe Flamini – W4BXG

Okay, Dayton's over and I need warm bodies! June 8 & 9, the Tour de Vin (MS150)..... I'm still about 15 souls short. To make matters worse, I myself can't be there, and I'm gonna need a coordinator. Please, please call me (434-960-9259) & we'll see how you can be one of my heroes.

The Digital Net

By Mike McPherson - KQ9P

Please join us for the new Albemarle Amateur Radio Club Digital Net (ADN). To get started, the ADN will meet on Mondays at 8:15 pm local after the AARC Monday Night Info Net. The purpose of the ADN is to encourage experimentation with digital modes and operating techniques, and to provide opportunities for interested participants to gain experience as Network Control Stations (NCS) in a digital environment. All licensed amateur radio operators are invited to participate, including visitors to the area. The ADN will not, at least at first, handle routine traffic, but we will be prepared to handle emergency should there be any.

Although I am kicking this off and will serve as the initial NCS, I don't intend for this to be a one-man show. If you are interested in participating as an NCS please email me. We will rotate NCS primary and backup duties so everyone gets experience.

Let's start off by keeping it simple this first time. Dave K4DND has kindly offered the use of the 146.730MHz repeater. I will call the net and take check-ins via voice. Following check-ins, we will conduct this first session using the Olivia 8/500 and MT63-2000L modes at 1000Hz on the waterfall. (The reason for choosing these two modes is that they work well via "acoustic coupling," literally holding your HT up to the speaker/mic on your computer and keying the PTT manually. Dave and I have tested this, and it works very well.) I will transmit some text messages for everyone to receive, then provide opportunities for all those who so desire to transmit text messages themselves. I'll intersperse voice announcements and instructions, so it won't be all-digital.

If you are an old hand at digital modes you are welcome to use the software and hardware with which you are already familiar. If this is all new to you, I recommend that you

consider the fldigi software package. It is open source and free; versions are available for Windows, Mac, and Linux; and it is quite feature-rich. Dave Kleber KB3FXI, the organizer of the paNBEMS, has done some really nice instructional videos. Take a look at <http://youtu.be/SWZ2vKWSiIE> and <http://youtu.be/1wZ7uIA-Qs>. (Keep in mind that the current version of fldigi is newer, so some things will have moved around and look different. Also, we won't be using flmsg at first.) If this is all Greek to you feel free to drop me a note. I'll be at the meeting tonight and happy to take questions there, as well.



Who ever heard of a ham with rabbit ears? It appears Marty K4MBW felt Jim K4CGY needed a pair. (Photo by Jim K4BAV)

The Beacon

The Beacon is the official newsletter of the Albemarle Amateur Radio Club, Inc. It will strive to communicate with, enlighten, and entertain the members of the club in strict compliance with the official word of the club as set forth in the Articles of Incorporation and Bylaws. The newsletter shall be published monthly on or before the 1st day of the month of issue. The deadline for submissions shall be the 25th of the month preceding the month of publication. The primary role of the publication shall be to promote upcoming activities, report past activities and accomplishments of the club and its members, carry the minutes of the preceding month's meetings, as well as, become a recorded history of the club by the archival of all past issues.

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AARC May Meeting Minutes

Board Meeting

The meeting was called to order at 7:04 by K4DU. The following officers and committee chairs were present: Carter Elliott WD4AYS, Joe Flamini W4BXG, KT4UO Teri Henderson, Jim Owen K4CGY, Bill Phillips AD6JV, Bill Pond N0WP, Michael Rein KA4JJD, and Jim Wilson K4BAV

Call for comments or items from Committees

- a. Public Service: Joe Flamini, W4BXG - to report at the meeting
- b. Estate Committee: Dayton Haugh, AA4DH - to report at the meeting
- c. Technical Committee: Bill Pond, N0WP – Upon further reflection Bill has decided not to spend the \$300 on Bucks Elbow. The weather radio at Marshall Manor is not working and needs to be replaced (\$40) Joe Flamini, W4BXG seconded, motion carried. Bill offered a motion to purchase 4 real time clocks for the repeaters controllers. These will cost \$40 each and will allow us to enable the announcement capabilities of the repeaters. With these installed we can announce meetings, field day and VE sessions among other things (\$160 total). Carter Elliott WD4AYS seconded and the motion carried.

At the Marshall Site Elmer Scott has offered to trade a Vertex 440 repeater in exchange for an Arcom controller kit. This \$265 investment would result in us being able to upgrade the equipment we are using on 444.00. Bill Pond N0WP offered the motion that was the seconded by Michael Rein KA4JJD. The motion passed.

New Business

- a. Service Monitor proposal – Bill Pond N0WP proposed that we purchase a Spectrum Analyzer from Rigol. This could be used to tune cavities and measure deviation. Rigol is offering these at \$1495. Bill will present this to the club for approval.

- b. Utilizing our club repeater contest – Taking a cue from the Palos Verde radio clubs newsletter that K4DU received from KQ9P Bob spoke about a potential Century Club Award that will increase activity on the repeaters and give additional incentive for others to serve as net control stations. Bob will work up the rules for the next meeting.
Board Meeting Adjourns 7:29

General Meeting

Call to Order 7:39 by President Bob k4du

Introductions

Program

“Dayton Hamvention®” by Bob Pattison K4DU; Bob, a veteran of 18 Hamventions told us all about the best hamfest in the world and why you should plan to attend.



Bob and Vic at Dayton. (Photo by Jim K4BAV)

Raffle Items were previewed by Michael Rein, KA4JJD
Secretary's Report

- a. KT4UO Secretary asked for a motion to accept the minutes of the April meeting, or for modifications or approval of the board meeting minutes as published in the April issue of The Beacon. A motion to approve the minutes as published was made by Michael Rein KA4JJD and seconded by Joe Flamini W4BXG. The motion carried.

- b. The secretary presented applications for new members to be voted on by the membership.

1. Underwood, John K4EBS
2. Momotani, Ko (no US call yet)
3. Sterling, William K4OOO
4. Peters, Michael (no call yet)

Joe Giovanelli W2PVY moved all 4 be approved as a slate; the motion was seconded by AJ Miller KE4AJM. The motion carried.

Treasurer's Report

In Don Eason's absence the Treasurers report was by given by Teri Henderson KT4UO:

Beginning Balance: \$8,887.69
 Checks Paid: \$304.65
 Deposits: \$253.88
 Ending Balance: \$8,836.92

Vice Presidents Report

Carter Elliot WD4AYS asked for volunteers for presenters/presentations at future meetings.

Committee Reports

- a. Public Service: Joe Flamini, W4BXG. Volunteers are urgently needed for the MS 150 Tour de Vine June 8-9. 20 people are needed for each day of the 2 day event. We also need someone to manage the event as he has to be at work on those days. Joe also publicly recognized volunteers and acknowledge the expense that each operator contributes by bearing the cost of participating in these events.

- b. Technical Committee: Bill Pond, N0WP believes with the number of machines that the club owns we need to have the proper equipment to make the necessary adjustments. He suggests we acquire a Spectrum Analyzer with tracking analyzer from Rigol which is selling for \$1,495 plus tax. A motion to do so was made by Michael Rein, KA4JJD and seconded by Joe Flamini, W4BXG. The motion was passed.

Repeater status as reported by the technical committee:

Buck's Elbow: unchanged

Heard Mountain: unchanged

Marshall Manor: tentative feelings we have improved the previous interference/noise issues. Controller upgrades and other related work much of which was meant to address the noise was completed on 4/23. We may have to perform further work to improve/eliminate the noise issues at this site since a similar noise was experienced on this machine one day last week.

Martha Jefferson Hospital: unchanged

Repeater plans:

Buck's Elbow: As soon as current testing of link functionality is finished, we will be making a trip to Buck's elbow to accomplish the following:

Replace the current antenna. Current antenna appears to be damaged at its base. It is leaning, and probably has water infiltration. We also will upgrade the controller code (new version) and install the programming to enable linking to 146.760. We will also install and test the link/control radio (Kenwood TK880 on 440)

Heard Mountain: When time permits paint the building. (Paint is onsite, but may not be "good" since it's been there for some time. Possibly move the antenna to the "other" pole which is a bit higher and on the other side of the building. This would raise the antenna by approximately 8 to 10 feet. Then upgrade controller version to same as currently running at Marshall Manor. Install controller macros which will enable linking to 146.760. Install controller rack mount cabinet/housing. Adjust audio levels on 440 link/control radio.

Marshall Manor: We have an offer from Elmer, KF4UCI to procure a Vertex VXR5000 repeater on UHF that is excess to his needs. This would replace the existing pair of Kenwood commercial radios on 440 that are performing the function of a repeater. The replacement should provide better performance which I believe will be needed as linking begins to be used. It will also allow us to control functions remotely such as enabling/disabling tone access which we can't currently do on 440. It should provide better audio on 440. Since this Vertex is excess to Elmer's needs, we are able to procure it at a cost to the club of approximately \$250 to \$300.

Martha Jefferson Hospital: when time permits, Investigate issues that seem to affect remote base performance. (2 meters seems to be very weak/unusable most times). Install repeater cabinet/case

Upgrade controller code level

Alterations to existing plans: At the last meeting, Bill asked for budget money to move the 224.760 repeater from Buck's Elbow to Martha Jefferson Hospital. This is no longer being planned since Bill has been advised it would potentially duplicate coverage with KG4HOT's 224.600 (Marshall Manor), and eliminate coverage that is hoped will again be useful from the current location once the antenna is replaced. This means that Bill will not be using the \$300.00 that was allocated for the move to Martha Jefferson.

Other: Bill Pond N0WP would like to ask for budget allocations for the following new items, and also for the items called out above:

He would like to install Arcom Real time clock modules on the 4 repeater controllers we have in operation. This will allow us to setup macros that will perform functions on time/date based parameters like meeting announcements, bulletins, prepare the repeaters (linking perhaps?) for nets. It should also facilitate us to prepare and broadcast announcements that we can record on the controller's existing voice recorders. If purchased in May, they are now \$40.00 each for a total cost of \$160.00

The committee would like to purchase the Vertex repeater mentioned above for Marshall Manor. This should serve us well for many years. Elmer would like for us to trade an Arcom repeater controller kit in exchange for the Vertex VXR5000. The controller kit and cabinet is available in May for \$260.00

We should purchase a new weather radio for Marshall Manor. Cost is between \$35.00 and \$40.00

It has become very apparent to the committee that we're not currently able to adequately tune various components of our repeater systems. In the past, we've relied on members who had access to sophisticated test equipment when we had a need to perform adjustments such as transmitter deviation and the very critical duplexer tuning. Tracking down the source of noise as we've recently been fighting both at Marshall Manor and Martha Jefferson requires the use of equipment beyond our ability to readily access. Since access to this equipment is critical not only for good performance, but also for FCC compliance, the committee believes the club should seriously consider purchasing either a good used service monitor, or a spectrum analyzer. In the latest QST magazine, there is an ad from a company named Rigol that is selling a brand new Spectrum Analyzer with tracking generator for about \$1500.00. The reviews indicate that it would provide us with the capability we're currently lacking. Since this company will be at the Dayton Hamfest, the committee would like to ask Bob Pattison or any other members that will be there to look at the device during their visit, and provide feedback. We should be able to use this device to test members' radios for proper deviation as the basis for club programs as an example of places where we could put a device like this to good use.

d. Education Committee: Bill Phillips, AD6JV. The Technician License course is in progress. We have four enrolled students.

e. Fund-raising Committee: Michael Rein, KA4JJD - raffle items detailed below

f. Public Relations: Jim Wilson, K4BAV - Field day plans have begun

Old Business

a. Fox Hunt: Mike Gilmore K8RVR gave a brief recap of the Fox Hunt and recognition certificates were distributed for the fox hunt held May 4; there were 11 participants, including guests and non-hams



New Business

a. Sprite SAT project Opportunity - Bill Arnold K4IB spoke about the Sprite Sat operation and encourage members to participate by listening for these small satellites no bigger than a cell phone. He has spoke to the person in charge of this project at Cornell. The launch is scheduled for November 11. Bill will provide additional information by email to all on the AARC email list.

Raffle

KA4JJD –

BOAT ANCHOR SPECIAL!! - Who wants it?? For a \$10 donation to club (or make me an offer) Exciting!!!! A Measurements Corporation Model 80 Standard Signal Generator (Circa 1945). It weighs 44 pounds and Mike will deliver it to club meeting, or (preferred) you can pick it up at his home off Georgetown Road.

The complete owner's manual is available by email. Yet Another Elmer Scott (K4UCI) Special - 440 mHz, Motorola MaxTrac, 30-50 WATTS!!! It is programmed with all local 440 repeaters. A great partner to the Scott Special 2M!

Consolation Prize (or if you just don't want the mystery item) - A CORD CONTROL KIT (you know you need this) Disc, Disc, Disc Pack

2012 Radio Amateur Callbook (donated – K4DND)

2009 ARRL Handbook CD (this was useful when I was studying for extra exam, and the speed of light has not changed since 2009 – KA4JJD)

Gordon West "On the Air Extra Class Operation Audio CD" Cans!!

Phillips HD-3030 headphones

Street value: \$16, Donor: KA4JJD

3rd? 4th? 5th? Prize: The Penultimate Mystery Item

The meeting adjourned at 8:58 pm

Classified Item Listing

To place an item in the Classified Listings just send an email to k4rka@juno.com

= NEW SWAPFEST ITEMS & MOST RECENT LISTINGS
as of 5/25/2013 =

Base Antennas for sale

2 meter Spectral Isopole-\$50.00 good for repeater use

6 meter Ringo vertical -\$25.00

10 meter Maco V58 5/8th wave-75.00

Thanks

Jaime Bernate-KA3NXN@COMCAST.NET

=====

FOR SALE

2 meter / 450 beam. 10 Horizontal and 10 Vertical elements, 2 feed lines. \$50

2 element 5 band quad antenna, 20-10 meters. Fiberglass spreaders. \$75

G5RV 80 - 10 meter version w/about 40 ft of RG9x co-ax. \$35

pictures available. contact ron at K4RKA@JUNO.COM or 434-973-3640.



Michael, Bill, Marty and Joe in the background at the May meeting. (Photo by Jim K4BAV)



The meeting group. (Photo by Jim K4BAV)



This group met to discuss the 50th Anniversary of the club and what we could do to celebrate and acknowledge the special event. (Photo by Jim K4JEC)



This view of the 2013 Dayton Hamvention was recorded by Jim Wilson K4BAV.

Elected Leadership 2013

| | | |
|-------------------------|------------------------------------|----------------------------|
| Bob Pattison – K4DU | President | rep4@aol.com |
| Carter Elliott – WD4AYS | Vice President | celliott14@aol.com |
| Teri Henderson – KT4UO | Secretary | kt4uo@earthlink.net |
| Don Eason, Jr. – N4UVA | Treasurer | deason@comcast.net |
| Joe Flamini – W4BXG | 2-year Director of Public Services | oeflamini@gmail.com |
| Dayton Haugh – AA4DH | 2-year Director of Estate Services | dayton@compuserve.com |
| Bill Pond – N0WP | 2-year Director – Technical | wdpond@mac.com |
| Bill Phillips – AD6JV | 1-year Director – Education | billp1048@earthlink.net |
| Michael Rein – KA4JJD | 1-year Director – Fundraising | mfr6t@virginia.edu |
| Jim Wilson – K4BAV | 1-year Director – Public Relations | jwilsonphoto@earthlink.net |

Please Note

Submissions are welcome and encouraged. Please consider what you would like to share with your fellow club members. It could be unique knowledge or approach to solving an amateur radio problem. It could be a piece of history you discovered related to the club and/or its members. It could be a photograph of some club activity or individual member activity – all ideas are welcome. In all cases electronic submissions are appreciated because my keyboarding can only introduce gross errors.

Submit your input and/or ideas to:

jecrosby@comcast.net

434-823-2277

The End

That's all I have
for this month.