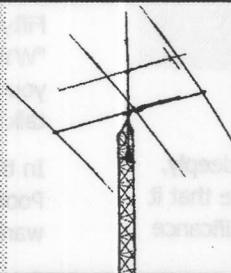


# The AARC Beacon



*Amateur Radio News For  
Charlottesville and  
Albemarle County,  
Virginia*

Volume 2001, No. 10

October 2001

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## Meeting Notice

The next regular AARC meeting will be held on October 9 at 7:30 PM at the NRAO building at UVA. Annual Elections of Officers and Board Members will take place. Also, Joe, W2PVY will give a presentation of an AM receiver he built that has unusual characteristics.

See you there!!

## Nominating Committee Slate of Candidates

As of press time, the nominating committee has put together the following slate of candidates for club officers for the coming year:

President	K4DU	Bob Pattison
Vice President	?	
Secretary	AG4DN	Marty Mait
Treasurer	K4CFE	Ralph Traylor
Director	KF4ZGD	Steven Traylor
Director	KJ4XZ	Will Seay
Director	KX4P	John Green
Director	?	
Director	?	

We will keep trying until the October meeting. Hopefully, we will get some volunteers at the next meeting. This list is the result of about 50 phone calls.

73, Rick, KO4WQ

## The President Speaks

Stan, K2SSB

The calamitous events of September 11 hit all of us deeply, and made us realize how vulnerable we are. I'm sure that it was lost on none of us that they have particular significance for our fraternity.

CB operators like to boast that they can provide communications in an emergency. Three things are fatally wrong with this scenario. First, if a national emergency is so serious that non-essential communications services are shut down, CBers are among the first to be silenced. Second, they are not authorized to enter areas in which an emergency is in process. And third, CBers generally have no training in communicating in emergencies.

That's where we come in. All of us. We are not silenced in an emergency. Those of us who are enrolled in RACES are authorized to enter emergency areas.

How about the third point? The Northern Piedmont Emergency Net meets every Thursday evening, fifty-two weeks a year. What is the average participation? From ten to twenty? And what fraction of the radio amateurs in this area does this represent? I'll wager that it is quite small.

If we are to be truly useful when dire emergency strikes, we must be prepared. We must know net discipline. We must have truly portable gear that is "ready to travel" in less than five minutes. We must have one or more power sources that can reliably power our transceivers for several hours at a time. We should have standard power connectors in place, so that we can readily switch to others' backup power sources. We must have movable antennas that perform better than "rubber duckies..." And we must have our RACES authorizations ready to travel with us.

How do you measure up?

73, Stan

## Veep Peeps

Vic, N3DFS. "Photos by Vickery"

### Roving the Repeaters

I recently completed a round trip via southern to northwestern Tennessee, and listened to many VHF and UHF repeaters along I-81 and I-40. I found a confusing array of "repeater courtesy" in each state.

Most of my time was spent in listening. On one repeater, a caller might say "WX2ABC Listening." He would immediately be pounced upon for his lack of "courtesy". "You don't use that on this repeater. You use the other guy's call sign."

Fifty miles down the pike, a caller would announce: "WY4XYZ, Monitoring." He would be told "On this repeater you should say 'CQ CQ and your call sign' if you just want to talk to anyone."

In the next city, he might say: "CQ CQ, this is WY4XYZ". Poor guy! He would be corrected: "On this repeater, if you want to talk to just anyone, you say: 'WY4XYZ Monitoring'."

As a result, I listened and THEN called a specific station, as "WK4RYU, this is N3DFS." No sweat!

I cannot for the life of me understand why so many groups have such different protocols. Further, some of those who piped up with corrections were less than polite.

The Repeater Guide and the guides of every repeater group/club I have been associated with have the same preferred method, the same preferred protocol. I think this should be generalized throughout.

Just my opinion.

73, Vic

## The Good Old Days

Harry, W2HD

Those who know me well, realize that my philosophy is that the "good old days" are still to come. However, with the family budgetary constraints which may be in place during the coming holiday season, the words may take on a real meaning to many.

Recently, several of the old timers (anyone licensed longer than you) were ragchewing about the days of Gonset, Elmac, Heath (of course), Stancor, and the many other manufacturers of days gone by. A couple of the group had been to a recent hamfest where some of that equipment was for sale in the flea market. The question came up, "Is that gear worth the asking price"? Well, that all depends on a number of factors: Is the gear being sold as "antique"? Is it being sold as vintage gear in good working condition? Does it use tubes... you know, those glass bottles that don't glow bright enough to be used for illumination? Depending on the answers, you may want to consider the purchase.

Remember Harry's important instruction: Be CERTAIN that the gear works! If a tube is out, that could be a major cost of rehabilitation. Some gear used tubes called Compactrons which were a few different types of tubes in one container. They might cost a large number of bucks IF they are on the tube shelves anywhere! However, if all is intact and working, a modest price might provide a radio which can provide good service with some small degree of effort on your part. Early equipment was not shielded and filtered to prevent TV interference. You may have to go the extra few steps to add some filtering and shielding. You may need

quartz crystals for frequency control because many of the older rigs were built before vfo's. All of this could be worth the effort.

Not too long ago, our club witnessed an excellent program by a member who specialized in bringing old gear up to date. The equipment looked so good that it could sit on a dealer's shelf and compete with the very latest gear in appearance. I knew a fine Ham craftsman who replaced all the vacuum tubes in a particular rig with transistor equivalents. He also replaced most of the old paper by-pass capacitors with new ceramic units. The equipment almost hopped off the table with its new-found youth and my friend had a beautiful rig.

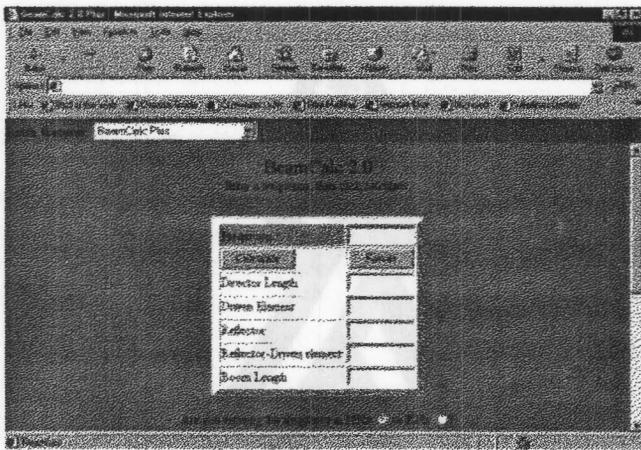
So... you can see, even with some 2001 budget constraints, you may still be able to get on the air with some equipment from the good old days. Let someone check its performance first before you put down your 2001 dollars and cents.

Good luck and 73... /s/ Harry, W2HD

## BeamCalc 2.0 Available on the Web!

Steve, KF4ZGD

Over the past summer, I have spent a lot of time trying to learn a new computer scripting language - JavaScript. About midsummer, I decided to build a tabletop three-element beam for the 70 centimeter band. However, the process of finding the dimensions for the beam left me poring over reference books, and my trusty calculator, late into the night. Finally, I decided that there must be an easier way. So over



the next several days I spent some time developing a world wide web-based calculator.

This calculator would accept a frequency, run it through all of the calculations, and then spit out the dimensions for the beam. After finishing a basic version of the calculator, I then did the calculations, and built my beam. I had almost forgotten about it when a local ham friend asked for

information about building beams. So, I e-mailed the BeamCalc to him. He thought it would be a highly useful tool, so he suggested that I put it up on the Internet. At first, I told him that it was a good idea, but since I did not have a registered domain name, it would not be feasible. He then suggested that he put it on his web site. I agreed, but the idea was short-lived, as the file was lost in a series of computer crashes.

About this time, I began making a more comprehensive, and informative BeamCalc. This new calculator was written so that it would accept a wider range of data. It also included separate calculators that would accept any single dimension of a beam, and from that, calculate the resonant frequency, as well as the missing dimensions. My friend also helped by drafting a three-dimensional rendering of this beam. I then took the rendering and added to it an article about the beam. After much work, the final version (V 2.0) became a reality. Courtesy of Matt Bisgaier, KF4TKJ, the BeamCalc is now available online at:

<http://www.mattster.com/beam/>

Even if you are not considering building a beam, check out the site! I think you will find it highly informative, and you may just find yourself building a beam that has been painlessly optimized for your favorite frequency on the ham bands!

73, Steve

## Crossband Repeat - Part 2 - Crossbanding to a Real Repeater

Gary Pearce KN4AQ - reprinted from the SERA Repeater Journal, August, 2001 (Txn to Dave, K4DND)

### Hung Up On Hang Time

Our first example was simple. Simplex. Simple simplex. It worked because when you and your friend let go of your push-to-talk buttons, the crossband mobile immediately stopped transmitting and began waiting for the next signal to appear on either of its two receivers, VHF or UHF.

But the wicket gets sticky when we try to crossband to a conventional repeater. And this is something you're much more likely to want to do. Say you're heading into a shopping mall. You can hit your local repeater easily from out in the parking lot, but deep inside the building, your little HT just can't make it. You might not even be able to hear the repeater. So you decide to crossband through your car out in the parking lot.

Yes, you can dial the VHF side of the mobile radio to your local repeater, with an offset, and leave the UHF side on simplex, and then put it in crossband repeat mode. Let's see what happens now, and don't worry if you have to go back

and re-read the description a few times. This causes confusion in everyone at first.

To get started, everything is quiet. The local repeater is not being used. Your mobile is just waiting. You head into the mall. And you decide to make a call. You key up your HT on UHF, and your mobile responds by rerouting your signal out to VHF, this time to your local repeater's input frequency. So far, so good.

You finish your call and let go of the button. The mobile stops transmitting on VHF, and is instantly met with a big signal on its VHF receiver from the main repeater. The main repeater is currently in "hang time" - that several second pause when the repeater stays on the air before dropping. Maybe it beeps. Your crossband mobile reacts quickly, turns on a dime and kicks on the UHF transmitter, sending whatever is left of the VHF repeater's hang time, beep, ID or tail message back to your UHF handheld. So far, still so good, but we've sewn the seeds of the impending problem.

Notice that during the main repeater's hang time, your crossbander is still doing its repeat thing, sending the main VHF repeater's signal back to you. Your crossbander doesn't understand the difference between when the main repeater is repeating a mobile, and when it's in hang time. It's all a VHF signal to your mobile, so it dutifully sends that signal out its UHF transmitter. And with your mobile's UHF transmitter on, it is definitely NOT listening for your UHF HT. It is fully occupied, very busy. At the moment, this is a one-way street, and all the headlights are pointed at you. Beep. KerChunk. The main repeater has finished its programmed hang time, and dropped off the air. And so has your crossband mobile. It is now sitting there, waiting for you to transmit back.

Well, the light bulb pops off over your head. All you have to do is wait for the hang time, and everything will be OK. As usual, KN4AQ is fretting the small stuff too much.

If only. Yeah, you've got it, the key concept, the Big Point. But you don't respect it enough yet. The severity of the problem is directly proportional to the length of the hang time on the main repeater. And some of them have *loooong* hang times. Imagine getting into a QSO on the repeater, with you walking around the bottom floor of the mall, going through your crossbander. Every time it's your turn, you have to wait for the repeater's hang time to quit. Five seconds worth. Ooops, somebody blipped the repeater during the hang time to see if they could make it beep, so there's another five seconds. It will become an eternity.

And it gets worse. Somebody breaks in to join the party. And your two friends begin talking. Neither one lets the repeater drop. Normally they don't have to - that's what the beep is for. But you are frozen out. Your mobile is stuck listening to the main repeater, and your UHF transmitter is locked on. We have a name for you: shortwave listener.

What can you do? There are some alternatives, but they all involve compromise.

Or money.

[To be continued next month... Ed].

## Club Business

### AARC Board Minutes September 4, 2001

Presiding: Vice President, Vic, N3DFS. Present: Secretary, Joe, KD4RWX; Treasurer, Ralph, K4CFE; Steven, KF4ZGD; Dick, W4BZW; Greg, N4PGS; Elmer, KF4UCI.

Treasurer reported no activity since last meeting.

Ralph also reported that on October 1st, there will be an opportunity for a ham radio display for home-schooled students and parents at the Cherry Avenue Christian Church.

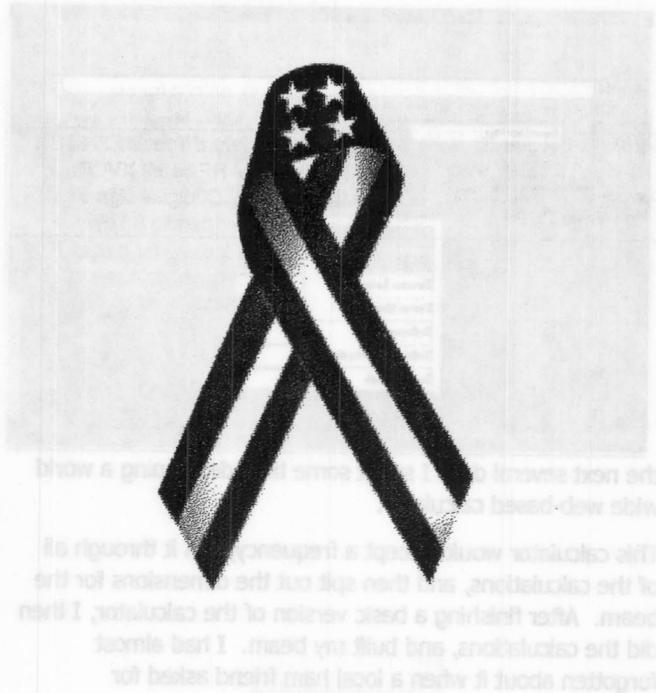
Greg reported that there would be a SET accident simulation in Scottsville on September 15th.

Elmer indicated the 440 repeater still needs to be moved.

### Regular Meeting September 11, 2001

There was not a quorum present. Due to the terrorist activity in New York City and elsewhere, the program was canceled. The President, Stan, K2SSB, did appoint a Nominating Committee as prescribed in the Bylaws. Named were: Rick Berman, KO4WQ; Al Green, KD4NRE; Marty Mait, AG4DN; Dick Millikin, W4BZW and Dick Hildabrand, K4EBL.

Submitted by Joseph D. Fritz, Secretary



## AARC Classified Ads

All items must be related to amateur radio and must be surplus to the owners operation (i.e. no dealers or for profit). Price may be listed if desired. **Note:** Check also the WA4TFZ/AARC web page at <http://www.people.virginia.edu/~ejd4e/aarc/>. Please note that all small letters must be used for this address. New Ads may be placed directly to the Editor: 804 990-2659 or via E-mail to the Editor at [k4uvt@yahoo.com](mailto:k4uvt@yahoo.com) Please **let K4RKA know when items can be deleted from this file.** Updated 9/20/01.

### 7/22/01 FOR SALE: Yaesu FT-901DM HF Transceiver

For 160, 80, 40, 20, 15, 10 meters. All solid state except 6146B finals and driver - 100 watts. Digital & analog readout. Built-in keyer, split operation, etc. AC and 12 VDC power supplies built in. Includes mic and mobile mount (new in box) and maintenance manuals. Excellent condition. \$375 OBO. Prefer pick up rather than ship. Call John, KX4P at 804 975-4493 (Home) or 804 978-2452 (Office).

### 7/22/01 FOR SALE: Five-Foot Rack

Professionally finished rack with blank panels, rear locking door, side panels, louvered top, mounted on casters. Includes miscellaneous hardware - rails, screws, etc. \$135 OBO pick-up only. Call John, KX4P at 804 975-4493 (Home) or 804 978-2452 (Office).

### 8/9/01 FOR SALE: HF Cubical Quad

John, WA4IUN, offers a Lightning Bolt 2-element cubical quad antenna, 5 band, 10-20 meters. Call him at 296-9016

### 9/20/01 FOR SALE: Icom 228H 2M Mobile

Bob, K4UVT, has an Icom 228H 2M Mobile rig with mobile mounting bracket and DTMF microphone. Also still have the manual! This rig still works FB - it just doesn't fit anywhere in the new automobile! Call 804 990-2659.

### 8/2/01 WANTED: 2M/440 Transceiver

Ralph, K4CFE, is looking for a 2M/440 transceiver with DTMF & CTSS. Repeat function desired but not necessary. Call Ralph at 434 296-7418.

### 9/6/01 WANTED: Electronic Keyer

John, WA4IUN, is looking for an electronic keyer. Call 296-9016.

### 9/20/01 FOR SALE: BencherPaddle/Keyer Yaesu FT767GX Xcvr Timewave DSP

Rick, KO4WQ, offers a Yaesu FT767GX (440, 2m, 6m, + all HF band) XVCR. Timewave DSP599ZX digital signal processor. Bencher paddle & keyer

### 8/16/01 WANTED: Dual Band Mobile Antenna

Josh, KG4NGV, is looking for a dual band 2m/440 mag mount antenna. Call him at 804/434 760-0417 (mobile phone)

## Area Hamfests

October 13  
Stafford, VA

Sponsor: Stafford ARA Web site:  
<http://www.n4nw.org/Hamfest.htm>  
Contact: Rich Diddams, KF6UTH  
33 Brush Everard Ct., Stafford, VA 22554  
Phone: 540-657-8322  
Email: [rdiddams@earthlink.net](mailto:rdiddams@earthlink.net)

## Birthdays This Month

Oct 5	KD4HBX	Steve
Oct 5	N7IVV	Brad
Oct 24	KF4ZGD	Steven
Oct 24	AC4ZQ	Mike
Oct 24	KB4JNI	Bud
Oct 29	WB4RBW	Nancy
Oct 29	K4APM	Linda
Oct 31	W3DXX	Howard

## FCC Database Updates

### New Calls

None reported

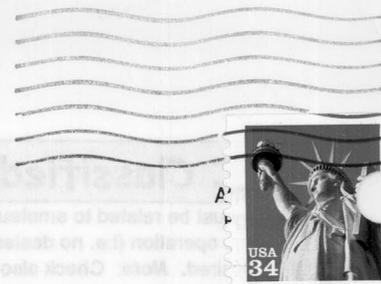
### Upgrades

None reported

## VE Session Schedule - 2001

October 13 Richmond  (ARRL VEC) Richmond ARC/RAVE	Patrick Wilson (804) 932-9424 w4pw@arrl.net 9:00 AM (NO Walk-ins allowed) J. Sargeant Reynolds Comm College 1651 E. Parham Rd. Bldg. B, Room 201 Richmond, VA 23228 Register at <a href="http://www.w4pw.org">www.w4pw.org</a>
October 13 Stafford  (ARRL VEC) Stafford ARA	Curt R. Bartholomew (540)720-2392 9:30 AM (Walk-ins allowed) PRE-REGISTRATION REQUESTED North Stafford High School At Water Tower on Route 10 839 GARRISONVILLE RD I-95 EXIT 143B, 4 Miles West Stafford, VA 22554
October 14 Lynchburg  (ARRL VEC) AB4M	Charles L. Beard (804) 832-7651 1:30 PM (Walk-ins allowed) Central Virginia Comm. College Room 2504 - Amherst Bldg 3506 Wards Rd. Lynchburg, VA 24502

**Albemarle Amateur Radio Club**  
**P.O. Box 6833**  
**Charlottesville, VA 22906**  
<http://www.people.virginia.edu/~ejd4e/aarc/index.htm>



**THE AARC BEACON**  
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**ISSUE DEADLINE - 23<sup>rd</sup> of each month**

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**(434) 990-2659**  
**K4uvt@yahoo.com**

**KA4JJD G 2001** **CURRENT MEMBER: 2001**  
**Michael F. Rein**  
**109 Sturbridge Rd.**  
**Charlottesville VA 22901**

**\*\*\* Next Club Meeting \*\*\* October 9 7:30 PM UVA NRAO**

**CLUB MEETINGS and NETS**

**REGULAR Meeting:** Second Tuesday of each month at 7:30 PM

**BOARD & TECHNICAL Meetings:** First Tuesday of each month at 7:30 PM

Meetings are held at the National Radio Astronomy Observatory (NRAO) building on Edgemont Road (UVA)

**LUNCHEON:** 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

**YL Net:** First Monday of each month at 8:30 PM

**Northern Piedmont Emergency Net / Swap Net / Technical Session:** Each Thursday at 8:00 PM

**All Nets are held on the 146.760 repeater**

**AREA REPEATERS**

**WA4TFZ**

INPUT/OUTPUT	Tone Access (if needed)
146.160/146.760	88.5 Hz
146.325/146.925	88.5 Hz (if enabled)
223.160/224.760	No Tone
449.250/444.250	151.4 Hz (if enabled)
145.030	MACHO Node
145.030	CHO Packet Bulletin Board

**Other Area Repeaters**

145.410 (-) 100 Hz Tone (if enabled) -- **AF4CY (Madison)**

442.075 (+) 151.4 Hz Tone -- **KF4UCI**

AARC CALENDAR OF EVENTS	
DATE	EVENT
October 9	Regular Club Meeting
November 13	Regular Club Meeting
December 11	Regular Club Meeting

AARC - PUBLIC SERVICE SCHEDULE	
DATE	EVENT
Early October	Simulated Emergency Training Exercise
November 5	Montpelier Horse Races

Please sign up at meetings when the SIGN UP CLIPBOARD is passed around. You can also send an email to Greg (N4PGS) indicating your interest in working particular events.