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C*IBULLLETIN*

ALBEMARLE AMATEUR RADIO CLUB

DECEMBER 1996

**1996 Ham of the Year  
Nominations Sought**

Do you know a ham who's gone above and beyond in support of Amateur Radio? It's time to consider those deserving hams who ought to be recognized for their contributions to our local Amateur Radio community.

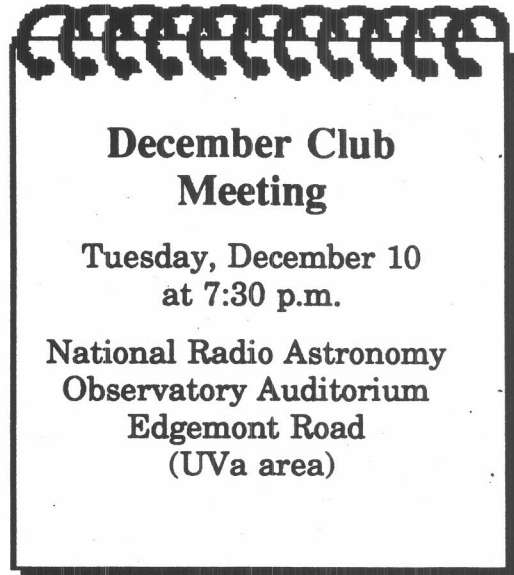
Again this year, club secretary Joe Fritz, KD4RWX, is collecting the nominations. Please submit your nomination for Ham of the Year to Joe--by mail at: 2306 Williamsburg Road, Charlottesville, VA 22901; by phone: 804/973-1738; by internet: kd4rwx@aol.com. Please include a short statement explaining why the nomination is being submitted.

Voting will take place at the December meeting so please submit your nominations to Joe by Saturday, December 7th, 1996. The Ham of the Year will be announced at the Winter Dinner.

**January Dinner Planned**

It's time to start making plans for the annual Club Dinner. The place this year is Casella's Italian Restaurant, and the date is tentatively set for Sunday, January 12.

See incoming vice-president Joe Giovanelli's column on page 2 for full details, and be sure to let Joe know your menu preferences.

**December Club  
Meeting**

Tuesday, December 10  
at 7:30 p.m.

National Radio Astronomy  
Observatory Auditorium  
Edgemont Road  
(UVa area)

**Need A General Class?**

Members of the educational group of the club are considering offering an upgrade-to-General class. Classes would be held on Wednesdays...the same day, time and place as the Novice/Tech classes, which will be starting on January 29, 1997 and will run through April 16, 1997.

In order to hold a class, it will be necessary to have at least ten students. If you are definitely interested or know someone who truly wants to up-grade, have them contact W2HD via telephone (804-974-7388), via packet on the WA4TFZ 145.03 PBBS, via E-Mail (BRFJ38A@prodigy.com or w2hd@juno.com) or if all else fails, US Mail at 1800 Bentivar Dr., Charlottesville 22911-8229.

We will NOT be teaching 13-wpm code, but will probably have some material available for home study. Let us know ASAP.

73, W2HD

News Flash! The vanity calls are here. Chances are you've already heard a familiar voice with a new call sign. In early November the FCC started processing the backlog of over 4500 vanity call sign applications. Several hams in the area (yours truly included) got word early on via W2HD and the ARRL web page and have been signing their new calls since. All I can say is "Whew, it's finally over". Those of you who heard the endless discussions and debates on the repeater about the vanity program can now rest easy that most of that nonsense is behind us.

Speaking of things that are behind us, this is my last installment of "The President Speaks". After 12 months, my term as President of the AARC is over. The reins to the horses have been handed over to the very capable KC4TQF, who I'm sure will do a top-notch job taking the AARC onward and upward. Bill, along with all the other officers and directors for '97, will no doubt have as much fun and get as much satisfaction as I did in working with such a fine bunch of people as the AARC. Be sure you get squared up behind the new officers of the club and give them all the support and energy you can. A club like the AARC is more than just members and meetings, it is a dynamic organization that draws on the strengths, energies and talents of all the members.

I've really enjoyed my stint with the club and I look forward to what 1997 will have to hold. Best wishes and happy holidays to all the folks in the AARC.

73 de K4MW

### *Time to Renew!*

Yes, it's time to renew your membership in AARC. See p. 9 for details and your renewal form.



Greetings from your "almost" official AARC Vice-President. (Yes, I might like it better if it was "President in Charge of Vice" but that's not how the bylaws read. O well!

Now to business. Plans are well under way for our Annual Holiday AARC Dinner. I can tell you that the probable price for adults will range between \$12 to perhaps \$15. This depends on what YOU would like to eat. Note: Children's entree (for those 8 and under) will be spaghetti and meat sauce @ 4.50.

As it stands now, the dinner will be held at Casella's Italian Restaurant. We had a wonderful dinner there a few years ago, which was well received. As before, the owners are willing to open their facilities on a Sunday, but we must guarantee fifty people to make it pay to do this.

I'm figuring the date to be the second Sunday in January, which is January 12, 1997.

There will be two menu choices. Some kind of nonalcoholic beverage will be "thrown in." I believe there can be a "cash bar (wine or beer)."

I'm probably crazy to do this, but below is a list of five choices which can fit within the above price range. I'd like each of you to get back to me by phone radio, eyeball or whatever. No packet right now. I'd like you to give your two favorites from this list of five. I'll look all of this over and try to select the two choices which represent a consensus of what YOU like. Here we go:

- 1) SAUSAGE, PEPPERS & ONIONS: Italian sausage sauteed with peppers and onions in olive oil and garlic.
- 2) CHICKEN CUTLET PARMIGIANA: Breaded boneless breast of chicken, fried and topped with tomato sauce and cheese.
- 3) EGGPLANT PARMIGIANA: Fresh sliced eggplant, breaded and fried until crisp, topped with tomato sauce and cheese.
- 4) EGGPLANT ROLLATINI: Eggplant breaded and fried, then stuffed with ricotta, mozzarella, and Parmesan cheese.
- 5) SHRIMP PARMIGIANA: Breaded and fried butterfly shrimp, with tomato sauce and mozzarella cheese.

*Send those top two choices to:*

Joe Giovanelli, W2PVY

Route 1, Box 1381 Scottsville, VA 24590

Phone 804/589-1495; E-Mail joegio@delphi.com

# IT'S WISH LIST TIME

Harry Dannals

Here we are again! The holiday season is rapidly approaching and all of the "kids" are making their lists for Santa Claus. It is a safe bet to say that some of the older "kids" are also making their wish lists, too... right?

Yes, we would all enjoy receiving that new multi-mode, multi-band transceiver with all the bells and whistles of the 1997 era. We would probably like to have a 100-foot tower with the latest beam configurations and all of those wonderful things, too. However, in the practical light of day, there won't be many multi-kilobuck gifts under the tree for any of us. However, there are many, many other items of reasonable cost which would be nice to add to our radio shacks. Let's take a look.

Two broad categories come to mind: Support materials and actual on-the-air gear. In the first list you might place tools, test equipment and other accessories. In the second list you might consider in-line items... from microphones, keys and paddles, to antennas and antenna tuners. Let's not forget reference books... the famous ARRL Handbook, antenna books and specialty issues on your specific interest in Amateur Radio.

Every shack should have some good hand tools, a volt-ohmmeter, an SWR Bridge and a good clock... 24-hour UTC (or plain old EST!) If you don't have a 100-watt soldering iron or gun, you'd better add one to your tool complement because SO-239 connectors are not too friendly to little 20-watt pencil irons.

If the budget permits something along the modest equipment line, a 2-meter amplifier for that li'l HT would certainly add a little power when needed. They even have pre-amps built in to give you a better shot at hearing weaker signals. What about a TNC so you can join the Packet Racket gang on 145.03? They have become very reasonable in the price field.

And then, those little things which make you feel like a real HAM when you attend Hamfests... how about a call-letter badge, a call letter belt buckle, a cap with your call showing proudly...maybe a small lapel pin or tie-tac (if you wear ties?) for those dressy occasions when you would like to tell people you're a ham and are proud of it!

Back to the top again... for the Ham who has everything, but can always add something new to the shack... there are lots of dandy rigs with all the frills attached. They cost a few bucks, but it is truly fun to see the new gear perform.



The prices are a little hard on the budget, but think of the years of pleasure coming!

Well, whether it's a pair of cutting pliers for a few dollars or a kilowatt amplifier, remember the spirit of the season!

73... /s/ Harry, W2HD

## Thank You, Dave!

*Following is the text of a letter of thanks sent to WG4T for his help and assistance with the repeater site.*

October 31, 1996

Mr. Dave Metzger, WG4T  
C/O Generator Service Co.  
Route 2 Box 1290  
Kents Store, VA 23084

Dave,

On behalf of the Albemarle Amateur Radio Club, I would like to take this opportunity to express our appreciation for all of your recent work at the 146.760 repeater site. Thanks to your efforts we will be able to make use of the repeater during power outages for much longer periods of time and with a greater degree of reliability than ever before. It is very comforting to know that the repeater that many club members and local hams have come to rely on will be there to serve us at the times when it is needed most, and we have you to thank for the added confidence that we will have in the 146.760 WA4TFZ repeater.

In addition, I also want to thank you for mowing the site and pushing the concrete block and debris out of the way. That was above and beyond the call of duty and we are again very appreciative of all that you have done.

73,

Pete Wildman, AD4TU  
President, A.A.R.C.

## BARN-FEST '96

Ron Richey



For the last three weekends or so, various hams have been engaged in cleaning out "the barn" which we have had the use of for several years to store potentially useful stuff - or just because we couldn't bear to throw it away. But, all good things have to come to an end and we were asked to return the use of the barn to the owner. We would like to thank Richard Dale, KO4EV, for letting us use the barn. The ability to store all this "good junk" meant that we could accept large amounts when it was available and distribute it to the ham community as the opportunity presented itself. The club has received several thousand dollars as a result of this "recycling" effort over the last several years.

For BARN-FEST '96 I would like to thank the folks who came out to help load the dump truck on Nov 16 and move other items on previous weekends. A special thanks to Pete, K4MW nee AD4TU, for the use of the truck. Others who helped were: Jim, W4OUD; Mike, AC4ZQ; Ron, K4RKA; Bill, KF4EFY; and "Jerry" on Oct 26; and Pete, K4MW; Pete, KC4UCK; Greg, N4PGS; Gerald, KN4FM; Dave, KE4YLR; Steve, KD4HBX; Richard, KO4EV; Bud, KB4JNI; and Ron, K4RKA on Nov 16. There were a couple of others in and out, but the above crew did most of the hauling and loading.

This "recycling" effort does take a good bit of work and our organization at the barn wasn't too good, but if anyone knows of another "staging area" which we can use, the activity does produce money for the club and lots of entertainment for the "pack rats" and scroungers in the ham community.

Thanks again to all who helped gather, fix, strip, sell, store, move, and dump the "barn treasures".

73, Ron, K4RKA, sk & 30



Edward P. Taylor, KA4VMP and his wife Lori will be having another addition to the family near the end of June 1997. *Congratulations and best wishes to you all!*



## THE AARC EMAIL LIST

We currently have over twenty club members who are active participants in the AARC mail list. The user list includes not only local club members, but also sends mail to Leroy Sutter (WA4MHP), Brian Fox (KE4HIA) and Pat Wilson (N5PW).

|                 |        |                              |
|-----------------|--------|------------------------------|
| Pat Wilson      | N5PW   | pw@i2020.net                 |
| Joe Fritz       | KD4RWX | KD4RWX@aol.com               |
| Rick Berman     | KO4WQ  | rberman@mail.comet.net       |
| Dave Damon      | KE4YLR | dnd@virginia.edu             |
| Bill Bearden    | KC4TQF | WD040@aol.com                |
| Brian Fox       | KE4HIA | KE4HIA@aol.com               |
| Will Seay       | KJ4XZ  | wms01@mhs.sperry-marine.com  |
|                 | KJ4XZ  | 103043.1406@compuserve.com   |
| Greg Faust      | N4PGS  | GREGF@po1.net.cho.ge.com     |
|                 | N4PGS  | faustg@mail.comet.net        |
| Ed Hine         | AG4N   | edhine@comet.net             |
| Don Firer       | KA4MCA | KVNG86A@prodigy.com          |
| Hein Hvatum     | N4FWA  | hhvatum@nrao.edu             |
| Joe Giovanelli  | W2PVY  | JOEGIO@delphi.com            |
| Pete Wildman    | K4MW   | ad4tu@esinet.net             |
| Terry Henderson | KT4UO  | 75361.3613@compuserve.com    |
| Dave Brown      | AD4GK  | dbrown@nrao.edu              |
| Mike Duvall     | AC4ZQ  | mjd02@mhs.sperry-marine.com  |
| Harry Dannals   | W2HD   | BRFJ38A@prodigy.com          |
| Paul Dean       | WB9HGZ | wb9hgz@esinet.net            |
| Roy Lane        | W4OTF  | roylane@esinet.net           |
| Leroy Sutter    | WA4MHP | leroy@coloradocrystal.com    |
| Mike Rein       | KA4JJD | mfr6t@galen.med.virginia.edu |
| Pete Taylor     | KC4UCK | ptaylor@cstone.net           |
| George Hunt     | W4AVO  | ghunt@palmnet.net            |

If you would like to subscribe to this mail list, send the following e-mail message.

To: majordomo@virginia.edu  
From: [your e-mail address]  
Subject: [nothing is required]

-----  
subscribe aarc  
end

To send mail to the mail list, use the following:

To: aarc@virginia.edu  
From: [your e-mail address]  
Subject: [whatever you want to put here]

-----  
Your e-mail message

Your e-mail message will be forwarded to all subscribers of the list. If for some reason, you would like to unsubscribe from this mail list, send the same message for subscribing, but use the line "unsubscribe aarc".

- compiled by Dave, KE4YLR

*In the last issue, W2PVY began an article covering the basics of just what is in a microphone. Here is the rest of the story!*

## The Crystal Microphone

Yes, there is a magnet found in a dynamic mike. Alas! There is no glass found in a crystal microphone.

The original crystal mike used Rochelle salts as a part of its element. This material has a crystalline structure; hence, the name "crystal mike" was given to this family of instruments. Rochelle salts has the property of producing an electrical signal when a block of it is twisted. This is known as the Piezzo-electric effect.

The "crystal" is suspended by two corners. It is coated on each side with foil. Wires are attached to these foils to recover the electrical signal.

The diaphragm is mounted so that it is free to move. At the same time, it is attached to one corner of the crystal block, or slab. When sound waves strike the diaphragm, it is forced to move. That motion results in a slight twisting of the crystalline material, and an AC voltage is produced in accordance with both the amplitude and the frequency of the signal impressed on the diaphragm.

Rochelle salts is very hygroscopic. Even though the element is well sealed, eventually moisture gets to the crystal and it disintegrates. Eventually other, more stable materials were found. The most notable of these is barium titanate.

Crystal mikes have a very high impedance, making them ideal for direct connection to grid circuits in vacuum tube apparatus. They can provide a surprisingly high signal level, which means that an inexpensive amplifier design can be employed.

These units are inexpensive, so they were very popular in ham gear, public address systems, home tape recorders and other equipment.

The frequency response was usually rather limited at the ends of the audiofrequency spectrum. They were, therefore, seldom used for serious music applications. I have been told that Astatic and Brush Development Corp. produced some rather good ones, but I have not heard many of these devices.

## The Condenser, or Capacitor, Mike

This microphone type makes use of the capacitance

between a fixed and a movable plate. Yes, you guessed it. The diaphragm is, in this design, the movable plate. Its motion produces a change in capacitance in accordance with the amplitude and the frequency of the signal impressed on it.

In essence, a high voltage is placed across the capacitor, but is fed through a very high value resistor, in the order of 20 to 50 megohms. As the diaphragm moves, a voltage is produced across this resistor in accordance with the change of capacitance between the diaphragm and its fixed plate. Signal is taken via a coupling capacitor to either a grid circuit or to the gate of an FET.

These units can have a very wide frequency range. Most of these have a rising treble response, giving rise to a somewhat larger-than-life sound--which has made these mikes very popular with serious recordists and home enthusiasts alike.

The tube versions of these microphones were quite expensive. Further, their bulky power supplies made them clumsy to use in many situations.

Most of the condenser mikes made these days employ a wax which is heated. During that process, a high voltage is placed on the material. When it cools, the charge remains. This material is the basis for the polarizing voltage which I described earlier. These mikes use FET's to recover the signal voltage and to transform the high impedance of the conder element to a low impedance suitable for connection to mixers or other low-impedance circuits.

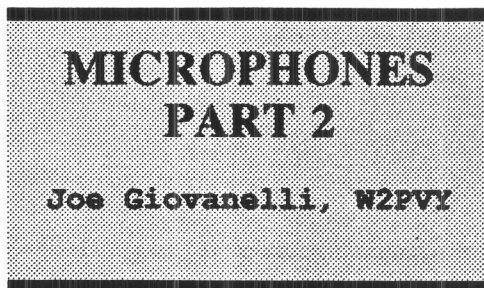
These units can be made very cheaply, so they find their way into most home cassette recorders, handheld transceivers as well as in many other devices.

The high frequencies above 3 kHz are much higher than are needed in ham gear. Unless good tailoring of the audio is done, one may hear "spitting" as the talker pronounces the letter "S."

## The Variable Reluctance Microphone

This mike employs a fixed coil surrounding a permanent magnet. Just as there are electrical circuits which have resistance, there are magnetic circuits. These have their counterpart in what is known as "reluctance."

As with any mike, there is a diaphragm employed in the variable reluctance design. The diaphragm is placed close to, but not quite touching, (*see Microphones, p. 6*)



## Microphones



(from p. 5) the magnet structure. It is made of magnetic material. Its presence reduces the reluctance of the circuit. When sound waves force the diaphragm to move, this motion either further decreases or increases the reluctance of the circuit, depending on the direction of motion. This has the same effect as moving a coil or moving a magnet located near the coil. A voltage is produced across the turns of the coil. There are more sophisticated designs of this mike, known as "balanced armatures." These yield somewhat less distortion and more signal output. It is possible to obtain so much output that they can be placed at one end of a telephone line and a receiver at the other. Signal will easily be heard in the receiver, even though there is no amplification used.

These units were, and perhaps still are, used in military field telephones which ran completely free of external electrical power.

If my description of the variable reluctance mike reminds you of the old Trimm or Brandes headphones, you are right. A microphone of this type can be used as a high impedance headphone. The impedance of such phones is about 2,000 ohms.

Because of the mass and stiffness of the diaphragm, this mike tends to have a rather poor frequency response. I have seen some mikes of this design used in home recording applications, but the results were not good. I wouldn't say they were never used in amateur radio work, but I have not seen any.

### The Carbon Microphone

This mike could be called the "variable resistance" mike. It's a sort of counterpart of the variable reluctance mikes just described. What we have is a small container which is more or less filled with finely divided carbon powder. A diaphragm is placed over this container and it forms its cover. The diaphragm presses against the carbon very slightly.

The carbon has a reasonably high ohmic resistance. (I have forgotten what its nominal value is.) At any rate, a voltage is connected across this element. When sound waves strike the diaphragm, its motion either causes the resistance to increase or decrease, depending upon whether the diaphragm is moving away from or toward the carbon.

This mike and voltage were connected in series with the primary of a transformer. The voltage change as a result of the changing resistance of the mike caused a

voltage to be developed in the primary of the transformer. That voltage induced a voltage into the secondary of the transformer. The secondary voltage was often connected to the grid circuit of a vacuum tube. One could expect a rather high output voltage from this arrangement, so that very little amplification was required.

Some of these mikes had remarkably good audio quality, with a frequency response somewhat wider than we use in SSB work. The sound was improved in some designs by means of what could be termed a push-pull arrangement employing two elements. As the resistance of one element increased, that of the other element decreased. A center-tapped transformer was used to extract the voltage from each half of this kind of carbon mike. These units were used in early radio broadcasting, and the sound was amazingly good.

Early ribbon and dynamic designs rapidly replaced these carbon mikes. The carbon units were very sensitive to shock and had to be suspended by springs to reduce mechanical shock.

Perhaps the most extensive use for these mikes was, and is still, found in telephones. This is because their high output voltage permitted them to be connected to rather long lines with no need for boosters.

These mikes were used in the early days of amateur radio phone. Even as late as the '50's, Gonset used them (or at least made provisions for their use) in their Communicator line of transceivers.

### Summary

This survey of microphone designs is by no means complete. There are variations in design in most of these units. Further, the internal acoustical arrangements are used to create special directional, pickup patterns. Special damping is used to improve response, but usually at the expense of output signal level.

Books could be written about this subject. Who knows? Maybe there have been some!

W2PVY

### DEADLINE for the January issue of AARC Bulletin is December 20

Send your articles to Paul (WB9HGZ) or Eileen (WD9EIA) at: 4300 Sylvan Lane, Charlottesville, 22911 (U.S. mail), or at wd9eia.zippo.com (email). To reach us through the club bulletin board, send your messages to Mik KE4UKX, our resident packet operator, and he'll pass them along. *And Happy Holidays from WB9HGZ, WD9EIA & KE4UKX, UKY & UKZ.*

At the November AARC meeting, we had a short overview of some of the public service events in which club members participated this year. Now that the public service schedule is all wrapped up for 1996, and before the next season starts, lets review what public service events are and why the AARC participates.

During 1996, AARC worked several major Cycling Federation sanctioned bike races, the two day James Madison Stage Races held in Orange County in early June, followed by a race held south of Charlottesville in mid August, and then another race which took place south of Charlottesville in late October. These bike races use amateurs in a lead car and a police vehicle that precede the cyclists, a follow car and a wheel car that travel behind the cyclists, in addition to several fixed stations for each race event. For example, the first day of the James Madison Stage Race event, a total of 6 road races were held. You can imagine that quite a few amateurs are required for an event such as this.

In early June, we participated in the MS 150 Bike Tour, providing all the radio communications support for the first day at rest stops, in sag vehicles, and with EMT and mechanic personnel, many of our club members also worked the second day, when the Lynchburg ARC was running the show. Last year, the AARC participated in 3 fundraising walks, for the American Heart Association, the March of Dimes, and the Multiple Sclerosis Society, again working rest stops and sag vehicles. Our last scheduled event of the year held early in November, was a long day of horse racing at Montpelier located in Orange County. At Montpelier every participating amateur is given an infield parking pass and an owner-trainer-rider pass which allows us complete access to all areas of the course and infield, access available to the public only at considerable cost.

You might be asking why we get involved in so many public service events. In part, that question can be answered by the following, quoted from the ARRL Public Service Communications Manual. "Special events are normally held for the enjoyment of the public and often draw large crowds. They provide golden public-relations opportunities for radio amateurs who provide organizational communications at no charge. These activities make ham radio visible to non-amateurs. Special events sharpen our operating skills, and help justify our existence. And besides, operating special events is just plain fun!"

To that general answer, I would like to add and emphasize a couple of important issues. First, these public service activities are invaluable training.

Participation in the regularly scheduled Thursday night sessions of the Northern Piedmont Emergency Net is all very well, but at some point we have to get out in the field and test our skills. The public service events in which we participate, are our golden opportunities to extend our training away from home and out in the "real world". Until such time as the NPEN is running special training sessions out on the road, these events are our only opportunity to see how well our training meets real communication needs. Secondly, my experience with the public service events I have worked, suggests to me that we have made our participation absolutely essential to the success and continued operation of many of these events.

If you don't think that this assertion is possible, come on out next year and see for yourself. N4FWA already has lots of events on the calendar, and one thing you can count on as being in the category of absolute certainty along with death and taxes, is that N4FWA is going to be at the next

AARC meeting, passing around that famous clipboard. If you would like to participate, but are uncomfortable about taking on an assignment, I know that Hein would be glad to place you in a position where you will be able to operate alongside one of our more experience club members. I also know that you will have a great time.

**AARC and  
PUBLIC SERVICE**  
Dave Damon, KE4YLR



**Public Service Events - 1997**  
Contact Hein N4FWA to sign up for events.

- BKR1** Saturday 9 March 1997. Bike race in Orange. Start at Orange High School 1330 EST
- MSW1** Sunday 13 April 1997. MS Walk in Charlottesville.
- BKR2** Sunday 6 April 1997. Bike race. Start and finish at Walnut Creek Park. 1330 EDT
- BKR3** Saturday 31 May 1997. Bike race. James Madison Stage Race. Start at Orange High School
- BKR4** Sunday 1 June 1997. Bike race. Swift Run Gap Hill Climb. Start 0730 EDT near Stanardsville.
- BKR5** Sunday 1 June 1997. Bike race. Criterium race downtown Orange 1300 EDT
- MSB1** Saturday 7 June 1997. Multiple Sclerosis 150 mile bike tour, first day. Overnight in Farmville.
- MSB2** Sunday 8 June 1997. MS Bike Tour, second day.
- BKR6** Sometime in August 1997. Bike race. State championships. Probably on the "Kluge" loop.
- BKR7** Sometime in September or October 1997. Bike race. UVA road race, Walnut Creek Park.

- Other possible/probable events:
- Diabetes walk
  - American Heart Association Walk
  - March of Dimes
  - Martha Jefferson Hospital Drill

## CLUB BUSINESS

### AARC Board Meeting - November 5, 1996

There were no motions made at this meeting.

### AARC Regular Meeting Minutes - Nov. 12, 1996

The President, Pete Wildman opened the introductions with a grin from, ear-to-ear, when he said his new call K4MW. (The question is, Is he done collecting calls? KD4SOA, KR4PU, AD4TU, and K4MW). He announced the need for assistance at the barn clean out on Saturday, November 16, at 9 A.M. The barn is located at Richards (KO4EV). The Club appreciates very much the kindness of Richard in letting us use the barn for so long. We will miss the snakes and the wasps.

The program consisted of a presentation about Public Service by Dave (KE4YLR). It was a general discussion of the procedures and requirements of various public service activities. Joe (W2PVY) suggested that this material would also be appropriately presented to public service participants in a written form just prior to their duties.

A video tape of the Public Service at the Montpelier Races was presented by Ron (K4RKA). The highlight of the tape was several fiercely contested terrier races.

Chris (KE4ZXE) attended his last meeting. He is moving to Indiana at the end of this month.

The FrostFest is on January 19th. Persons who desire to obtain tickets prior to the event should see Bob (K4DU) [Previously- KM4DU].

A raffle was held for several item brought in by K4RKA.

A new Novice/Technician class will begin on January 29th. Watch for details soon.

Joe (W2PVY) requests that if you have any ideas for AARC Meeting programs, you should inform him so that he can begin to schedule the 1997 programs. Joe also wishes to receive your choice of the top two food items which you would like to have available at Casella's Italian Restaurant at the Winter Dinner in January. He is in charge of making the arrangements.

Sharon (KO4OC) reported that the Treasury has \$3448.25.

The October Minutes were approved. The meeting was adjourned

Submitted by Joseph D. Fritz (KD4RWX)  
Secretary A.A.R.C.

## ALBEMARLE AMATEUR RADIO CLUB, INC. NOVEMBER TREASURER'S REPORT

### INCOME

#### Donations:

|                        |                |
|------------------------|----------------|
| Hamfest Sales          | \$146.00       |
| Repeater               | 180.00         |
| Surplus Equipment      | <u>968.25</u>  |
| <b>Total Donations</b> | <b>1294.25</b> |
| Dues                   | 1192.50        |
| QST Subscriptions      | 15.00          |
| Textbook Sales         | <u>136.00</u>  |
| <b>Total Income</b>    | <b>2747.75</b> |

### EXPENSES

|                            |                 |
|----------------------------|-----------------|
| Equipment                  | 1429.32         |
| Refreshments               | 277.21          |
| Entertainment              | 715.82          |
| Postage & Publishing       | 701.43          |
| State Corporation Fee      | 25.00           |
| Telephone                  | 371.12          |
| Insurance                  | 297.31          |
| Charity (Earlsville FD)    | 100.00          |
| Field Day Expense          | 72.37           |
| Subscriptions SERA         | 20.00           |
| Recreation                 | 50.00           |
| Education (purchase texts) | <u>157.40</u>   |
| <b>Total Expenses</b>      | <b>-4216.98</b> |

|                              |                  |
|------------------------------|------------------|
| <b>TOTAL INCOME/ EXPENSE</b> | <b>-1469.23</b>  |
| <b>BALANCE FORWARD</b>       | <b>4917.48</b>   |
| <b>OVERALL TOTAL</b>         | <b>\$3448.25</b> |

*Treasurer: Sharon Duvall, KO4OC*

### Amateur Radio Exam Dates for Virginia

05/10/96 (ARRL) Galax, 540-773-2446, David Roberts

11/30/96 (W5YT) Gloucester. Harry Kepley N4THN,  
804-642-3517.

12/07/96 (W5YT) Ben Hur. Charlie Poe, 540-546-2323.

12/07/96 (ARRL) Virginia Beach. Judy Rogers  
KD6JMA, 804-468-9166.

12/08/96 (ARRL) Lynchburg. Charles L Beard AD4ST,  
804-386-4651.

12/13/96 (ARRL) Galax. James Blythe, NX4B,  
703-236-8672.


12/14/96 (ARRL) Harrisonburg. Brown Snyder N4ZHV,  
703-434-3133.

12/14/96 (ARRL) Richmond. Pat Wilson, N0RDQ,  
804-779-3351.

01/09/97 (ARRL) Galax. David Roberts, 540-773-2446.

*Remember, if you are interested in taking an Amateur Radio exam at any of these sites, CALL AHEAD for information. Not all test sites accept walk-in registrations.*



| DECEMBER 1996 |   |   |   |   |               |                                    |
|---------------|---|---|---|---|---------------|------------------------------------|
| Sunday        | Monday  | Tuesday   | Wednesday   | Thursday  | Friday        | Saturday                           |
| 1<br>☉KE4AEK  | 2<br>INFO-NET 7:00 pm<br>220 Net 8:00 pm            | 3 Board &<br>Technical<br>Meeting 7:30 pm<br>☉K3RWH | 4<br>Lunch Old Country<br>Buffet 11-1   | 5<br>ARES Net 8:00 pm                                   | 6<br>☉KD4LSU  | 7<br>6-m net 50.200 8am<br>☉KE4ULA |
| 8             | 9<br>INFO-NET 7:00 pm<br>220 Net 8:00 pm            | 10 AARC<br>Meeting<br>7:30 pm<br>☉N2XUN             | 11<br>Lunch Old Country<br>Buffet 11-1  | 12<br>ARES Net 8:00 pm<br>☉KC4ZZP                       | 13<br>☉KF4JNB | 14<br>6-m net 50.200 8am<br>☉AE4OW |
| 15<br>☉N5PW   | 16<br>INFO-NET 7:00 pm<br>220 Net 8:00 pm           | 17  | 18<br>Lunch Old Country<br>Buffet 11-1  | 19<br>ARES Net 8:00 pm<br>☉K4DU                         | 20            | 21<br>6-m net 50.200 8am           |
| 22            | 23<br>INFO-NET 7:00 pm<br>220 Net 8:00 pm<br>☉W3KDR | 24  | 25 NO LUNCH<br>at OCB! <br>Merry<br>Christmas! | 26<br>ARES Net 8:00 pm                                  | 27<br>☉KT0P   | 28<br>6-m net 50.200 8am           |
| 29            | 30<br>INFO-NET 7:00 pm<br>220 Net 8:00 pm           | 31 <i>Happy New<br/>Year!</i><br>☉WB3DZC<br>☉WG4T   | January 1<br>Lunch Old Country<br>Buffet 11-1   | ☉ <i>Congratulations to the December Birthday Hams!</i> |               |                                    |

**1996 ALBEMARLE AMATEUR RADIO CLUB**

**OFFICERS AND BOARD MEMBERS**

|                |                |        |
|----------------|----------------|--------|
| President      | Pete Wildman   | AD4TU  |
| Vice-President | Greg Faust     | N4PGS  |
| Treasurer      | Sharon Duvall  | KO4OC  |
| Secretary      | Joe Fritz      | KD4RWX |
| Directors:     | Rick Berman    | KO4WQ  |
|                | Mike Duvall    | AC4ZQ  |
|                | Hein Hvatum    | N4FWA  |
|                | Jessie Preston | KE4OID |
|                | Ron Richey     | K4RKA  |

**COMMITTEE LEADERS**

|             | <u>Committee Chairman</u> | <u>Director</u>     |
|-------------|---------------------------|---------------------|
| Technical   | Mike Duvall AC4ZQ         | Hein Hvatum N4FWA   |
| Education   | Harry Dannals W2HD        | Rick Berman KO4WQ   |
| Fundraising | Bob Pattison KM4DU        | Sharon Duvall KO4OC |
| Activities  | Hein Hvatum N4FWA         | Rick Berman KO4WQ   |
| Awards      | Joe Fritz KD4RWX          | n/a                 |
| Recycling   | Mike Duvall AC4ZQ         | Ron Richey K4RKA    |
| Digital     | Greg Faust N4PGS          | Mike Duvall AC4ZQ   |
| Publication | Joe Fritz KD4RWX          |                     |

**OTHER POSITIONS**

|                        |              |        |
|------------------------|--------------|--------|
| ARRL Liaison           | Brian Fox    | KE4HIA |
| ARES/RACES Coordinator | Hein Hvatum  | N4FWA  |
| ARRL VE Coordinator    | John Gray    | W8UZ   |
| Trustee (WA4TFZ)       | Morris Jones | NM4R   |
| Newsletter Editors     | Paul Dean    | WB9HGZ |
|                        | Eileen Dean  | WD9EIA |

**CLUB MEETINGS**

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, Edgemont Road (UVa area)

**WA4TFZ REPEATERS**

| <u>INPUT/OUTPUT</u>                                | <u>TONE ACCESS</u>   |
|--|--|
| 146.160/146.760                                    | 88.5 (if enabled, DTMF 325* will produce temporary Tone off and 326* will turn Tone back on) |
| Door alarm OFF.....                                | DTMF 100*  |
| Emergency Autopatch to access 911 Center.....      | DTMF 911*  |
| Emergency Autopatch to access VA State Police..... | DTMF 918*  |
| Autopatch ext.....                                 | DTMF 0*  |
| Time.....  | DTMF 10*   |
| Tone status of repeater.....                       | DTMF 700*  |
| 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  | WA4TFZ Packet Bulletin Board   |

**NETS**

**Northern Piedmont Emergency Net**

146.76 repeater Thursday 8:00 p.m.  
Plus Swap/Trade & Technical Sessions  
Net Control: Morris, NM4R

**Information Net**

146.76 repeater Monday 7:00 p.m.  
Newline program and general news  
Net Control: Mark NATZE