

CHARLOTTESVILLE (Albemarle County) VIRGINIA

Editor: Joseph D. Fritz, KD4RWX

JANUARY CLUB MEETING
 Sunday January 10, 1998 6:00 PM
WINTER DINNER
 Meal Cost is \$7.10
 (Indicate you are in Radio Club)
 Certificates of Participation will be presented
 Location: Old Country Buffet (OCB)
 Located next to Toys R Us just South of Fashion Square Mall.

1999 AARC DUES are DUE
 Single Regular Membership.....\$20
 Family Membership (2 or more adults).\$25
 Youth (under 18 on Jan 1, 1999).....\$0
 Make checks payable to: **AARC**
 Payments accepted at Dinner Meeting.
 Please send your 1999 dues to:
Sharon Duvall
 1775 Tinkers Cove Road
 Charlottesville, VA 22911

NOVICE/TECHNICIAN CLASS
 A class will be held this Winter/Spring
 Details have not been provided at this time, but most likely they will follow the pattern of the past classes--
 First class date (unknown) listen to announcements on the nets, or contact:
Gary Beasley (WG4BZ) 979-0313 h
Ann Condrey (W0ANN) 589-8143 h
 Wednesday nights 6:30 - 9:00 p.m.
 Charlottesville Albemarle Technical Center
 East Rio Road

A Peep from the Veep
 You have heard from me before, but due to some gentle prompting from our editor, I have been advised that you need to hear from me on a monthly basis.

First order of business is our annual Winter Dinner. Three important things to know are:
Date: January 10,
Time: 6 pm (give or take) and
Place: Old Country Buffet. These pieces of information are for those of you who were unable to attend December's regular meeting. It was a lively meeting with discussion of some very nice places to hold our get-together. After the pros & cons of each were relayed to the membership, discussion was brief but informative and the consensus was Old Country Buffet (OCB).

We will receive the senior discounted price of \$7.10 per person, so be sure you advise the host (person collecting your \$) that you are with the AARC/Radio Club.

Please let me know how many will attend in your group. You may contact me by any of the following means:
 by radio: KE4OID,
 by e-mail: mssocva@aol.com,
 by phone: (w) 971-8010, or (h) 589-1904,
 by a friend.

This way we will have a good idea on the number to expect.

I personally wish to thank all those who helped nail down both ideas and places for us to gather. It is so nice to know there is so much interest in each activity we embark upon.

The program for January will be the giving of awards for membership participation over the past year. The great thing is we continue to present these opportunities for everyone to participate and receive your own award. As many of you already know, I'm very interested in the Public Service and event activities of amateur radio - so I may give a slant in that direction. So that I do not become overly one sided in program presentation, I would welcome any and all suggestions for upcoming programs. There will be a committee to discuss possible interesting topics, etc. - so - if this is an area of interest for you, please let me know.

I'm looking forward to a fun year with all your participation. Don't forget, you also have the opportunity to participate by signing up for meeting snacks. The club gives you \$20 so there shouldn't be any out of pocket expense.

If you want to join in the fun, but because of work schedules, etc. Feel free to ask a friend to join you to help deliver and set up the goodies.

It takes all of us working together to make OUR club a success and keep amateur radio in a positive light both for those with their ticket and those who want to join.
 Jessie (KE4OID)

Public Service Events Report
 Greg (N4PGS) reported the following tally for those who worked the Public Service events during 1998. The number of events worked is to the right of the call sign.

Hein.....N4FWA..11	Greg....N4PGS....10
Dave.....K4DND..10	Jessie...KE4OID..10
Ernie.....W2EJU...9	Rick....KO4WQ...7
Fred.....KE4ZNO..6	Bob....KB4YQC..6
Bill.....KC4TQF..6	AL.....KD4NRE..6
Don.....KE4DDR..6	Brian...KF4FRP...6
Mella....W2HTJ...6	Ruth....KF4AGV..5
Grayson..KF4FYL...5	Ed.....KF4UTD..4
Wil.....KJ4XZ...4	Marty..KF4FRO..4
Phil.....W4DGN..3	Ken....WA4GHY3
Joe.....W2PVY...2	Tony...KF4RKT..2
Mike.....KA4JJD..2	Ed.....KA4VMP..2
Kay.....KD4CUJ..2	Mike....AC4ZQ...1
Tom.....AD4AD..1	David..AD4GK...1
Bob.....K4DU...1	Ron....K4RKA...1
Mike.....KD4NNL..1	Noah...KF4THE..1
John.....W6UZ...1	Sam....N4WJQ...1
Miles.....N4YEQ...1	Sandra.KF4JHC...1

The following individuals will receive certificates at the Winter Dinner on January 10th. These individuals will have worked an accumulated number of events to gain the next level of certification endorsement.

Certificates are given when the number of events worked accumulate in groups of 10, 20, 30, 40, 50, 100. The totals are based upon participation since 1991.

Name	Call	New Total	New Level
Bill Bearden.....	KC4TQF...	53.....	50*
Jessie Preston.....	KE4OID....	51.....	50*
Bob Villwock.....	KB4YQC...42.....	40	
Don Bush.....	KE4DDR...33.....	30	
Fred Newman.....	KE4ZNO...30.....	30	
Mella Sardi.....	W2HTJ....25.....	20	
Brian Meadowcroft..	KF4FRP...24.....	20	
Ed Taylor.....	KA4VMP..21.....	20	

*New Honor Roll Participants (50 or more events)

Joe - KD4RWX

THE PRESIDENT SPEAKS
 Hello Everyone. Hope you all had a nice Holiday. Just a few lines to help those who don't know me very well to know me a little better. First of all, I am looking forward to serving the club as President. I want everyone to feel free to make suggestions and comments.

I have only had my call for about 6 years, so I feel like I'm still in the learning stage. I got into ham radio after knee surgery forced me to leave the fire department. I learned a lot of what I know from Pat Wilson, W4PW. I hope no one holds that against me. Again, I am counting on everyone for suggestions so we can, together, make this year another successful one.

My e-mail address is KE4DDR@webtv.net
 73- Don, KE4DDR

HOW MANY DID YOU BREAK?

Break what, you say? Resolutions, I say! Of course, that assumes that you made some New Year's Resolutions this year. My habit is to very quietly make several each year...to myself, of course, so that no one else will know of my weakness. Usually, they are all shattered by the first week or two of the new year. That is what happened in 1998. However, I did come close with one this time, the loss of some weight. I held my own... what a victory!

On the Ham Radio front, I made a resolution to work enough new DX to assure DX Century Club (DXCC) in 1998. I did work some new countries and I may have enough for DXCC, but the paperwork must still be done. Mebbe yes, mebbe no!

At any rate, why this discussion of New Year's Resolutions? It's really very simple. It would be great if you would join in this very real part of our activities. Isn't there something you want to accomplish in the new year before the numbers turn to 2000? It might be an upgrade so that you beat out any change in our rules and achieve that license through your own rather than the FCC's efforts. You might have to wait longer for the FCC to act.

Along simpler lines, what about a resolution to fight the 146.760 "Gremlin" with improvements in your station? Perhaps it's as easy as the construction of a new antenna... higher and more efficient than the "rubber duck" which continues to fight a losing battle? Maybe it's the addition of a little more power by using a power supply on your HT rather than those constantly dying batteries. Think of the joy you will bring to others who can finally hear your voice after all these months! And your personal happiness when you don't have to repeat, repeat and repeat transmissions... that will certainly be great.

Here's another resolution which can bring you much satisfaction. Through your efforts, bring in another newcomer to enjoy Amateur Radio as you and many of us already do. It doesn't cost too many hours of your time. It might be as simple as a demonstration at a school, club or other group. It might be even simpler if you invite a personal friend to join you "on the air."

As a final resolution in this little column, how about adding to the list of those volunteering for club activities? Our public service events are great, too, but there is a big need for our AARC members to assist in

making our club the premier club in the area. If President Don, KE4DDR, calls for assistance in staffing committees, do NOT take a few steps backward, but raise your hand high and say, "Here I am, Prez... ready and willing to assist!"

You may have noticed that the above resolutions cover different subjects. That's meant to show you the diversity of your field of choice. No one will complain if the resolutions are made a little late, either. 73...Harry, W2HD

Charlottesville VE Session Results

The session produced three new Codeless Techs, and two Tech Plus upgrades. A total of seven candidates were served plus one registered candidate who failed to show. Seven elements were passed while three were failed for a total of 12. 73...

John Gray, W6UZ

ARLB102: League files

'restructuring' comments with FCC

The ARRL has filed formal comments in response to the FCC's proposed streamlining of the Amateur Radio rules. The League delivered its comments to the FCC December 1, the final day for comments in the FCC's Notice of Proposed Rulemaking in WT Docket 98-143.

The League's filing promotes the ARRL Board of Directors' restructuring positions, adopted last July and fine-tuned at a special meeting in October. It also takes the FCC to task on a few points. The ARRL said the FCC's NPRM failed to contain "a comprehensive license restructuring proposal or even an overall review of license restructuring" and generally "missed the mark."

The League called on the FCC to adopt the ARRL Board's restructuring plans as the centerpiece of its streamlining efforts. Among other things, the League plan calls for eliminating the Novice and Tech Plus licenses to reduce the number of license classes from six to four. The ARRL plan automatically upgrades current Novice and Tech Plus licensees to General. The General license would become the entry-level ticket to HF. Existing Novice and Tech Plus HF CW bands would be "refarmed" to provide additional phone spectrum for General, Advanced, and Extra class licensees.

The FCC also proposed a four-tier license

structure, eliminating the Novice ticket and melding existing Technician and Tech Plus licensees into a common database while allowing current Novices and Tech Pluses to retain their current operating privileges. The ARRL said the FCC was on "the right track" in proposing to eliminate the Novice ticket. But the League said its "instant upgrade" plan for Novice and Tech Plus operators is a better approach because it permits "refarming" the underutilized Novice HF subbands. The League called refarming "critical to any comprehensive license restructuring proposal."

The FCC's NPRM sought comments on the issue of Morse code testing and requirements but offered no specific proposals. The ARRL called for a reduction in the number of Morse code examination tiers from three to two--5 and 12 WPM--and changes in the written examinations to make them more relevant and with greater emphasis on current operating practices and newer digital technologies. The League also recommended that the number of written exam questions "increase incrementally" for all license classes above Technician.

The League said that Morse code should not be overemphasized in the licensing process, but should be continued as a licensing requirement above the entry level. It has proposed that General class applicants pass a 5 WPM code test, while Advanced and Extra applicants pass the 12 WPM code test. Subsequent to release of its original restructuring plan, the ARRL Board also decided to ask the FCC to permit Technician operators to use Morse code on the General class HF CW segments without passing a specific code examination.

The ARRL said acknowledged abuses of the CW disability exemption process were an enforcement, not a testing, issue. For those claiming a disability waiver for the higher-speed CW test, the League urged testing accommodations as a preferable alternative. The League also urged an end to multiple-choice CW exams and rules specifying that a passing grade for a Morse examination be either 70 percent correct answers to 10 fill-in questions or one minute out of five of solid copy.

The League also praised the "new dawn" in amateur enforcement undertaken within the Compliance and Information Bureau by Riley Hollingsworth, K4ZDH. The ARRL suggested that it would be "reasonable to withhold any further action on amateur enforcement" for now and let the CIB continue its work.

The ARRL's comments stressed the value of increasing participation in the hobby and making it available to more people. "By increased participation, Amateur Radio can provide even more service to the United States than it does currently, with a simpler licensing structure," the League asserted.

A complete copy of the ARRL's comments in WT Docket 98-143 is available on ARRL Web at <http://www.arrl.org/news/restructuring/> (see "ARRL's Comments to the FCC on WT Docket 98-143"). Reply comments on the FCC's rulemaking proposals are due January 15, 1999. The FCC is not expected to take action on restructuring at least until sometime next spring.

BASICS OHM'S LAW AND RELATED MATTERS CONCLUSION

by Joe Giovanelli, W2PVY

Random Notes.—A couple of months back I showed you how to determine the amount of power consumed by a device. I used a toaster as an example. The maker of a device specifies the amount of power which it will consume. When you measure the actual power, your measurements are likely to be a bit different from that which is stated on the spec sheet. Why?

There are a few reasons for differences between the specified and the "actual" power you measured. There may be slight differences in the resistance of the toaster or other device. This means that the current flow will be somewhat different, and hence the power will also be different. (Remember that all of these factors are interrelated.)

Next, your household voltage may be somewhat higher or lower than that which was used to measure the power when the unit was designed.

Then there's the matter of the accuracy of your test instruments.

It is a fortunate thing that we don't need to be absolutely accurate in order to know that a device is operating "in the ballpark."

While discussing measurements, we learned that we can wire an ammeter in series with the voltage and the load. Thus, the current needed by the load must also pass through the ammeter.

This is all well and good, but it is not always convenient to measure current in this way, especially when it comes to AC power line current. There is another way to do this by using what is known as a "clamp on" ammeter. The meter is fitted with a clamp which wraps around the power cord. Even though there is no electrical contact between this device and the wire within the power cord, current can be determined quite accurately. How can this be? Well, we might understand this later in this series of articles. (If you don't see it soon, it means I forgot about it. Remind me so I can slip it in here somewhere.)

I'll hint that electricity will create a magnetic field when it flows through a conductor.

With this out of the way, we can move to what I promised you many times. The resistance of our toaster was about 19 ohms, a rather easy number to handle. Many circuits call for much higher value resistances, perhaps 1,000,000 or even higher. It is lots easier for me to tell you that the resistor has a value of 1 meg than to say it has a value of a million ohms.

What I'm really telling you here is that we have a few prefixes which permit us to express large numbers in better ways. You know this from everyday experience whenever you read your electric bill. The usage is given in terms of kiloWatt hours. Let us say that your bill said that you used 50 kiloWatt hours. What this means is that your usage was 50,000 watt hours. (I won't get into watt hours here.) We say "kilo" and magically we write a smaller number. 2 kiloWatts (abbreviated kW) means 2,000 watts. Kilo means 1,000.

This should not be a completely new prefix because you certainly have seen races whose distances are not measured in miles but in kilometers. As you can now understand, a kilometer is a thousand meters.

Generators used in homes are rated as providing a certain number of kiloWatts, ranging from 1 or 2 up to more than 10 kilowatts. Generators in power plants supply many homes and businesses, so they produce watts in the millions, so we have an even more difficult task when writing such numbers. Well, we use the prefix "mega" to indicate a million. If we have a generator capable of providing 3 million watts, we could say that it produces 3,000 kiloWatts, but better yet, we simply say that it produces 3 megaWatts.

Kilo means "times a thousand," mega means "times a million."

What we just said can apply both to resistors and to voltage. A 1,000,000 ohm resistor is a 1 megohm resistor. A 20,000 ohm resistor can be said to be a 20 kilohm resistor. We usually say that this is a 20 K resistor. Our 1 megohm is usually said to be a 1 meg resistor.

We can have kiloVolts and megaVolts as well.

The amounts of current consumed by equipment also can run to large amounts, but, as I write this, I have seldom seen current referred to using these prefixes, but chances are that they are sometimes used.

Our discussion has centered around whole numbers of voltages and currents. In the world of electronics, however, the voltages we encounter are likely to be very small, much lower than 1 volt. The microphones we use to modulate our transceivers don't produce too much more than 0.002 volt, a small amount of voltage indeed, and it's awkward to express in this way. Well, we have another prefix which means "1/1000." It is "mili." Our microphone's output voltage can be said to be 2 miliVolts or 2 mV for short.

Operating currents in CMOS devices are very small, and our "kilo" prefix can be used. All too often, however, the values are in millionths of amperes (or volts). We have another prefix, "micro (μ)," which means a millionth, or 1/1000000. If we have a device which draws 0.000003 amperes, we can say that it draws 3 μ Amperes. It sure beats writing out all those zeros.

As you study some electronics books, you will encounter these prefixes regularly. You have a "leg up" as you learn more.

Why not come up with arbitrary numbers and use the "kilo," "mega," "mili," and "micro," to solve ohm's law problems.

Well, we've done quite a bit and it was painless, right? What happens next? We have all used magnets to hold items to a refrigerator door. They have many other uses and are made from a variety of materials. Generally speaking, all we need to do is pick one up and it's ready to attract.

There are other magnets which aren't magnets until they are wired up. How can you wire up a magnet. Well, we don't wire up a magnet. We wire up a coil to a battery and then . . .

That's for another time.

Joe, W2PVY

Albemarle Amateur Radio Club
P.O. Box 6833
Charlottesville, Virginia 22906

<http://members.aol.com/wa4tfz/aarc/>



AARC BULLETIN

Vol 1999 No. 01
JANUARY 1999

A LOOK AHEAD:

February:

- DUES WERE DUE - January 1st
- Program: Concerning Mobile Watch
- T-Hunt TBA

March:

- Program: Related to Emergency Services

TO CORRECT LABEL INFORMATION CALL PHONE 973-1738: Your License expires, Oct 31, 2004 D Y A
 KA4JJJ G 1998 CURRENT MEMBER

Michael F. Rein
 109 Sturbridge Rd.
 Charlottesville VA 22901

22901X2113 43

CLUB MEETINGS
 Regular Meeting: Second Tuesday of each month at 7:30 p.m.
 Board and Technical Meetings: First Tuesday of each month at 7:30 p.m.
 Meetings are held at the National Radio Astronomy Observatory (NRAO) building, Edgemont Road (UVA area)

WA4TFZ REPEATERS	
INPUT/OUTPUT	TONE ACCESS (if required, etc.)
146.160/146.760	88.5 Hz
(If tone is enabled, you can turn the tone off and back on temporarily by:	
Temporary Tone OFF	DTMF 325*
Remove Temporary Tone Off	DTMF 326*
Door alarm off	DTMF 100*
Emergency Autopatch to 911 Center	DTMF 911*
Emergency Autopatch to State Police	DTMF 918*
Autopatch exit	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 Packet Bulletin Board	

LOCAL NETS: (146.760 repeater)
 Monday night: Information Net (each Monday) 7 PM
 YL Net (1st Monday of month) 8:30 PM
 Thursday night: Northern Piedmont Emergency Net & Swap Net & Technical Session (each Thursday) 8 PM

LUNCHEON:
 Wednesday: Area Hams gather at the Old Country Buffet (OCB) next to TOYS R US on 29 North 11 AM - 1 PM

WINTER DINNER NOTICE

Details have finally been ironed out and a place different from that reported last month has been selected. We will eat at the Old Country Buffet next to Toys R Us. The primary date is Sunday, January 10th. An alternate weather date is on the regular meeting night - January 12th. The gathering time will be about 6p.m.

The cost of the meal will be \$7.10. When you pay at the door, indicate that you are in the Radio Club and they will charge the above special price.

The Winter Dinner meeting provides an opportunity for other family members to share in the activities. Some business is conducted. The new AARC President gets to pick up the gavel and commence his leadership role. Certificates of appreciation for service in various areas are presented. The major portion of these certificates being for Public Service Events. The Club issues certificates based upon 10, 20, 30, 40 and so on events accumulated by an individual.

Some like to present a certificate to an Elmer in thanks for their valued assistance. Several other recognitions are done at the dinner. Make your plans soon. Listen for more details.

Y2K

Does The AARC Have A Y2K Problem?

- "You 2 Kan"**
- Sign up for a Public Service Event.
 - Volunteer for service on a committee
 - Write an article for the newsletter.
 - Prepare a program to present at a meeting.
 - Participate in a T-Hunt.
 - Participate in one of the Nets.
 - Dust off your radio and see if it works.
 - Chat with someone on a repeater and let us know you are still active.
 - Volunteer to do the refreshments for one of the meetings.
 - Come to a Club meeting and visit with the others who are there. It will feel good.
 - Come to another Club meeting. The first one didn't hurt, did it?
 - If you have time on a Wednesday around noon, drop by OCB and join the regulars who eat there.
 - Check into the AARC Web Site and see what it is like.
 - Volunteer to assist with teaching the Novice/Technician course.
 - Pay your 1999 dues to Sharon Duvall. Smile nicely, she handles all of the money.