



W4CA Log
The news of the Roanoke Valley
Amateur Radio Club
Roanoke, Virginia.

May/June 2009
Volume 6 issue 2



RVARC – W4CALOG
P.O. Box 2002
Roanoke, VA 24009-2002

Roanoke Valley Amateur Radio Club W4CA
P.O. Box 2002
Roanoke, Virginia 24009-2002

Officers:

President: Ron Ramsey AB4A
Vice President: Mike Hevener KF4PHW
Secretary: Karen Anderson KI4GOT
Treasurer: Ray Pillow KK4HR

Board of Directors:

Phil Roark K4WFO
David L Kinsey KS4BO
Ray Crampton AB4YZ
Jerry D Haislip K1SO

Appointed Positions:

Net Manager: Russ Abbey KG4MAV
Honorary Chef: Bob Anderson K4UMK
Membership:
Club Call Trustee: Ray Crampton AB4YZ
Log Editors: Russ Abbey KG4MAV,
Charlie Draper AB4SK technical annalist,
Karen Anderson KI4GOT Assistant Editor

The Roanoke Valley Amateur Radio Club
meets the 2nd and 4th Friday of the month at
the Roanoke Red Cross Building at 352
Church Ave beginning at 8pm.

In addition, the club sponsors a weekly net
every Wednesday at 8 pm on the W4CA
146.985- repeater, tone 107.2. Check in five
times and receive a net number and
certificate.

Everyone is welcome.

The W4CA Log is published bi-monthly by the
RVARC for its membership.

The Club also sponsors a V.E. test session
every 3rd Sunday at 2pm at the Red Cross,
contact Ray Pillow KK4HR at kk4hr@arri.net

The RVARC owns and maintains the following
open repeaters:

146.985- tone 107.2
442.50+ tone 107.2

<http://www.w4ca.us/>

The President's Corner

To do a little research for my Presidents Corner I went back to when I started as a ham. In checking the Logs, from when I was in high school and met in Salem at the Clubhouse, I found some interesting familiar topics. In 1964, we ran 5A for Field Day, with a total score of 8,868 that placed us fifth in the Nation. From their articles, the number one requirement was to have an enjoyable time with ham radio. They stressed many times the need for participation and dedication to club activities. But the one thing that came up in all issues of the Log was their enjoyment of fellowship with other hams. The one that struck home was, "Technical Column: How technically qualified (or interested) are the many, many 6 meter Technician class hams? We use our radios everyday but in an emergency situation and were forced to use a strange radio and no instruction manual. Could You Get It on the Air?" I started at this point and enjoyed operating with my older Ham mentors but more importantly I am still having fun with ham radio. We still have a variety of radios at the different Emergency Operations Centers but in addition to being able to operate this equipment we need training in procedures. Just as rescue squad personnel take training to be qualified to volunteer we need to train to have the proper credentials to help when there's an emergency. The start is with Level 1, which is an introduction to emergency procedures. Presently level 2 and 3 are being rewritten and should be available as a single class shortly. Online are the following courses available FEMA IS-100 an introduction course, IS-200 individual level emergencies and IS-700 national emergency course.

As in the last Presidents corner, I would like to remind you that the radio room will be open at 6:30pm and the meeting room at 7:00pm for technical discussions before the regular meeting.

We been quite busy since the last Log, our Technician and Upgrade classes are over with our instructors doing a great job as usual. If were going to grow our hobby we need to get the numbers up in the classes to this end the next set of classes are tentatively scheduled for September 8th through November the 10th. I recently taught a two-weekend course for an emergency preparedness group that had 31 in attendance. If they can draw this kind of attendance we should be able to do it

also. If anyone has suggestions on making improvements please let be know!!! While our score for Va. QSO party was down because of a power failure, we again had a record attendance and all enjoyed a good time. We helped with a Simulated Emergency Training (SET) called Deep-Freeze from the Red Cross EOC, there were 65 amateur radio operators passing 1025 pieces of traffic across the state of Virginia. We had the privilege of having the picture of the Red Cross EOC in the ARRL E-Letter (just the door). We had a very successful and devious foxy Foxhunt that challenged all the participants and I personally had a great time. Most enjoyable probably was the different types of antennas used to hunt down our foxy fox. I'm glad to report that the change our net manager made to checking into the net has had great results as I write this; we had 27 check-ins, with an hour long net. By the time you read this, our annual auction will be over.



Scouts at last years' event

May has always been one of our busiest months and this May is no exception. We start with ITT Scout Safety Day May 9th; we are the longest sponsor and most popular merit badge. Roanoke Valley ARC teaches radio merit badge last year we had 108 scouts. The Scouts are given an introduction to ham radio through lecture and some paperwork and then they need to make an HF contact and a 2m-fm contact. This year we are going to have to limit it to 48 scouts unless we get more help. We need an instructor, 2 complete stations with HF and 2m capability and two portable stations in the parking lot. ITT provides lunch and a patch. Lots of Scouts are looking forward to this activity and I hate to disappoint the ones we cannot help obtain their merit badge. While the club will obtain no new hams from this activity many of us started our

journey to become hams through scouts. Next up is the Dayton Hamfest May 15 through 17, many of our members will either be traveling up on the bus or making the trip as an individual to the largest Hamfest in the United States. Every ham needs to make this trip at least once. During the same time period there will be a Tech and General Class at Hidden Valley High May 14, 15 & 16. Thursday and Friday will be from 3:15pm to 7:00pm for classes then Saturday morning 9:00am to 2:00 for classes then pizza dinner followed by VE test session. This is mainly for seven students in the N4HVH ham club but it is after school hours if anyone is interested in studying (it helps to have a larger Class for study purposes). I also need one other instructor all three days and VE's for Saturday. The next weekend is probably our most important activity other than Field Day; we will be operating a special event station at Festival in the Park on May 23 and 24 of Memorial Day weekend. This is our chance to present ham radio to thousands of people. We will have our portable shelter set up with the club FT-990 radio. Our shelter will be directly below the flagpole with our yellow banners on each side (we run our G5 RV up the flagpole). We will be on the air from 10:00am to 5:00pm each day and will need club members to operate the club station, log and talk to the public. We need a minimum of five to seven club members for 14 hours of service to the club. From the beginning of my article, this is when we need your participation and dedication to our club activities besides its fun to operate.

One last friendly reminder Field Day will be here before we know it, be sure to block in June 26, 27 & 28 to attend Field Day.

Best 73, C U on the Air and have some FUN

Ron AB4A

Once you're in heaven, do you get stuck wearing the clothes you were buried in for eternity?

Talking, Clinking, Singing Pots

By Pat Lewis, N3AYW

Singing pots, porcelain ware, pottery... Has anyone heard of this before? Has anyone except my wife and I actually heard "noises" come from their pots? Before you jump to conclusions about what kind of POT(s) I might be talking about---Rest Assured that my Bride and I are not under the influence of questionable medicines, drugs, or medicinal herbs.... My wife does have an herb garden and she has tried to "Become One with the Clay" during her Pottery classes at Roanoke County...

This is, at least at first, A VERY Strenuous and SOBERING process to create a pot from earth. Since watching a training video, and visiting an impressive pottery studio to study the "magic" I have the utmost respect for accomplished POTTERS.

It was only later that I heard [and recorded] these noises for myself back home. I was very curious but skeptical at first. My Bride had heard the phenomena herself and realized that once I did - the lid would have to come off to see what was inside...

The "BAIT"... "Do you think your radios could be making my pottery sing?" No kidding - I suppose anything is possible--- No, NO WAY! Obviously I did not want to believe-- so it must not be true... Are things only true if you want them to be true?

Setting the hook... I remember that night at the dinner table. There was a "fruit bowl" strategically placed behind me on the counter. I was eating a most wonderful dinner, with just the two of us. It was quiet as we were enjoying our "empty nest syndrome" together. And this darn bug or fly or something kept crashing into that fruit bowl. And it would make a ding!!!! Or dink!!!! noise. And I would get up and try to get rid of the bug in the bowl. And there was no bug! Each time there was no bug... It was very unnerving to eat dinner with a big juicy (sounding) bug falling and or crashing or just banging into that bowl! And my bride simply says "did you hear it" And I then said, "WOW!"

To be fair--and for whatever reason- not all pottery at our house will do this... It seems to happen for a while after the last "firing" of a pot or piece, and some of the few that have done this have quit "talking" or "singing"... but every couple of weeks she brings home another that makes noise. It obviously has nothing to do with my Ham Radio

equipment. And to test the radio wave idea is hard, as they are everywhere. My potter decided to see if they sing at work--because there is an AM radio tower about 4 blocks away from our house....and they sing there- at work- and in her car too..... If you are quiet enough and especially at night.

I decided to try a few experiments and record the audio. And I tried to control the environment. I placed a small bowl shaped pot in the bedroom (a bowl that was known to make a noise every now and then) with no bugs, no cat, no dog, closed up all the curtains and vents, and locked the room up - the pot and my MP3 recorder... for hours.

I used a stereo mike and recorded some references; like my finger tapping the bowl, or my finger flicking the bowl, you know so I could compare that to any captured sounds the bowl might make. And also no Ham Radio transmissions were allowed, hi hi...

I captured two sounds within 20 minutes and both of them were different from each other and only a couple of seconds apart. The first sounded like something hit the glass on one of the windows and the second sound was much louder right at the BOWL as it made its "dink" sound.

Now I have been using some "sound recording" software like Cakewalk and Audacity and even some radio programs like Spectrum to look at these audio files and just when it got real interesting THAT bowl quieted down for good.....

Referring to the internet about any similar phenomena has been pretty wild (I fear nonproductive) but here goes... There is a thing or imaginary flying creature called a sky fish (in Japan) and a "rod" or rods (in the Americas) They fly so fast that they only show up on high speed film or cameras and they easily go through things--- I didn't think you would buy that--but its got to be true its actually all over the internet! And to be fair- - so is ITS explanation (for RODS that is, NOT singing Bowls)...

Here is an observation or thought about these noises from pottery. What if people (more superstitious than us of course) hundreds or probably thousands of years ago heard these noises too... They couldn't blame it on Ham Radio or other stations... so it had to be Genies or [the] "spirits" or something like that...

My wife just informed me "I got another pot making noise- do you want to study this one?" Anyone brave enough to scientifically figure this out???

New and interesting web sites

By Russ Abbey KG4MAV

For a new “E” magazine take a look at <http://ham-mag.com> it’s free and very informative.

If you’re interested in Morse Code, take a look at the program from www.justlearnmorsecode.com And then there is also www.g4fon.net. I like the G4FON due to the ease of setup and also the options that are included. He does charge though but I think we can all afford what he’s asking, a QSL card only.

For the New Ham, try the following sites:

- www.arrl.org: This is the Amateur Radio Relay League. They represent all Amateurs even the one’s that don’t belong to the group. Also has a lobbying arm in Washington and a bunch of really good stuff on there web site.
- www.ac6v.com, there is more aids to the ham then any other site out there. Also try www.qrz.com and eham.net, BUT remember that in an online forum you need to take the advice you receive and verify it. While there are a lot of reputable hams out there, there are bunches that think they know more then they do. Also be aware that in the forums some of the folks like to be idiots and will try to get you riled. DON’T let them get to you or get discouraged. Just ignore them and like ice they will melt away.
- As to antennas try www.cebik.com, this is the quintessential site for the antenna builder and experimenters. L.B. Cebic (SK) was probably the most knowledgeable antenna expert with both building and modeling antennas ever. I got to meet him when out in Knoxville visiting my Brother-in-Law who is a ham. We went to his ham club meeting and I got to meet L.B., What a highlight to a weekend. He was a very fine Southern Gentleman that said to call him (and gave me his phone number) if I had any questions. The first of many fine Amateur Radio Operators that I have met in the last few years that I’ve been a ham.

The First Field Day

By Charlie Draper, AB4SK

Field Day is coming June 27 and 28. This prompted me research when it all started. I found that Field Day and I have something in common. We were born the same year within about a month of each other. (Yeh, I’m that old!) Maybe that’s why it’s my favorite operating event.

The following announcement appeared on page 15 in the June, 1933 QST:

“International Field Day – June 10th – 11th”

“CLUBS, 56-mc. operators, *all* hams with licenses for portable stations, attention!! Starting Saturday at 4 p.m. local time (June 10th) and ending Sunday at 7 p.m. local time (June 11th), all U.S.A. and Canadian station owners are invited to schedule ‘field activities,’ excursions with concentrated operation of portable transmitters and receivers. Only portable stations in the field, away from the ‘home’ address are eligible to submit field day scores.”

“The object will be for each ‘portable’ station to work as many other amateur stations as possible – each to count one point toward a score.”

The announcement went on to give the rules, not unlike the rules today. Sections were multipliers and each contact counted one point, 2 points if with a portable or DX station. There was no phone/CW issue. I expect all stations operated CW in the contest.

The announcement bore the name of F. Ed Handy, W1BDI, an ARRL Communications Manager at the time. Ed Handy reported the results on page 35 in the September, 1933 QST:

“The first Field Day was pronounced an unqualified success, according to about 50 accounts of station participation received. The gang who took part is looking forward to more similar occasions for the practical testing of portable (potential emergency) equipment combined with a good time for all.”

The winner was W4PAW with 62 contacts, 28 sections and/or DX, and 1876 points. The station operated from Indian Rocks Beach, Florida. If you find the math doesn’t work, remember they got 2 points for working a portable or DX station.

So we build on a fine tradition. CU at Crampton State Park in June.

Here is the info from the Fox Hunt:

By: Bryan KG4NIQ and Pat N3AYW

A fox hunt was held April 4th 9AM starting at Crossroads Mall. Carla Brindle KF4WGZ was the Fox.

There were a total of 9 amateurs to participate in the hunt with five teams.

- 1) AB4A Ron Ramsey and N4LCL Linda
- 2) K4WFO Phil, KS4BO Dave and Ray KK4HR
- 3) KJ4HJR Chris
- 4) KG4NIQ Brian
- 5) N3AYW Pat and KJ4GWO Ken

Standings in order of arrival with team 5 as the winner with lowest mileage:

Team2, Arrived at 11:26 with 31 miles

Team4, Arrived at 12:03 with 51 miles

Team5, Arrived at 12:07 with 25 miles

Team1, Arrived at 12:23 with 45.7 miles

Team3, Arrived at 12:49 with 40 miles



Ron Ramsey AB4A, Phil Roark K4WFO, Ray Pillow KK4HR, Pat Lewis N3AYW, and Linda N4LCL, Ray KK4HR, Phil K4WFO, Pat N4AYW, Ron AB4A, Dave KS4BO, Ken KJ4GWO, Chris KJ4HJR

And speaking of the Fox Hunt, here's another article from Pat Lewis N3AYW

Carla at the Fox Hunt

By Pat Lewis N3AYW

What fruit is red and delicious and usually covered with seeds on its outside- but in this case was smothered in white or dark chocolate? Well you had to chase a FOX with your 2 meter radio equipment last Saturday morning to find out. What might have been a 2 hour transmitter hunt took some of us 4 hours to complete. But those that found the FOX (and all teams did- eventually) were rewarded with fresh homemade Chocolate Covered Strawberries by Carla Brindle [KF4WGZ] AKA foxy lady ham who picked one heck of a spot from a deceptive propagation point of view. I don't know if it was totally planned that way (probably was) but on the side of one mountain- but not on top, and not at all visible, and totally surrounded by terrain shaped like a bowl. There were reflections everywhere- and

lots of decoy neighborhoods, and even the Blue Ridge Parkway went through at that place. Carla was not happy to just hide on a gravel cul-de-sac in an unbuilt neighborhood (that was open to the public but not yet on any of my maps)... She also placed the Fox Transmitter inside her car- antenna and all.... and every now and then opened and closed the doors. I can't exactly describe the strange kinds of signals we the hunters heard--- and if that wasn't enough--- the door she left open most of the time sent most of her signal out across a holding pond. Do you have any idea what a body of water will do to VHF signals? Well when you drove by anywhere in the little valley below, the signal was so suddenly strong you could not determine its direction at all... One hunter thinks Lady Foxes' are the hardest to find... but can't wait till the next RVARC FOX HUNT.



*Carla Brindle (KF4WGZ) aka The Fox
Note the fox in the back seat of the van.*



The Net;

By Russ Abbey KG4MAV

By now most of you have noticed the changes in the net. We wanted to get a lot more people interested in staying with the net but it was taking to long by using net numbers. Most nets in the region and on HF use the last letter in your call sign or something similar. So the net control operators and I got to work along with Ron AB4A and decided to change it. As of the first of April we went to last letters of the suffix in your call signs, let's take an example, my call is KG4MAV so when the net control calls for T-Z I get to call in because of the "V" in my call sign. The first of the month it's called starting with "A", then the second Wednesday it starts with Z-T, and continues alternating each week.

VE TEST SESSION RESULTS

By Ray Pillow KK4HR

March 15, 2009

Nine applicants attended the March session with some really great results.

Debi Bard, KJ4KNV of Riner VA earned her Technician license.

Charles Bruington, KJ4KNY from Rocky Mt VA passed Tech and General.

Michael Tolley, KD8JYF all the way from Hico, WV, upgraded to Amateur Extra.

Otis Harris, KJ4KNX of Roanoke passed Tech and General.

Christopher Davis, KJ4HJR of Roanoke upgraded to General.

Ben Gruver, KJ4KNU of Roanoke earned his Technician License.

Jeffery Gruver, KJ4JBU also of Roanoke upgraded to Amateur Extra.

Shawn Jones, KJ4KNW from Martinsville passed Tech and General.

Richard Anderson, KL2QZ of Juneau AK earned his Technician License.

Yes you read that last one correctly. Richard was in the process of relocating to Alaska from this area and had an established address in Juneau. We processed his paperwork accordingly and he was

presented with KL2QZ. After all, who would want to work a KJ4 call claiming to be in Alaska.

Many thanks to Willie N4XE, Rich K4TFC, Ken N4LYO, Bill W4pls, Lee WA4AJG, John K4JKA, Karen KI4GOT and Dave KS4BO for their continued support of the Roanoke VE Team.

Respectfully submitted,

Ray Pillow, KK4HR

VE TEST SESSION RESULTS

By Ray Pillow KK4HR

April 19, 2009

Ten applicants tested this month with very nice results.

Glenn Clements, KJ4LNH of Clifton Forge earned his Technician license.

John Coggin, KJ4LNG of Blacksburg Passed his Technician test.

Victoria Taylor, KJ4LNF of Sandy Level obtained her Technician license.

(Teenage daughter of Devin Taylor KJ4KTQ)

John Akers, KJ4LNE of Shawsville earned his Technician license.

Leslie Tucker, KE4EXA of Vinton upgraded to General.

JT Flannery, KF4ONR of Roanoke upgraded to Amateur Extra.

Michael White, KJ4LND of Salem Passed his Technician test.

Ben Rice, KJ4LNC from Blacksburg obtained his Technician license.

Congratulations to all newcomers and upgrades. If you hear any of these folks please jump in and talk to them.

Thanks to Bob KJ3Y, Lee WA4AJG, Gary AJ4GL, Willie N4XE, Bill W4PLS, Ken N4LYO, Phil W4VPI, John K4JKA and Dave KS4BO for running the April test session.

Respectfully submitted,

Ray Pillow, KK4HR

Fata Morgana

By Pat Lewis, N3AYW

Radio Amateurs should have an open mind if they like to experiment with new communication technology. But how far do you go before you leave your comfort zone, the paradigm or box you prefer to think in.

A few years ago I listened to some recordings of US and Canadian commercial FM radio stations (88-108 MHz band) that were picked up in Ireland and Scotland. You can still listen to these transatlantic audio files on U-Tube. I thought that even lo-band VHF was line-of-sight, especially FM. They use Omni-directional, horizontal and vertical polarized antennas and wide frequency modulation. The signals fade in and out and go to full quieting at times. Wow! What in the world is allowing this propagation?

After some surfing around on the internet, I discovered that no two Hams have successfully provided proof of a two-way contact on two meters across the Atlantic between the Americas and Europe or Africa. There is an actual prize to win. The Brendan Trophies go to the two hams or teams that accomplish the feat. (This is somewhat routinely done between the west coast of the US and the Big Island of Hawaii, about the same path length. Ed.)

There are plenty of discoveries and challenges for us little experimenters to have fun with. It didn't take long for me to realize that, **one**, I don't REALLY know very much about antennas, propagation, and especially receivers, **two**, the books I have collected (and even read some) only go so far and **three**, the internet is unbounded, undisciplined, and like a theoretical black hole will drag you off to Never-Never Land if you aren't careful.

I believe most people believe it CAN'T be done so VERY FEW are trying. I believe that all the signals are there all the time getting weaker and/or mixed with the noise. So rather than sweeping all these lost (and desired) signals under the "noise floor" (pun intended), we should be trying to figure out how to sort them out with digital techniques. I also believe that is one direction where SDR radios are going.

Recently I acquired the use of an FT 1000. It is an

incredible radio which I really could not afford to buy. It has a beautiful receiver, lots of filters, nice clear audio and more cool knobs than I know how to use properly. It was state of the art just a few years ago. Well, it's receive quality (sensitivity/selectivity, etc.) is comparable to the receiver of SDR radio kits costing 30-50 dollars such as Softrock. Of course I am only comparing the receivers. That blew me away. To be fair, the Big FT1000 type Radios are complete stations in themselves. They can survive even the most demanding use by hams. Consider AB4YZ, Ray's FT1000 which survived a couple of decades of disasters. Most of these radios will still be contesting and DXing long in the future.

Hams are starting to really get into SDR transceivers and there will be some interesting changes in the way we operate and also many new discoveries made... When this receiver technology matures enough and gets even easier to operate (it already is cheaper to operate) and reaches VHF (2 Meter weak signal part of the spectrum) I predict transatlantic 2 meter contacts like we get on 6 meters at least occasionally.

So this is only part of the Fata Morgana project, created at least in my mind, to motivate me to move ahead in my studies and research. To even build and test some of these ideas--MOSTLY concentrating on RECEIVERS for VHF WEAK SIGNAL work.

note to editor: maybe finding and putting all the references and links on the club webpage will get people to go there to "click" out of curiosity..... a little work but doable even by me hi hi

I tried to find some cutting edge reference material in the colleges of Virginia Tech and Notre Dame and for good reasons. There is a lot of research going on at the VTAG (Virginia Tech Antenna Group) and the first wireless radio transmissions were made by Gerome Green at Notre Dame near South Bend Indiana even before Marconi graced our North American shores.

I befriended a professor from VT and found out that both VT and ND and many other schools are doing much work above 500 MHz which won't help me.....But they are also doing SDR (software defined radio) work which will....and this is now the **WOW** of RECEIVER TECHNOLOGY.

Affiliated Club Coordinator (ACC)

By Ron Ramsey AB4A

The Roanoke Valley Amateur Radio Club is a Special Service Club affiliated with ARRL (American Radio Relay League). So let's start at the top and work our way back down to my other hat, Affiliated Club Coordinator (ACC).

The president of ARRL is Joel Harrison W5ZN located in Arizona but the First Vice President is Kay Craigie N3KN located at 570 Brush Mt Rd, Blacksburg, Va. She's very active on the air most recently in Deep Freeze and the Virginia QSO Party, next time you hear Kay on HF or the repeater be sure to work her.

Next we're located in the Roanoke division, who the director is Dennis Bodson W4PWF Arlington, VA but RVARC member David R. Jones, Jr. N4JED, 5207 Burnt Quarter Drive, Vinton, VA is the Assistant Director. RVARC being a special service club gets the opportunity to appoint Awards Managers, who can check QSL cards for WAS and 5-Band WAS, David N4JED also holds this position.

Lastly, we are part of the Virginia Section, run by the Section Manager Carl A. Clements W4CAC, 4500 Wake Forest Rd, Portsmouth, VA. I am Ron Ramsey AB4A the Affiliated Club Coordinator (ACC) a section-level official appointed by the Section Manager and reports to the Section Manager. Clubs are one of the most important parts in amateur radio. Clubs provide a place to get together, whether it is at a club meeting, a special event or on the air nets. I am responsible for working with all clubs, affiliated or not, to help meet their needs so they can be an effective resource in their communities as well as acting as liaison between the clubs and the section. The ACC also works with new as well as not affiliated clubs to assist these groups in becoming affiliated with the ARRL, if they want to. There are 284 club calls in Virginia with 44 affiliated ARRL Clubs but only

4 Special Service Clubs. I must approve all applications for Special Service Clubs, assist filling out their paperwork and help them become more active if the club is already healthy and effective, to apply for SSC.

My primary job is coordinating joint activities of radio clubs but I am also the contact and resource person for any Amateur Radio Club in the section to help meet their needs to be more enjoyable for their members. I will be visiting all of our clubs during a regular meeting if possible or e-mailing their officers and reading their newsletters. The purpose behind the visits will be to figure out their planned activities / strengths and address any needs our clubs may have but mainly put a face with the group. Each group is unique and each is encouraged to have fun with ham radio in their own way.

The end of this Log:

I hope you've enjoyed this edition as much as I have putting it together. If you have an interesting article or an idea you'd like to see in the Log let me know and I'll try to include it in next issue. Also if you think of something you'd like to see included in the net let me know. Thanks for putting up with my ramblings.

Russ Abbey
KG4MAV
Log editor
Net manager

REMINDER!!!

You can ads put **For Sale** stuff in the log.
Free for members and a small fee for non members.