

The Monitor

Published jointly by the Valley Amateur Radio Association and the Massanutten Amateur Radio Association,
Dedicated to serving those interested in Amateur Radio in Virginia's Shenandoah Valley

February at a Glance

- February 3: VARA Club Meeting — Kathy's Restaurant in Verona—**NOTE NEW LOCATION!**
- February 5: MARA Club Meeting — Ever's Restaurant — Program on Rockingham County's Emergency Communication System
- February 14: VE Examinations in Dayton, Virginia
- February 14-15: CQ-RJ RTTY WPX Contest
- February 21-22: ARRL DX Contest, CW Weekend
- February 22: Frostfest (Richmond Hamfest)
- February 28: CQ 160-meter Contest, SSB Weekend
- February 29: Vienna Hamfest



Well, Here It Is!

Here is what?

Your very last issue of the Monitor, of course.

That is, unless you have renewed your club membership for 2004.

Don't miss out. Turn to the last page of this issue (inside the back cover) and complete and mail the renewal form with your check today. If your club treasurer doesn't receive it by the February club meeting, well, — let's just say that you'll be sorry.

At Left: An unnamed ham from Harrisonburg is disrobed and escorted to the Bear Den repeater site after failing to renew his club dues by the end of the February meeting.

MARA President's Message

Don't miss the MARA meeting this month. Captain Jim Junkins, director of the Rockingham County Emergency Communications System, will be presenting an informative program on the county's (and the city's) new communication system.

Captain Junkins will describe the components of the system, how they operate and interoperate with each other, and how they are organized to form an integrated and efficient communications medium for county personnel and operations.

In true advertising form, my column last month may have been somewhat misleading, in that it implied Capt. Junkin's program might concentrate on the cost of the system, which has been the subject of much hype and commentary in the media. Captain Junkins program, however, will be much more informative, covering the various pieces of the puzzle, the reliability and effectiveness issues, efficiency, costs, and most important of all, how they achieve full reliable coverage of the entire land area and citizens of the county.

Be sure to attend, and learn about this exciting system.

Dave, KD9LA

VARA President's Message

I would like to thank everyone for their support and patience as this is my first time being president of any organization. Alby McCutchen AD4KZ has completed the Ham Radio book distribution to the local libraries, thanks for taking care of updating the Amateur Radio material in the libraries. We also explored the possibility of having some Amateur Radio Classes. If anybody might have comments or suggestions please email me. KG4JOF@arrl.net

And, I would like to remind everyone to be prepared in case bad weather should hit, like keeping batteries charged and a go box on standby and have radio's programmed for the local repeaters and simplex frequencies. Richard AA4RH, Program Chairman, is looking for anyone that would like to do a program for the club. Give him a call and set up a date to present it. Lets keep Dan James W4DLJ, and Marvin Henderson's (KF4WDI) Daughter in our thoughts and Prayers. I would also like to remind everybody that next month we're meeting at Kathy's in Verona, same time for the meal and meeting.

73's all, Billy, KG4JOF



A fifth floor room, complete with desk and chairs, and access to the attic

Virginia Mennonite Retirement Community Station Status

Hugh, K3EC, reports that the administration of the Virginia Mennonite Retirement community has tentatively designated a possible location for a ham station.

Hugh has been working for several months in an attempt to set up a "club" type of station which would be operated by any of the four licensed amateur operator residents of the community.

In addition to Hugh, Floyd K4AXA and Oscar W4YJ are actively working on setting up this station. Hugh has been emphasizing the station's capability to provide emergency communication in the event the community loses normal telephone service. With VHF, UHF, and HF voice equipment, the station would almost guarantee reliable communications in the event of a disaster.

The tentative location is currently an electrical closet on the fifth floor. It has hatch access to the attic. The room has power but a second circuit might need to be installed, and a hole cut in the concrete ceiling to accommodate conduit for cabling to the antennas.

Additionally, VMRC might provide a desk and two chairs for the station.

VMRC officials are looking into installing a telephone in the room to enhance the station's effectiveness in a communications emergency.

Hugh is working with Karen Barnes and Yvonne Stutzman to draft a "memorandum of understanding" or users agreement to insure compliance with VMRC insurance and liability rules, as well as Park Gables "good neighbor" policies.

Keep posted for developments on this station.

The Opinionated One — I Can't Wait Till ACAS Hits Ham Radio!

What is ACAS? It stands for an Automated Call Answering System. You've encountered it before. Instead of talking to a human being on the telephone, you get some impersonal computer that is programmed to ensure maximum customer dissatisfaction.

Banks were the first ones to discover how much ACAS irritated their customers. Now, it seems like every company in the U.S. is competing to see how obnoxious they can become to those customers who dare call them with a question or problem.

"Welcome to our automated answering system. If you want your current balance, please press 1. If you'd like to make a transfer, press 2. If you need to talk to a customer service representative, press 3, then settle down to listen to elevator music for about an hour, after which you will suddenly hear a click followed by a fast busy signal. Your call is important to us, so please stay on the line."

That's right. Stay on the line. The ACAS keeps you tied up on the phone, with false hope of believing that eventually you might get to talk to a living person. Fat chance. But at least while you are on the phone, you are not writing a hardcopy letter to the Better Business Bureau.

Ham radio is a little behind the eight ball with this one. Sure, we have automatic voice keyers, but what we don't have is automatic voice answering capability. Can you see it now? Let's say you need to borrow a wattmeter from a fellow ham. You get on the repeater and it goes something like this:

"W4PJW, this is KG4JOE. Are you on frequency, Jeff?"

"Hello, you've reached W4PJW, the ham on the Hankey Mountain Highway in Churchville, Virginia. For quality purposes, this QSO may be monitored, by any ham or even a member of the public with a scanner. Your QSO is very important to us so please stay on the frequency. Our menu options have changed, so be sure to listen carefully.

"If you're calling to report the DX cluster is down again, press 1. If you are calling to see if I'm in Richmond today and won't be at the Burger King for lunch, press 2. If you are calling to find out where to buy one of those doohickies for your RV, press 3.

"If you still believe Field Day is the last weekend in June, press 4, and enter the two digits of your IQ, followed by the pound key. You must enter both digits, so if you live in Staunton, remember to enter the leading zero.

"If you're calling to get a signal report, press 5 to get a 'full quieting' report, press 6 to get a 'solid copy with some noise' report, and press 7 to get a 'who's breaking the squelch? Stand up a little higher on the ladder' report.

"If you are calling to find out if you can get a ride to the Staunton club meeting tonight, the answer is no, but you can call Frank because I heard him on the '85 machine a few minutes ago and he is only bringing one of his kids tonight, and has some empty seats in his pickup, as long as you don't mind riding sideways.

"If you are calling to ask for the Cluster frequency, please hang up and check the VARA website for more information. If you don't know the URL of the VARA website, you can find that on the VARA website also.

"If you don't have Internet access, send us an email and we'll send you directions for obtaining Internet access.

"If you don't have email or Internet access, see the VARA website for further instructions.

"To hear these options in Portuguese, press 8.

"To return to the top of this menu, press 9.

"To hear fifteen minutes of Karen Carpenter's greatest hits, followed by a fast busy signal, press zero.

"Remember, you can reach us weekdays from 8 am to 9 am on the 145.13 repeater, and again in the late afternoon on one of the other local repeaters. Thank you for calling, this is W4PJW."

"Uh, yeah, Jeff, uh, all I really needed was to borrow your wattmeter. I guess I'll have to call someone else. Hey, W4QDC, W4QDC, Jay, are you on the frequency?"

"Hello, you've reached W4QDC. Your call is very important to us. Our options have recently changed, so please listen closely. If you are calling from Grenada, press 1..."

**DON'T FORGET!
VARA NOW MEETS AT
KATHY'S RESTAURANT IN
VERONA!**



Left: Station N4DSL/p at Two-Mile Run overlook on Skyline Drive. The antenna is pointed northwest at Reddisk Knob, the computer and wireless bridge is on the seat of the truck. Power is provided by a generator in the truck bed.



Left: View from Skyline Drive, looking northwest. Reddisk Knob is barely discernible in the far distance near the left edge of the photo.

Below: Station K4DJG/p located on Reddisk Knob, across the valley. The disk is pointing back east towards Two-mile Run Overlook.



K4DJG and N4DSL: Setting New Valley Distance Record on 2.4 GHz Digital

Today's wireless 802.11 networks advertise a working distance of approximately 300 feet. Don't believe them!

Last summer, Jason N4DSL and Daryl KG4PRR, demonstrated that off-the-shelf, unmodified 802.11 gear is capable of sending and receiving a usable digital signal on the 2.4 GigaHertz band for more than 8 miles.

Now, Jason and Bob K4DJG, have extended the working distance to over 34 miles!

Of course, Jason and Bob were using external antennas to produce a directed beam. But even without the amplifiers and pre-amps, the off-the-shelf equipment was

able to establish a two-way contact (file transfer, not just ping!) clear across the valley.

Jason was on Skyline Drive at the Two Mile Run overlook, 38-17.906 north, 78-38.914 west, at 2770 feet above sea level.

Bob was across the valley, on top of Reddish Knob, at 38-27.949 north, 79-14.717 west, at an elevation of 4370 feet.

Bob and Jason were both using LynkSys WET11 Ethernet bridges in ad-hoc mode.

Antennas on each end were 24db gain parabolic grid dishes. Amplifier output power was 800mw (making ERP around 160 watts).

Without the amps but with the dishes, the ERP was around 6.4 watts.

With amplifiers, the signals were 100%. Taking the amps out of the circuit reduced the signal strength to 65%.

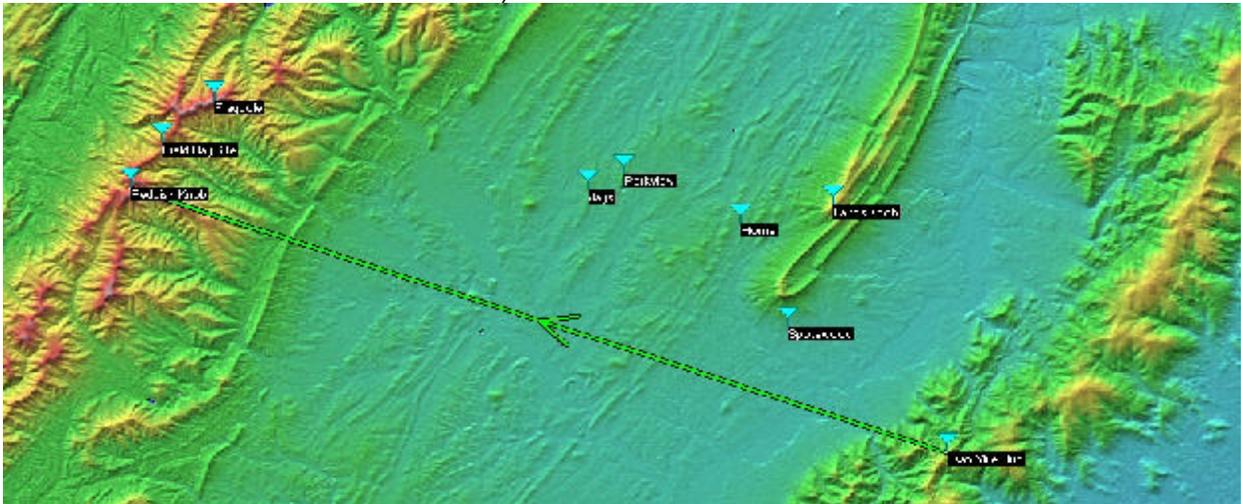
The operational data transfer rate was 1 Mbps (nominal). Practically speaking, the usable data transfer rate was about 150kbps on a test FTP transfer. This is slightly better than normal ISDN quality.

Jason explains: "The reason for the slow speed in spite of the good signal quality is because of the way 802.11 works. When it sends out a packet, it expects an ac-

knowledgement back very quickly, because the distances are usually measured in feet rather than miles. Compared to usual 802.11 distances, even at the speed of light, transmitting over 34 miles takes a relatively long time. There is a significant signal path delay. Collisions are bound to occur.

"Even so, 150kbps over this distance ain't bad! 10-15 miles is more realistic to achieve some very high speeds."

If you would like to see more pictures, check out the zip file at: <http://www.n4dsl.com/wlanpics.zip>



The two stations used laptop computers and off-the-shelf 802.11 2.4 GHz wireless Ethernet cards in ad-hoc mode. K4DJG (left) and N4DSL (right). The distance across the valley was over 34 miles.



VARA Secretary's Report

The **V**alley **A**mateur **R**adio **A**ssociation met at Shoney's in Staunton on January 6, 2004. The new President Billy Hooke KG4JOF opened the meeting at 7:30pm. There were 29 members present and 6 guests, John Bottemiller N4SYH, Bob VanFossen K4DJG, Jason Armentrout N4DSL, David Pickering KF4JCY, Ronald McCum and Craig DuCharme. Welcome to our visitors, and we would like to see all of you back next month.

50/50: The 50/50 was won by Earl Flower KF4CZN Congratulations Earl!

New Members: (3)

Ron Burch W4ZEE, Roger Sack N9ARC and Doug Tippet N8ESW were voted into VARA this month. Welcome to the VARA!

2004 OFFICERS:

President: Billy Hooke KG4JOF
Vice President: Greg Czerniak W4GRC
Treasurer: Jeff Rinehart W4PJW
Secretary: Ray Colvin KE4HVR

Next VARA Meeting:

We will move our VARA meetings to Kathy's in Verona beginning February 3rd. We have outgrown the room at Shoney's.

Directions:

Coming from Staunton on Rt. 11 Kathy's will be on your right in the dip just past the spotlight at Rt.11 and Rt. 612 in Verona.

Coming from I-81 take the Verona Exit 227 to Rt. 11, turn North (right) at the spotlight on Rt. 11,

Kathy's will be in the dip on your right.

Joe Pehan W4LIG, reported that Joe Moomaw W4XD, gave him one of his name badges several years back and told him when the time comes he would know what to do with it. Joe Pehan suggested that we start a plaque with name badges to honor the club's silent keys. There was also mention of laminated QSL cards for them. Pat KD4WWF agreed to take on the project and get it started.

The Club voted to start lessons for new hams and asked for volunteers to be on a committee to get it started.

We have three volunteers for the committee, Gordon Batey WA4FJC, Richard Hottinger AA4RH and Greg Czerniak W4GRC. Anyone that is willing to help teach when the class begins should contact a member of the committee.

New Club Call Sign:

Charlie Garner WA4ITY has a letter ready to send to Joe Moomaw's Daughter and Son to sign for permission for us to use Joe's call sign W4XD for the VARA call sign. When he gets the letter back he will send it along with the necessary paper work to the FCC for processing. Thanks for doing this for us Charlie!

SWAP SHOP:

This is for Ham related items only. You can send a list of items

you have for sale, swap or something you would like to buy, to Billy Hooke KG4JOF at: KG4JOF@arrl.net Also a picture of the item would help it sell. Go to VARA Web Site at: <http://www.qls.net/w4mus/>

Highland County ARES Net will be on the Monterey repeater 147.180+ and tone of 100.0 at 8:30pm on the 1st & 3rd Wednesday of the month. They would like to welcome everyone to check into the Net.

ADDRESSES!!! Keep your e-mail address up to date. You can send your e-mail address to: Billy, KG4JOF@arrl.net Jeff, jmrinehart@yahoo.com Ray, colvingr@rica.net David, ford-hadr@jmu.edu Also, it's good to keep QRZ updated when call signs and e-mail addresses are changed.

ON THE SICK LIST:

Dan James W4DLJ is getting around without his walker part of the time but he said he was not sure when he would be able to join us for the Friday lunches.

Marvin Henderson's (KF4WDI) Daughter came home on Wednesday before Thanksgiving and is going back to school.

Neal Layman's N4XU, Father recently became ill and was hospitalized, he is home now but with a serious illness.

Martha Tanks, David Tanks AD4TJ Wife's Mother, passed away recently.

Kenny Harris KE4GKD, has

been fighting off a bad cold and also has a problem with his shoulder and undergoing other tests. *Lets keep these folks in our thoughts and prayers.*

ARES NET: David Tanks AD4TJ is looking for Net Controls for the Augusta County ARES Net. The Net will be held on the 146.850 repeater on the 2nd Thursday of the month at 8:00pm. This repeater has a minus offset and a tone of 131.8 when needed.

PROGRAMS NEEDED: Richard AA4RH, Program Chairman, is looking for anyone that would like to do a program for the club. Give him a call and set up a date to present it. It does not have to be HAM related.

It could be anything you think the group would find interesting.

The meeting was adjourned at 8:15pm.

CONGRATULATIONS on behalf of the VARA to Billy Hooke KG4JOF on his first meeting as Club President. Great job handling the meeting in an orderly manor and keeping the attention of all members.

Submitted By:
VARA Secretary
Ray Colvin KE4HVR

Some Last Minute Quickies

The WN4JMU weather station is temporarily off the air. A new 2 kilowatt wind turbine will shortly be installed on the tower. Plans are being made for the station to report not only the weather, but also power generation and battery status from both the wind turbine and solar cell systems.

March's MARA program will feature N4DSL demonstrating Echolink and its ability to patch VHF ham communications into the Internet.

Ham radio classes are being considered by VARA. See the VARA minutes above for contact information if you are willing to help

teach, or if you know of a person interested in attending the classes.

The ITU has designated a new Morse Code character. The "@" symbol is designated as the combination of the A and the C together, or di-dah-dah-di-dah-dit. A little past due, but hey, better late than never, right?

Now that the FCC has abolished the Novice license, the ARRL is proposing it be reinstated, this time with no-code phone privileges on HF. See the ARRL website for details.

The ARRL is reducing the senior discount from \$5 per year to \$3 per year.

The AMSAT OSCAR ECHO satellite will likely be ready for its March launch window. The satellite will be launched from Russia and will be in a sun-synchronous orbit allowing voice communication with hand-held transceivers without the high-gain antennas now required for most HT satellite QSO's. For more information, check out the AMSAT website.

Membership Renewal Form

NAME: _____ Call: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

HOME PHONE: _____ WORK PHONE: _____

EMAIL ADDRESS: *(print legibly!!)* _____

MEMBER OF ARRL (y/n): ____ REGISTERED MEMBER OF VA -RACES (y/n): ____ RACES TRAINED (y/n): ____

SKYWARN ID *(if SkyWarn trained)* _____ Are you available for Workday Daytime Emergency Callup? (y/n) ____

Do you want to receive the Monitor via PDF Email? Yes/No/I already Do _____

CURRENT ABILITIES & CAPABILITIES: Do you have the technical ability, knowledge, experience, know-how, and the equipment to **reliably** operate the following modes or activities? Check all that apply.

- | | | |
|---|---|---|
| <input type="checkbox"/> HF CW slow-speed | <input type="checkbox"/> 50 Mhz FM | <input type="checkbox"/> APRS, base WX or digipeating |
| <input type="checkbox"/> HF CW high-speed (15 wpm and up) | <input type="checkbox"/> 50 MHz — other modes | <input type="checkbox"/> APRS, mobile transmitting |
| <input type="checkbox"/> HF SSB | <input type="checkbox"/> 2m FM | <input type="checkbox"/> Simple GPRS positioning capability |
| <input type="checkbox"/> HF Mobile from vehicle | <input type="checkbox"/> 2m weak signal, AM, etc. | <input type="checkbox"/> EME or Meteor Scatter or JT44 |
| <input type="checkbox"/> HF Portable or QRP | <input type="checkbox"/> 220 FM | <input type="checkbox"/> Microwave (902 Mhz or higher) |
| <input type="checkbox"/> NTS HF Message Handling ability | <input type="checkbox"/> 220 other modes | <input type="checkbox"/> Satellite Operations (analog modes) |
| <input type="checkbox"/> HF Slow-Scan TV | <input type="checkbox"/> 440 FM | <input type="checkbox"/> Satellite Operations (digital modes) |
| <input type="checkbox"/> Traditional RTTY | <input type="checkbox"/> 440 weak signal | <input type="checkbox"/> RDF — Direction Finding |
| <input type="checkbox"/> PSK31, | <input type="checkbox"/> 440 fast scan television | <input type="checkbox"/> Ham equipment diagnosing/light repairing |
| <input type="checkbox"/> Other HF digital modes | <input type="checkbox"/> Simple Packet | <input type="checkbox"/> Tower climbing/antenna installation |
| <input type="checkbox"/> Weather Station & Monitoring | <input type="checkbox"/> DX cluster and/or BBS | <input type="checkbox"/> PIC programming & circuit design |

Other abilities and capabilities: _____

WHAT TOPICS WOULD YOU LIKE TO SEE ON THE CLUB MEETING PROGRAMS? (check all that apply or add more.)

- | | | |
|---|---|---|
| <input type="checkbox"/> HF operating and Etiquette | <input type="checkbox"/> Weather Stations, Weather Monitoring & Reporting | <input type="checkbox"/> Innovative Mobile Rig Installations |
| <input type="checkbox"/> HF DXing | <input type="checkbox"/> Skywarn: What's it all about? | <input type="checkbox"/> Microwaves (902 Mhz or higher) |
| <input type="checkbox"/> Contesting | <input type="checkbox"/> Ultra-Simple Antenna Designs | <input type="checkbox"/> Satellite Operations (analog modes) |
| <input type="checkbox"/> QSL'ing methods, hints, tips | <input type="checkbox"/> 2m weak signals | <input type="checkbox"/> Satellite Operations (digital modes) |
| <input type="checkbox"/> Comparisons of Logging Software | <input type="checkbox"/> 220 or 440 operations | <input type="checkbox"/> RDF — Direction Finding |
| <input type="checkbox"/> Mobile, Portable or QRP operations | <input type="checkbox"/> Fast scan television: How To... | <input type="checkbox"/> Emergency Response Kits |
| <input type="checkbox"/> NTS HF Message Handling skill | <input type="checkbox"/> Simple Packet: How To... | <input type="checkbox"/> Radio Operations in Emergencies |
| <input type="checkbox"/> HF Slow-Scan TV: How To... | <input type="checkbox"/> DX cluster and/or BBS | <input type="checkbox"/> Ham equipment diagnosing/repairing |
| <input type="checkbox"/> Traditional RTTY: How To... | <input type="checkbox"/> APRS: Getting Started | <input type="checkbox"/> Tower climbing/antenna installation |
| <input type="checkbox"/> Other HF digital modes | <input type="checkbox"/> Simple GPRS introduction | <input type="checkbox"/> PIC programming & circuit design |
| <input type="checkbox"/> What's on 50 Mhz? | <input type="checkbox"/> EME or Meteor Scatter | <input type="checkbox"/> Traders Day, Homebrew Fair |
| <input type="checkbox"/> Logbook of the World | | <input type="checkbox"/> A modest Valley Hamfest |

Other interesting subjects for meeting programs: _____

VARA Renewals: mail with \$15 to Jeff Rinehart, 1344 Hankey Mtn Highway, Churchville VA 24421

MARA Renewals: mail with \$12 to VARA, PO Box 1882, Harrisonburg, VA 22801

MARA/VARA

c/o David Fordham
131 Wayside Drive
Weyers Cave, VA 24486
Phone: 540-568-3024
Email: fordhadr@jmu.edu

Return Service Requested

MASSANUTTEN AMATEUR RADIO ASSOCIATION, Inc.

President: David Fordham KD9LA
Vice President: Bill Karle KG4UPN
Secretary: Todd Harrison, K4TMH
Treasurer: Sandy Mullins, K4PZC
Board (exp 04): Richard Haxton, KC3AN
Board (exp 05): John Nelson N3JN

<http://mara.ws>

MARA meets the first Thursday of each month
at Ever's Restaurant on U.S. 11 south of
Harrisonburg. Meal starts at 6:30 pm.
Business meeting starts at 7:30 pm.

Visitors are welcome.

Dues (\$12 per year) should be mailed to:
MARA
PO Box 1882
Harrisonburg, VA 22801

VALLEY AMATEUR RADIO ASSOCIATION

President: Billy Hooke, KG4JOF
Vice President: Greg Czerniak, W4GRC
Secretary: Ray Colvin, KE4HVR
Treasurer: Jeff Rinehart, W4PJW
Program Manager: Richard Huttinger, AA4RH

<http://www.qsl.net/w4mus>

VARA meets the first Tuesday of each month
at Kathy's Restaurant in Verona.
Meal starts at 6:30 pm.
Business meeting starts at 7:30 pm.

Visitors are welcome.

Dues (\$15 per year) should be mailed to:
Jeff Rinehart, W4PJW
1344 Hankey Mtn Hwy
Churchville, VA 24421