

THE MARA/VARA MONITOR

Published monthly by the Massanutten Amateur Radio Association, Inc., of Harrisonburg, Virginia for radio amateurs in the Shenandoah Valley.

LAST CHANCE ...

The next issue of the *Monitor* will be mailed using the list of members who **renewed** their club membership for 1998. If you have not already renewed your membership, use the forms on page 9 to send in your check today! **Don't wait another minute!**

TAKE NOTE... ..

VARA voted at their January meeting to raise dues to \$15.00 per year.

VARA President's Message

Hello to all. I sure am glad that the ice storm we had was not as bad as predicted. I would also like to say that the club's Christmas Party went great and "a good time was had by all" and even a few people were honored with some pleasant surprises!!! Those who missed it will just have to wait until next year.

We have been asked to support the March of Dimes Walk to be held on May 2nd, 1998. This year the plan is (so far) to hold the Walk in the Stuarts Draft area of the county. We will bring this up at the February meeting. I hope we can gain support for this walk and get some volunteers to help out. Everyone is welcome; you do not have to be a member of the club to take part. So please pass the word around to all and let's try to help them out as in the past years.

Field Day is just around the corner and I'm sure we'll have a bunch of interest for the event. Last year the activity was a little short on participation. I hope this year more will take part, or at least come up to the mountain and visit, operate, help out with the set-up and taking down of the stations and anything else involved with the event. We also now have a committee for Field Day and I am looking forward to working with them at both clubs. We'll make this a bigger and even better event than in the past. So come on out! (Remember it never RAINS on Field Day)

We now have settled the "dues issue" for the 1998 calendar year. I certainly hope everyone will get their money in before the end of the February meeting so they will not lose the benefit of the newsletter or membership in the club. ***Be sure to note the new mailing address on the back of the newsletter!*** Send your dues now to Jeff (WB4PJW) at his home address and ***not*** the club's old PO Box (of which we voted to discontinue use).

At the February meeting, Karen (KE4WIE) will give a talk on Robert's Rules and for some strange reason I believe they are directed more for me (Ken - KE4GKD) than anyone else!!! So be sure to attend the meeting on the 11th. of February and give a listen to Karen. I sure do "Thank" her for coming forward for the presentation. If anyone else has something they would like to give a talk on please contact me and we will make plans.

We had a nice attendance at the January meeting. It sure was nice to see everyone and I would just like to say that we had three of our members from Highland County to attend (Jim KE4LKP, Jerry WD4ITN, and Melody KF4HEW). With the weather that was predicted and their distance to travel, we were sure glad to see them. We hope they will return more often, even if they do have a long drive over a bunch of mountains.

Now a word of Thanks: I had asked at a previous meeting that we hold the noise level down during the meetings and boy was I *surprised!*. It was one of the quietest meetings I have ever attended. I have to say we got a lot done and in a shorter period of time *so I sure hope this continues.* (So again, THANKS)

I enjoyed seeing everyone at the FrostFest in Richmond on the 18th. of January. Hope all had a nice time and got some great toys to play with. Some of the locals got together and had a nice lunch together. I know I sure enjoyed the fellowship, so if you missed it - maybe next year.

OK, enough for this month take care and hope to see or talk to everyone real soon, in person or on a repeater.

Ken - KE4GKD

INFORMATION ON COMPLIANCE WITH FCC'S NEW RF SAFETY RULES

As of January 1, 1998, amateur radio licensees are required to make sure their stations comply with regulations governing potential human exposure to RF fields. Stations must not exceed the FCC-adopted limits for maximum permissible exposure (MPE).

While some hams may consider the rules to be unnecessary, the regulations are very specific. Ham radio operators *must* comply with the new regulations. Period.

Fortunately, the law is not terribly burdensome. Compliance is well within the ability of anyone who can pass the technician-class written examination. And to make it even easier on hams, there is an exemption for stations whose transmitter power is below certain levels. Most ham stations probably already use power levels below the minimum threshold.

If your transmitter *does* exceed the minimum thresholds, you must conduct a station evaluation. This evaluation involves a few calculations easily done on a hand-held calculator. And still more good news: It is expected that most ham radio stations will pass the evaluation with flying colors, meaning that no action will be necessary to bring your station into compliance!

Bottom line: all hams must *learn* the regulations and make a determination of whether anything else is necessary. There is a low probability you may have to do an evaluation, and an even lower probability you will have to make modifications to your station to be in compliance.

But you must learn the regulations. To make sure hams are learning the regulations, all Form 610 copies used after January 1st, 1998, for license modifications, renewals, upgrades, even address changes, require that the licensee sign a certification declaring that he or she is familiar with the regulations and that the station transmitter(s) are in compliance.

To assist valley hams in learning about the rules and ways of complying with the new requirements, Bill Edmonson, W4IMS, has offered to give a club program on the subject at the *March, 1998, MARA club meeting*.

In preparation for that meeting, as well as to assist valley hams in conducting their station evaluation, the *Monitor*

will publish, in this issue and in the March issue, some supplements and tables provided by Bill. This material is excerpted directly from the FCC publication OET 65, which is the "bible" for hams to follow in conducting these evaluations.

OET Bulletin 65 is an imposing document.. So is Supplement B (intended specifically for ham radio stations). Therefore, Bill plans to present "just the bare bones" at the club meeting.

Of course, if you want to learn all the details, OET 65 and its supplements are available free of charge over the Internet. Set your browser to:

<http://www.fcc.gov/oet/fino/documents/bulletins/#65>

That web site lets you view the Adobe PDF files containing the entire OET 65 text and graphics, including tables, graphs, and other information.

The web site also allows you to download the text portion of the files (in WordPerfect format) to your disk drive. Unfortunately, the WP version does not include all of the important tables and graphs.

For those of you who do not have Internet access but would like to obtain a hardcopy of the document, David Fordham, KD9LA, (the newsletter editor), is willing to print additional copies at cost (\$5.00 per copy for the supplement only (64 pages), \$7.00 for the primary document only (85 pages), or \$12.00 for both) plus \$2.50 postage. This includes the documents, all tables, formulas, the worksheet and the worksheet instructions.

But do you really need a copy? First, check the table on page 3 (opposite). If your station transmits below the threshold limits, you probably don't need to obtain a copy of the document. (For example, on the 2-meter band, if your transmitter puts out less than 50 watts at the connection to the antenna, you are exempt from any further action.)

But if you transmit at power levels above the limits shown in that table (for example, you use a 1kw amplifier on the HF bands), you probably should have a copy of OET 65 Supplement B and its worksheet, since you will have to do an evaluation (calculations) to make sure your station is in compliance.

This page is for the table.

Excerpts from FCC Bulletin OET 65 Supplement B

RF Exposure Limitations

No station is exempt from **compliance** with the FCC's rules and with the MPE limits. However, many amateur stations **are** categorically exempt from the requirement to perform a **routine station evaluation** for compliance.

Stations operating at or below the power levels given in Table 1 are not required by the FCC to perform a routine evaluation for compliance. (Also, stations using mobile and portable (hand-held) transmitters are not required to be routinely evaluated.)

Even if your transmitter power at the antenna exceeds the values in Table 1, the routine evaluation might be nothing more than calculations determining that the radiation emanating from the antenna and transmission line is theoretically within the limits of allowable radiation exposure.

If the calculations (routine evaluation) indicates that exposure to RF fields could be in excess of the limits specified by the FCC, the licensee must take action to correct the problem and ensure compliance. Such actions could be in the form of modifying patterns of operation, relocating the antenna, revising the station's technical parameters (such as frequency, power, emission type, etc.) or a combination of these remedies.

For example, let's say an amateur determined his station was in compliance at full amplified power in all surrounding areas except for one corner of a neighbor's property when the antenna was aimed in that direction. In such a case, one way of complying would be to simply avoid pointing the antenna in that direction when people are present in that location. See how simple compliance can be?

The FCC guidelines incorporate two separate tiers of exposure limits. "Occupational/controlled limits" apply to situations such as licensees and members of their household. "General population/uncontrolled limits" apply to situations in which the general public will be exposed (such as neighbors, passers-by, and visitors to the amateur's property).

The equations and calculational methods described (in the supplement and OET 65) have been used to develop tables, figures, and graphs to assist amateurs in conducting their routine evaluation. In addition, direct

measurement of RF fields can be performed; however, most amateurs will not have access to appropriate calibrated equipment to make such measurements. Thus, it is expected that most hams will perform computations and table lookups to determine compliance. These tables use easily-determinable measurements (such as power output, dB gain of antenna designs, etc.) to arrive at conclusions about compliance.

QUICK AND EASY SUMMARY

Step One: Does your station's transmitter power at the antenna exceed the limits (by band) shown in Table 1?

If **no**, stop here; no further action is necessary, and your station is assumed to be in compliance.
If **yes**, proceed to Step Two.

Step Two: Use the formulas and tables given in OET 65 Supplement B to determine whether your station's theoretical radiation density exceeds the allowable limits.

If **no**, stop here; no further action is necessary, and your station is assumed to be in compliance.
If **yes**, proceed to Step Three.

Step Three: Follow the directions given in Section 5 of the OET 65 Supplement B, "Controlling Exposure to RF Fields", to correct the situation and bring your station into compliance.

OET 65 Supplement B contains a very useful appendix which makes it easy to perform Steps One and Two above. Appendix B is a four-page worksheet. By filling in the blanks on the worksheet and using a hand-held calculator, you can then look up values in tables to determine the answers to Steps One and Two above. There are eight pages of instructions giving all the directions and calculations necessary to complete the worksheet.

In addition to the 8 pages of directions, completing the worksheet requires you to consult one of 28 tables. This is too much material for printing in the *Monitor*, but all of this material (including the worksheet, instructions, and tables) is included in OET65 Supplement B. As mentioned earlier, this supplement is available free of

charge over the Internet from the FCC web site, or at cost of printing from the newsletter editor.

73,
Paul, WV3J

QRP = Low Power

Fun, fun, fun!

Here are two items for those of you interested in the art of radio contacts with micro-levels of power!

1). The weekend of February 7th is FYBO Winter Field Day. This is a QRP event in which the lowest temperature becomes a multiplier and the actual temperature at the operating position becomes part of the exchange. Sounds like fun! I hope to participate and am thinking of going to the free camping area in the National Forest at Wolf Gap to set up in my little camping trailer. But this event may also be done from the comfort of your cozy den. I'll have info (URL, etc.) on this shortly.

2). The QRP-L group is discussing an internet Elmering project. It would work like this: Everyone would buy the same kit (probably a 40 meter transceiver for about \$50.00). We'd all build it in stages...maybe one stage a week, and discuss everything as we go along on the QRP-L internet reflector. It will be possible to save by doing a group-buy of kits. The kit is priced to allow most everyone access by not including case, switches, connectors, etc...just the board and components. The kit will be chosen to be easy to build, have lots of documentation, and be a very good (great for \$50.00!) performer when done.

This project is intended to help in the self-education process. It will not be like just building a kit by following the instructions and not understanding what you are doing. It will be about a whole lot of questions. The folks on QRP-L group are the most knowledgeable and helpful gang I have yet run onto.

Here are some ways to get going with this project.

- Subscribe to QRP-L and follow along doing everything yourself.
- Make a commitment to come to my place one night a week to work on this as a local group, and we'll do a group buy and group study from here.

E-mail me if you are interested, or follow along on Email by subscribing to QRP-L at: <http://qrp.cc.nd.edu/qrp-l/clubinfo.html>

New Repeater!

The Pocahontas County repeater is now located at it's new home upon a *very* high ridge on the frequency of **145.110 MHz**, down 600khz. **No PL** yet, but it's in there if we need it.

So fire away!!!! It can be copied at Doe Hill on US Highway 250 West and should be workable from the Shenandoah Valley.

Let me know if you can get into it. BTW, the Richmond repeater is on the same frequency, so don't confuse it with ours.

Thanks.

*David Gordon, KB4LCI
dgordon@nrao.edu*

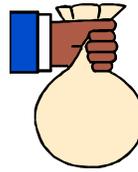
(The one who will have to get up in the early hours and go up on the mountain and fix it if it goes down!)



Don't forget! Spread the Word! Hear Ye, Hear Ye!

Ham radio license exams are held the second Saturday of every even numbered month. The next exam session will be held on Saturday, February 14th, at the Massanutten Vo-Tech Center on Pleasant Valley Road south of Harrisonburg. Sign-in begins at 9:15 am. For more info, contact Buck Mowbray at 540-289-5580.

NEWS FROM THE MARA PRESIDENT



FOR SALE

Contest scores:

CQ 160 contest January 1997: AD4TJ came in first place in Virginia, Low power single operator with a score of 50,648 points, 438 QSO's, 43 multipliers, and 9 countries.

WB4PJW was second place with 16,200 points, 209 QSO's, 35 multipliers, 1 country. Way to go!

N3JB was second place, High power single operator with 36,335 points, 210 QSO's, 48 multipliers, 17 countries.

W4XD was 4th place, High power single op, 32,715 points, 326 Q's, 41 multipliers, 4 countries.

September VHF QSO party: AD4TJ placed 5th out of the 7 Rovers in the Roanoke Division, 46th out of 67 nationwide, with a score of 2,552 points, 88 QSO's, 27 Grids, operating from 2 grid squares on the Blue Ridge Parkway.

Satellite news from CQ VHF:

Russian satellite RS-16 Transponder frequencies have been released, although the satellite was not operational at press time:

Uplink:	145.915 - 145.948 Mhz
Downlink:	29.415 - 29.448 Mhz
10m beacons:	29.408 and 29.451 Mhz
70cm beacons:	435.504 and 435.548 Mhz

New Form 610's

Also, I have received from the ARRL several new 610 forms. I'll give them to Wilton KF4BFL, secretary of the club, so they will be available to anyone who needs one.

73,
David Tanks,
AD4TJ

BayPac Model BP-1 Packet Modem, wired for Yaesu or similar H-T with coiled cord and hard rubber plug. - \$40

Larsen Mag Mount antenna base with two whips. MNO Motorola mounts. One is a 5/8 wave dual band and the other is a 1/4 wave dual band with a shock spring. - \$60 for all.

Cushcraft A270-6S Beam, 144-148/430-450 MHz beam. Three elements on each band, 33.5" boom. Assembled, never used outside, like new. \$50.00

*Bill Jones, KE4FM
289-9801
wwjones@gte.net*



ALSO FOR SALE

Kenwood TS-930, with 2 CW filters, mint condition;

Cushcraft A3 tri-band beam (10-15-20);

Ringo ARX-2B Vertical VHF gain antenna;

It all must go! **Make offers!**

*Harry,
W2GCW
433-6741*

MAKE AN OFFER

David, KD9LA, has a Commodore 64 computer with printer and disk drive he wants to get rid of. Make an offer.. Call 540-234-0448 evenings.

PHONE HOME?



MARA PROGRAMS

The February meeting of the Massanutten Amateur Radio Association will be held on **February 5th** at Ever's Restaurant on US 11 south of Harrisonburg. All hams, and others interested in ham radio are invited.

Our March meeting will be held on **March 5th**, also at Ever's. Be sure to mark your calendars well in advance! The March meeting will feature a special presentation on compliance with the new FCC regulations on RF exposure limits. This affects all hams who own a transmitter! Plan now to attend this very important program!

The meals start at about 6:30 pm. Ever's has a fantastic country-type buffet, and for well under \$10 you get everything, including drink and tip! The business meeting starts at 7:30, and the program usually starts about 8 o'clock. See you there!



THE LETTER OF THE LAW...

VARA By-Laws, that is

Kenny, KE4GKD, reports that he will have copies of the new VARA club By-Laws available at the next club meeting, to be held on February 11th.

Several of the local area repeaters have a feature where you can access the land-line telephone system from your 2-meter VHF radio. This makes it convenient for hams to stay in touch with non-licensed members of their family, to call friends to let them know they'll be late, and make other personal calls.

Here's the way it works. You simply tune your VHF transceiver to the frequency of the repeater you wish to use (see below), hold down your mike key, and press the DTMF buttons on your microphone (or hand-held) to punch in the access code for the "autopatch". The repeater, upon receiving the access code, connects to the phone system. You dial the telephone number of the party you wish to call. Their phone rings, and they answer it. You talk over the radio (pushing your mike button), and they talk into their phone. You can hear them on your radio, and they can hear you over their phone. Neat, isn't it? And cheaper than cellular!

When you are through, you hold down your mike button and key the code to "bring the patch down". The repeater disconnects the phone line (hangs up) and you then give your callsign to ID.

What are the access codes to "bring up the patches"? Well, to get those, you have to subscribe to the repeater patch association. Your subscription helps pay for the phone line charge, and in some cases, helps offset the cost of maintaining the equipment on the mountain. Below are the primary autopatch associations in the valley. The annual subscription buys you unlimited local phone calls! Contact the associations directly if you wish to subscribe.

- N4RAG Laird's Knob Linked System (includes autodial capability, simplifying your dialing), 147.225 (+), with 131.8PL, \$15.00 per year, phone access covers most of Rockingham County, contact Buck Mowbray, at 540-289-5580.
- N4YET Massanutten Peak, includes 1-800 access and 911 access, 147.315 (+), \$15.00 per year, phone access covers most of Rockingham County, contact Jay Suter, 540-434-7750.
- W4PNT Waynesboro Repeater Association, phone access covers most of Augusta County, 147.075 (+), 131.8PL, \$30.00 per year, contact Gordon Batey, 540-248-2732

V.A.R.A. Secretary Report

January 14, 1998

The V.A.R.A. club meeting was held at Gavid's Restaurant in Staunton on January 14, 1998. The meeting was opened by the club's president, Ken Harris (KE4GKD). Present were 26 members.

Jeff Rinehart (WB4PJW) had information concerning ARES. They are currently looking for an ARES EC for Augusta county. Anyone interested or needing more information contact Jeff.

The total amount raised with the 50/50 raffle was \$25. Jerry Moats (WD4ITN) was the winner of \$12.50.

The secretary's report was accepted as printed in last month's newsletter. Pat Smiley (KD4WWF) made the motion to accept and Buck Mowbray (N3RIQ) seconded.

Jeff Rinehart (WB4PJW) gave the treasurer's report and it was accepted as read. Joe Archambeault (N4TRH) made the motion to accept and Bob Osterloh (N4ICT) seconded.

Ken Harris (KE4GKD) proposed the possible advantages of closing the club's post office address and instead having everything going to the club's current treasurer. Dick Waldmuller (WB8GIF) made the motion that the club make this change and Nancy Colvin (KE4PHP) seconded. A club majority vote finalized the decision to change the club's address from its current post office address to the treasurer's address, which for this year, is Jeff Rinehart (WB4PJW).

Ken Harris (KE4GKD) suggested to the club that the dues be raised because of the rising costs required to print and mail out the club newsletters. The proposed "Article VI - Dues" was read by Jeff Rinehart (WB4PJW). In summary, the article stated that dues would be \$15 for full members and \$7.50 for associate members. Anyone joining the club after August 1st as a full member will pay half of the normal cost of full membership or \$7.50. Anyone joining the club after August 1st and who qualify as being an associate member will also pay half of the normal cost for an associate member or \$3.50. Dues for an upcoming year can be paid in advance or on January 1st. After some discussion, Dick Waldmuller (WB8GIF) made the motion to accept the \$15 full membership portion of Article VI as read. June Waldmuller (KC4PKJ) seconded and a club majority voted in the proposed portion of Article VI. Following more

discussion, Bob Osterloh (N4ICT) made the motion to accept the \$7.50 associate membership portion of Article VI. James Thompson (KE4LKP) seconded and a club majority voted in this detail and made the proposed Article VI final.

Charlie Garner (WA4ITY) agreed to take over as the trustee to the club callsign. Bob Osterloh (N4ICT) made the motion to change the club's callsign trustee from himself over to Charlie. Jeff Rinehart (WB4PJW) seconded and the club majority vote finalized this decision.

A field day committee was selected and those members were Joe Meek (KD4FKT), Pat Smiley (KD4WWF), and Ken Harris (KE4GKD).

There was a motion to adjourn the meeting by Bob Osterloh (N4ICT). Dick Waldmuller (WB8GIF) seconded and the meeting was adjourned at 8:08 p.m.

Submitted by:
Douglas S. Zirk (KE4RMD)
V.A.R.A. Secretary

The MARA Secretary's Report had not arrived in time for this month's printing deadline.

The deadline for the March issue of the *Monitor* is Friday, February 20th. Please have your material in the newsletter editor's hands no later than Friday, 2/20/98.

CONTESTS

Feb 7, North American Sprint CW
Feb 7-8: Ten-Ten Winter Phone QSO Party
Feb 13-16: CW Novice Roundup
Feb 21-22: ARRL International DX Contest CW
Feb 28-Mar 1: CQ WW 160m SSB Contest
March 7-8: ARRL International DX Contest Phone
March 28-29: CQ WW WPX Contest Phone

All 1996 & 1997 issues of *Monitor* can be found at:
<http://falcon.jmu.edu/~fordhadr/ham/>

MASSANUTTEN AMATEUR RADIO ASSOCIATION

Name: _____ Call: _____ License Class: _____

Mailing Address: _____

City/State/Zip: _____

Home Phone: _____ Work Phone: _____

E-mail (please print plainly): _____

ARRL MEMBER? _____ ARES? _____ SKYWARN ID NUMBER: _____

Annual Dues: **\$12.00** Make check payable to MARA.
Mail to: Matthew Huffman, KD4UPL, 5166 Mt. Clinton Pike, Harrisonburg, VA 22802

VALLEY AMATEUR RADIO ASSOCIATION

Name: _____ Call: _____ License Class: _____

Mailing Address: _____

City/State/Zip: _____

Home Phone: _____ Work Phone: _____

E-mail (please print plainly): _____

ARRL MEMBER? _____ ARES? _____ SKYWARN ID NUMBER: _____

Annual Dues: **\$15.00** Make check payable to VARA.
Mail to: Jeff Rinehart, WB4PJW, 1344 Hankey Mtn Hwy, Churchville, VA 24421

**THANKS TO
KWIK KOPY
FOR PRINTING
THIS MONTH'S
ISSUE OF
THE *MONITOR***

MASSANUTTEN ARA

President: David Tanks, AD4TJ
Vice-President: Walt Lam, KF4BFB
Secretary: Wilton Thomas, KF4BFL
Treasurer: Matthew Huffman, KD4UPL
Board (exp 98): Sandy Mullins, KE4PZC
Board (exp 99): Bob Hughes, KF4BFC

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/yr) should be mailed to the Treasurer,
Matthew Huffman, KD4UPL, 5166 Mt Clinton Pike,
Harrisonburg, VA 22801

THE VALLEY ARA

President: Ken Harris, KE4GKD
Vice-President: Karen Zirk, KE4WIE
Secretary: Doug Zirk, KE4RMD
Treasurer: Jeff Rinehart, WB4PJW

VARA meets the second Wednesday of each month at Gavid's Restaurant on US Route 11 South in Staunton. The meal begins around 6:30 and the business meeting begins at 7:30.
Visitors are welcome.

Dues (\$15/yr) should be mailed to the Treasurer,
Jeff Rinehart, 1344 Hankey Mtn Hwy, Churchville, VA 24421

The *Monitor* is published monthly by the Massanutten Amateur Radio Association, Inc., a non-profit organization under the Internal Revenue Service regulations. The *Monitor* is distributed to all full current members of the Massanutten and the Valley Amateur Radio Associations under reciprocal agreements of the two clubs. Sample copies are sometimes sent to other hams in the Shenandoah Valley to invite them join the club of their choice. All change of address, articles, comments, and material for the *Monitor* should be sent to the Editor, David R. Fordham, KD9LA, 131 Wayside Drive, Weyers Cave, VA 24486-2421, phone 540-234-0448, email: fordhadr@jmu.edu.

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HAVE YOU RENEWED YOUR
MEMBERSHIP YET?