# The MARA-VARA *Monitor*

**DECEMBER 1997 -- Volume 97:12**

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This is the web page version of the MARA/VARA *Monitor*.

The *Monitor* is published monthly by the Massanutten Amateur Radio Association Inc.
(a non-profit organizations under the IRS regulations),
for radio amateurs in the central Shenandoah Valley.

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## DECEMBER CLUB MEETINGS CHANGED

Both ham clubs in the valley are changing their December club meetings. See Pages 2 and 3 for information.

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## Calling all Youth!
## NEW NET FOR YOUNG HAMS

There's a new Net in town, especially for young people! On Monday, November 10, the Central Virginia Youth Net hit the air on the 147.075 repeater in Waynesboro. The net, originally on the 146.76 repeater in the spring, has moved in order to try to serve a larger area. The net is open to any and all operators under the age of 21. It is an informal net for the express purpose of allowing the younger members of our hobby a forum to meet and talk and get to know about one another.

If you know of anyone who is licensed, under 21, and would like to meet other young hams, please let them know about the Youth Net. It will be meeting every Monday night on the 147.075 repeater at 8:30 pm. If there are any questions, please feel free to contact me at either kc4tqf@juno.com or call me at 540-337-5179.

*73 de*
*BillBearden*
*KC4TQF*

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## JOE MOOMAW -- W4XD, NEEDS A KIND WORD

Thanks to Ray KE4HVR for passing Joe Moomaw's email address along. I'm sure Joe would enjoy hearing from some of his friends. He is now living in Urbana with his daughter - not too far from Richmond, VA His email address is: **moomawj@juno.com**

*73 Jeff, WB4PJW*

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## Staunton Area
### NEW REPEATER ON THE AIR --- 146.700 (131.8 PL)

The 146.700 Repeater, -600 khz offset, with a PL tone of 131.8, is now on the air at KD4WWF's home location (Staunton). The antenna system is not the best right now, but as we get some good weather (warmer) we will try something different. Give it a try and let us know what you think.

*Ken, KE4GKD*

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## SKYWARN REPORTING INSTRUCTIONS NOW AVAILABLE ON THE WEB

The National Weather Service has provided written instructions for the reporting of severe weather and winter storm reports. These instructions apply to both SkyWarn volunteers as well as others who may be submitting reports. It is suggested that you view these web pages (and make a printed copy) before the storm strikes, since the Internet may go down during severe weather, or may be overloaded.

http://www.nws.noaa.gov/er/lwx/snowrep.htm
http://www.nws.noaa.gov/er/lwx/severe.htm

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## ATTENTION VARA MEMBERS:

Just a reminder of the VARA Christmas Party to be held December 18th, Ever's Restaurant, Time: 6:00 pm.

Cost $9.50 per person (includes taxes, tip, etc:).

You need to get your money to Charlie (WA4ITY) or Pat (KD4WWF) before the 10th of December so they can let the restaurant know how many to expect.

This is open to all amateurs and family or friends (not just club members) so spread the word around and come on out for the get together. ALL ARE WELCOME. This party takes the place of the December club meeting. Hope to see you there.

Ever's Restaurant is on U.S. 11, south of Harrisonburg. Take I-81 to State Route 257 (Exit #240). Go west on Route 257 1 mile to the first traffic light (US 11), turn right at the light, and Ever's will be on your right 1/2 mile down.

*Ken (KE4GKD)*

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## ATTENTION MARA MEMBERS:

Just a reminder of the MARA Christmas Party to be held December 4th, Pano's Restaurant, Time: 6:30 pm.

Cost $6.95 per person (includes taxes, tip, etc:).

The menu choices are:

Baked Chicken
Chopped Sirloin
Fried Trout
Spaghetti with Meat Sauce

You may select your choice from the above menu at the time you arrive. No reservations are necessary. The party is open to all amateurs and family or friends (not just club members) so spread the word around and come on out for the get together.

ALL ARE WELCOME.

This party takes the place of the December club meeting.

Pano's Restaurant is on U.S. 11, south of Harrisonburg. Take I-81 to the US 11 South exit (Exit #243). At the end of the exit ramp, turn right and go 2 blocks to Pano's on the right.

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## VARA PRESIDENT'S MESSAGE

We had a good turnout for the last formal club meeting of this year. I would like to thank all that supported the club in 1997 and I hope you will support Ken KE4GKD and the club in 1998.

Bike Virginia went very well. There is a separate article in this month's newsletter giving the details. A very hearty "thank you" to all the hams who volunteered their time to help with this very important and high-profile event. The clubs are $200 richer because of your contributions!

The VARA Christmas Party is December 18th at 6:00pm. We will be eating at Ever's restaurant in Harrisonburg. The cost is $9.50 per person. Don't forget to send your money to Charlie or me.

Important: The cut-off date for reservations is the 10th of December. We need to let Evers know how many we will have, so make your reservations now.

Just to let you know the club voted to raise dues to $15.00 per year. Make a note of that when you pay your dues which are due the 1st of January, 1998.

*Pat Smiley,*
*KD4WWF*
*VARA President*

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## MARA PRESIDENT'S MESSAGE

Hello from Verona. We had a good meeting Nov. 6th. In spite of the rain, 23 members and visitors attended, and enjoyed the presentation by Harry N1PG. The waves in the storm on the video tape were incredible! I think many who were there that night were convinced they want to remain land-lovers for a while! Thanks again to Harry for sharing his experiences with us.

I hope the weather treats us right this year and allows a very good turnout for the Christmas Banquet on Dec. 4 at Pano's at 6:30 pm. No reservations are necessary; pay only after you eat. We voted at the Nov. club meeting to order from the first menu that was listed in November's newsletter; the restaurant will be able to efficiently serve us this way. Come on out for good food and fellowship.

We want to welcome 2 new members to our ranks: Gerald Nauman KN4FM, and Richard Neel KD4KWE; they were voted in at November's meeting.

As January 1, the first Thursday, is New Year's Day, we voted to move that month's meeting to January 8th. Mark that on your calendar now! It's not that far away!

Also, speaking of not that far away, it's time to start thinking about Field Day! I know, it seems like a long way off, but time has a way of slipping up on you. Schedule time to attend and participate in this year's event, which will be June 27 and 28, I believe. If you have an idea to make our operation easier, jot it down so you can bring it up when the time for discussion comes up. One area I can see where we can improve is satellite; we didn't make any satellite contacts last year. I thought that for this year we could use RS-12, which would be fairly easy to set up for, as it normally takes a 15 meter uplink, and downlinks it on 10 meters, but reading in CQ-VHF for December they have switched to 2 meter uplink/10 meter downlink. We will have to monitor the latest info on it so we will know where to operate on it. That would be an easy way to get those bonus points we missed. If you can think of something else, let me know. Of course, our score still placed us 21st out of 675 entries in our class, so we can't complain too much, can we?!?

Remember, dues are due, so send Matthew your money soon. Christmas Banquet, here we come! See you there.

*David AD4TJ,*
*MARA president*

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## Public Service
### BIKE VIRGINIA REPORT

Bike Virginia 1997 went real well. We were short some ham radio folks, but in all every thing came off fairly well. Allen & Jerry (both of the Bike Virginia organization) were real pleased and said so in the letter I received from them. Also, they made their usual donation to the clubs of $200.00. We do appreciate that.

I would like to thank the following amateurs that helped Saturday and Sunday. If I leave out anyone, please let me know and we will correct that.

**SATURDAY:**

- Charlie WA4ITY,
- Ray C. KE4HVR,
- David AD4TJ,
- Norman KA4EEN,
- Terry KT4UO,
- Tim KE4WPF,
- Benny KF4CZK,
- Dick, W4AVN,
- Dan KE4JSX.

**SATURDAY & SUNDAY:**

- Joe KD4FKT,
- Bill KE4LKS,
- Ken KE4GKD,
- Stin, KE4SSF,
- Pat KD4WWF.

**SUNDAY:**

- Cowles KB4CNI,
- David KF4JCY,
- Gary KE4PFR,
- Ray P. KE4NNV,
- Dale KE4YEV,
- Dick WB8GIF,
- Sam KE4YEV.

Dick W4AVN, was Bike #2 Saturday, and Stin KE4SSF, was Bike #1 Saturday & Sunday.

Thanks to all that took the time out and supported our hobby. Also we had no accidents and that made for a safe day for everyone. The Bike Virginia organization gave all Amateurs a nice T-shirt and fed us a great meal, too.

We had around 1,200 bikers in the event, so all the routes were really active. I would like to thank Tiny for the use of the 147.045 machine. It did a good job as usual.

*Pat, KD4WWF*

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## YET ANOTHER LOCAL HAM'S WEB PAGE...

http://www.gb.nrao.edu/~dgordon

Information about NRAO, WV amateur radio operations, Satellite and more... Updates and comments are always welcome!

*David Gordon,*
*KB4LCI*

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## Use your browser!
## WHAT TIME IS IT?

For those of you with Internet access, the National Institute of Standards and Technology (formerly the National Bureau of Standards) has placed its ITC master clock on the world-wide-web. Set your browser to URL: http://www.bldrdoc.gov/timefreq/javaclck.htm

Unlike some of the fancier auto-synchronization internet clocks, this one runs on any browser without additional add-ins or plug-ins. You simply go to the URL, and presto! … your screen shows the current time, accurate to within one second.

The page also has downloadable software to keep your computer's internal clock synchronized with the master clock.

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## ROCKINGHAM COUNTY HAMS GET WORLDWIDE ATTENTION

The following article appeared in World Radio.

"How to Succeed in Zoning -- an amateur Radio success story from Virginia"

Hams in Virginia's Rockingham County were rewarded for their efforts to get Amateur Radio towers excluded from a new zoning ordinance being drawn up to deal with the proliferation of cellular telephone towers. Teamed with an ARRL volunteer counsel and another ham attorney, the group quietly lobbied the county officials responsible for drafting the ordinance, so they could head off any problems at that level instead of waiting for a public hearing.

Paul Helbert, WV3J, a member of the Massanutten Amateur Radio Association of Harrisonburg, Virginia, said, "The most important thing we did, I think, was to go to the board members, the county's attorney and planning staff during the week before the meeting so that they had no surprises and no mystery as to our concerns." Helbert credits ARRL Volunteer Counsel Paul Schwartz, KB2XX, of Charlottesville, and Staunton attorney Charlie Garner, WA4ITY, for coming up with the approach.

Helbert says he found out about the proposed ordinance almost by accident during a conversation with Bill Fawcett, WV4PWP, who's involved with commercial radio. The draft ordinance placed restrictions on placement, erection, and maintenance of radio transmitting facilities, including antennas, towers, poles, and other support structures. The proposal was especially hard-hitting to radio transmitting installations in residential areas. The original draft made some concessions to ham radio by excluding ham towers less than 50 feet tall. Other provisions would have made it prohibitively expensive for most hams to erect a tower taller than that.

Helbert helped spread the word among area hams who, in turn, contacted individual supervisors and the Board chairman. Garner helped draft a resolution on behalf of the Valley Amateur Radio Association and the Waynesboro Repeater Association. The Massanutten Amateur Radio Association executive committee also presented arguments to the members of the county board.

"At all times were the hams polite, courteous, and in no way confrontational," a story in the MARA/VARA Monitor reported. "The purpose of all this activity was not to appear adversarial, but to simply remind the government officials of the hundreds of hours hams had spent in emergency communications support, and to politely inform them that the de facto 50-foot limitation on ham towers would inhibit some hams' ability to provide that service in the future."

More than 40 hams -- well identified with name and callsign badges -- turned out for the September 24th meeting of the Rockingham County Board of Supervisor's meeting. Five, including Helbert and Garner, spoke on their behalf. The Board commended the ham community for its public service, and remanded the proposed ordinance to the Planning Commission for a rewrite, this time to include a complete exemption for Amateur Radio antennas. The Planning Commission adopted the changes October 9th.

As an unexpected and unrequested bonus, the county Board of Supervisors also struck an existing zoning law provision that required hams to obtain a special use permit to erect a tower.

As ARRL Regulatory Information Branch manager Tom Hogerty, KC1J, observed, "This is a good example of how hams should interact with their city and town governments when dealing with Zoning issues."

*Submitted by*
*Gerry Brunk*
*K4RBZ*
*reprinted from World Radio*

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## STANDBY POWER GENERATION EQUIPMENT

As Hurricane Fran so acutely demonstrated, electricity is essential to modern living. Unfortunately, few people think about this until the power goes out. This dependence on a constant supply of electricity has caused increased interest in standby electrical generating equipment.

Standby power equipment can convert physical inconvenience and mental frustration into peace of mind. A homeowner or ham must decide whether to purchase the insurance of a standby generator, or if he is willing to accept the risk (and possibly cost) of power loss. The expenditure of standby generation equipment must be considered the same as almost any other kind of insurance. The cost of installation and maintenance of the system must be compared to the possible loss and inconvenience due to outages.

The National Electrical Code requires that a standby generator, if connected to your home wiring, be connected so as to prevent the inadvertent connection of the generator to the incoming power line. A double-pole, double-throw switch must be installed between the power supplier’s meter and the home’s service entrance or primary breaker panel box. The switch must be on the homeowner side of the meter.

The use of a double throw switch prevents power from feeding back into the power supplier’s line and endangering the lives of the power linemen who may be working down the street or miles away to restore power. It also protects neighbors and the general public who may happen across downed power lines. Further, it prevents accidental re-energizing of the home service system (and consequent burnout of the generator!) when regular power is restored. Almost all warranties on standby power generating equipment are null and void if a standby switch is not used.

Generators can be either portable or fixed. Some farms utilize generators which can be connected to the power take-off (PTO) connection of a tractor. If you are a homeowner, you probably will want one of the engine- driven models. These come with a gasoline engine connected to a generator, mounted together on a single frame.

The choice of engine is important for greatest efficiency and minimum care and maintenance. For generators up to about 15 kilowatts, an air-cooled engine is recommended because of its simplicity and low maintenance requirements. For generators larger than 15 kilowatts, however, a water-cooled engine is necessary. The drive engine must have at least two, and preferable two and a half, horsepower for every 1000 watts of generator output. Thus, a 4000-watt generator requires at least an eight horsepower engine, and if the generator will be used at close to the 4000-watt rating for very long, you should use a 10 hp engine.

Contrary to popular belief and advertising, there are no set standards for determining the rating figures for standby generators. Manufacturers ratings can vary from zero overload capacity to 100-percent overload capacity. The fact that motors and some other equipment draw more amperage at startup than they do while

running means you must consider the maximum short-term draw when selecting the size of the generator. A generator rated with a large overload capacity lets you choose a smaller unit, since the intermittent load (caused by starting motors in refrigeration equipment, air handlers, etc.) will only be required for short periods of time. If you select a generator rated with no overload capacity, you will need a larger rated unit to make sure your peak demand during those startups will not exceed the generator's capability.

Next month's Monitor will include information on how to estimate the load you will place on your generator, and how to select a generator rating that meets your needs without resulting in unused (and expensive) capacity.

*Information provided by*
*Bob Niemeyer, W3MMC*
*excerpted from an article in*
*Rural Living Magazine,*
*reprinted with permission of*
*Shenandoah Electric Cooperative*

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## MORE ABOUT BATTERIES

I've been asked by a couple of you to re- post the discussion on batteries, charging, power supplies, etc. There were a number of postings, some questions and some comments from Phil Karn. I don't have every question, but I do have most of the replies and you should be able to make some sense out of it. The original stuff was written on-line and off the top of my head so I have run it through the word processor to correct my spelling and made a couple of other minor additions and corrections. Hope some of you find this useful.

It all started out with a discussion of problems with the FT-736 power supplies. I suggested the use of a marine/RV deep cycle battery and a small power supply to keep it charged. Following that I received a few messages from folks doing the same, but some were not happy with the results. Short battery life seems to be a problem. I thought my reply might be of general interest so here it is along with my original posting.

This is not high tech stuff, just a little "battery basics" so if you already have a bunch of successful experience with battery power supplies you might want to just skip it.

My first posting:

==== snip ====

Hi Ken, just a thought here. Why not run it off a deep cycle battery (100 Amp-hr. Delco Voyager or similar should be $50 or less at the discount store... sealed types are fine indoors) and keep that charged with some sort of small "swap meet special" power supply (good quality surplus supplies such as Lambda go for around $10 - $20 for something in the 5 - 10 Amp size). That way you won't go off the air when the power goes off. Works for me. (Mine are solar charged, but I have a small Lambda supply as a "bad weather backup." Runs my HF gear too.) Adjust your power supply for 13.65 Volts for the float charge on this type of battery, and just leave it on all the time.

==== snip ====

A few wrote back saying they were doing something similar, but the batteries don't last. Some were getting as little as six months out of a battery. Here's the follow- up reply:

==== snip ====

Unfortunately, it is not too hard to damage these batteries. Excess charging voltage will certainly do it (as will excess discharging and incorrect or incomplete charging). I'm surprised you didn't meter that or at least check it... most power supplies have a voltage adjustment, but you may have to go inside to find it. Look for a pot with “v.adj.” written next to it on the pcb. Maybe you were using a typical automotive battery charger? I don't recommend that for this type of system.

Lead acid batteries normally have to be serviced every month or two to replace the electrolyte that gasses off. What they do with those "sealed" maintenance free jobs is just add extra electrolyte. Their life span is more-or-less based on how long the electrolyte lasts. Over charging will "boil" it off fast. A better approach is to use a serviceable battery. The best price/performance we have found within most folks price range is the Trojan T-105. It's a heavy duty 225 Amp-hr deep cycle, used in golf carts, fork lifts, etc. It has removable caps so you can add electrolyte. They sell for about $55 from battery distributors (who will normally sell to anyone). (Note: There is also a T-125, rated at 235 Amp-hr. Should sell for around $60. Very popular with the RV crowd. T-105s are a solid purplish color, and T-125s are white case with green top.) (Another note: Most of these distributors base their pricing on quantity. If you can find one or two other guys in your area who want batteries you can negotiate a better price.) The only disadvantage (sort of) is that they are 6 Volt batteries, so you have to use them in pairs for a 12 Volt system. Also, they should be kept in a battery box as they are not sealed. To cut down on the amount of service required you can buy "hydrocaps" which will create distilled water from the gas discharge and return it to the battery. Note I said "cut down on" not "eliminate."

The life of a deep cycle battery is proportional to the depth of discharge. It's a geometric relationship, not linear. If you draw them down 50% they may last 400 - 500 cycles. If you draw them down 80% they probably won't last 200 cycles. If, however, you only draw them down 25% they will last over 1000 cycles and if you keep the discharge to 10% - 15% they will last "forever."

All batteries have a "charging profile" they like to follow when they are deeply discharged. It consists of a period of "bulk charge" (which is basically a constant current at an increasing voltage necessary to maintain the constant current) followed by a period of absorption charge (which is a "finishing charge" at a constant voltage) followed by a float charge (which is at a reduced voltage and a trickle of current to just make up for the internal losses of the battery... sometimes also called a maintenance charge). Most hams don't have these "smart chargers" so they just keep a float charge on all the time. This should work fine as they typically never discharge the battery more than a few percent (alligators excepted). If you do end up with a deeply discharged battery (say after Field Day) you can be your own smart charger if you hook up through an ammeter and monitor the voltage. Just let your power supply charge at it's max rate (assuming you have a large battery and a small supply... I like to limit the charge rate to 10% of the battery capacity... that is 10 Amps on a 100 Amp-hr battery, etc.) until you get to about 14.5 volts (this varies from battery to battery, but the manufacturer can tell you what it should be). Then maintain 14.5 volts until the current drops off to something like 1% - 2% of capacity, and then reduce the voltage to the float level (13.5 - 13.7 Volts is typical, but this too can be obtained from the manufacturer to be more precise). These numbers are for lead-acid type batteries, and are close for gel cells (which are a type of lead-acid battery). They are NOT correct for NiCads or other newer designs. NiCads have a bulk charge voltage of 16 Volts and a float voltage of 14 - 14.5 Volts. Again, it's best to get the exact numbers from the manufacturer.

Another thing that will damage these batteries is to cycle them below full charge. Here's a typical scenario: Solar charged battery bank during a typical NoCal winter (long periods of overcast). Bank gets drawn down to low voltage disconnect (around 11.5 Volts). Sun comes out and partially (say 50% or less) charges the bank. Bank gets drawn down to LVD again. Repeat the cycle until the weather improves. Next spring the owner is calling wondering why his battery bank won't take a full charge anymore.

I hope that gives you some ideas as to what is going wrong. You definitely should not have a constant 5 Amp

output from your charger under float conditions (on one marine battery of any type you can buy at Sears), and you should get far more than 6 mos. to a year out of your batteries. I have a pair of Delco Voyagers and a 10 Amp Lambda ($15 swap meet special) supply on one system, and the batteries are still over 90% of original capacity after 5 years. I have solar on these too, but the batteries don't care where the electrons come from. (Note: That was written back in May, they are now starting to show their age. I suspect I will be replacing them soon, but I'm still happy with the life I got out of them. I am going to switch to the Trojan batteries. That will require moving them out of the shack as they now just sit on a shelf under the rig and are not enclosed nor in a location where they can be serviced.)

==== snip ====

Then Phil Karn wrote:

==== snip ====

Good comments on lead-acid battery charging. The main point to remember is that neither constant-current nor constant- voltage charging is ideal. Indefinite constant-current charging will boil the battery dry. Constant voltage charging at a voltage low enough to avoid excess gassing (e.g., 13.8V for a 6-cell battery) is better, but it's suitable only for maintaining an already charged battery (float charging). It won't bring a battery all the way up from a discharge.

What you really want is a smart battery charger designed specifically for lead acid batteries. They switch automatically between constant current (recharge) and constant voltage (maintenance) modes, with a timed high-voltage (15+ V) "equalize" mode for use every month or two to make sure all of the cells are brought to full charge. These smart chargers are available in marine supply stores. While they're not as cheap as an unregulated automotive charger or a bunch of Dayton surplus Lambda power supplies, they do work much better.

In some cases you can find these chargers built in to AC inverters with automatic cutover, making very nice UPSes.

==== snip ====

and my reply:

==== snip ====

Phil is correct. There's nothing like a smart charger to do it right without having to think about it, and equalization is another topic we could get into (you can do that manually too). A good inverter (as Phil says) is even better. I have a Trace DR2412 in my 5th wheel trailer, and it does it all, but they list for over $1200, batteries not included.

A couple Delco Voyagers and manually controlled Lambda "swap meet special" won't hold a candle to the system in that trailer, but you can put the whole thing together for less than the price of a 20 Amp Astron, and that has appeal to a lot of folks. It will work fine, run most 12 Volt rigs and last a long time if you treat it right. I added a muffin fan and a $2 thermostatic snap switch to the heat sink of the Lambda (more swap meet stuff). It's fun playing with these things, and it's the kind of low-tech homebrewing that even new, non technical hams can get into.

If, however, you just want the power, and you want to be sure to maximize the life of your batteries without worrying about watching meters after a big draw down, then do as Phil says and get a smart charger. Be sure you get one with a well filtered output or you will hear it in your rig. I suppose these exist, but I've never

checked. You could always add some filtering. The Lambda (and other) units were made to be power supplies, not just battery chargers, and have excellent filtering built in. The smart chargers built into most inverters also have good filtering. (Note: That last sentence may not be entirely correct. Check it out before you pay big bucks for an inverter.)

Equalization was mentioned so let's discuss it briefly for those who want to know. Equalization prevents sulfation. Sulfation is a major enemy of lead-acid batteries. It's caused by the sulfate that forms on the plates of the battery in the normal course of discharging. This is supposed to go back into the sulfuric acid solution as the battery is recharged, but for a variety of reasons it doesn't always do it completely on every cell in the battery. If this sulfate remains on the plates for an extended period of time (months) it will harden and seal off a portion of the plate area, reducing the capacity of the battery. This also happens (in spades) if a battery is left in a discharged state for a long period of time.

Equalization (a fancy term for over- charging) every couple months ensures this sulfate is removed from the plates. It has another advantage as well. The sulfuric acid solution has a tendency to stratify. The sulfuric acid settles to the bottom and the top becomes watery. This causes the plates to corrode. During equalization there is a lot of gas produced on the plates and this bubbling stirs up the electrolyte (the acid solution). Equalization is accomplished by charging to over 2.5 Volts per cell. This means over 15 Volts for a 12 Volt battery.

Equalization does have it's downside. It boils off electrolyte. This isn't too big a deal on batteries you can service (with removable caps), you just add distilled water. (Note: Be sure the plates are covered before you start equalizing, but don't overfill the battery or you will have a mess. Always top them off after you finish equalizing.) On sealed "maintenance free" batteries, however, it can have the effect of reducing battery life and may not even be safe. Be sure to check the manufacturers recommendations before doing it with a sealed battery. Generally, the more and deeper a battery is cycled, the more it needs equalization. If your battery gets drawn down regularly it would be good to equalize every month. If it spends most all it's time in a float charge state (as would normally be the case in a ham shack when a power supply was left hooked up and turned on all the time) it may not need to be equalized at all or certainly not very often. Never, by the way, try to equalize a gel cell. (Another note: Some manufacturers recommend removing the battery caps prior to equalization. This is a precaution against the vent holes becoming clogged and causing pressure to build up in the battery with potentially disastrous results. I always remove my caps to check the fluid level before equalizing, and I don't put them back on until after I refill the cells after equalizing. I lay some clean rags on top of the battery cases during equalization charging to minimize the mess as some electrolyte always manages to escape, and I keep an eye on things as the equalization progresses. I also keep a layer of sodium bicarbonate (baking soda) on the bottom of the battery box.)

Another thing to watch out for is the stuff you have hooked up. It's best to disconnect your loads during equalization. Some 12 Volt gear doesn't like to run on 15+ Volts. This could be a problem if the charger equalizes automatically, but they should allow you to disable this feature and only equalize on command. If you are going to do a manual equalize with your "swap meet special" bring the voltage up to about 15.5 Volts and hold it for six hours. If you can, get the battery manufacturers recommendation on the ideal voltage and duration. (Note: I have seen it from 15.0 to 15.5 Volts and from 1 to 6 hours.)

*J. C. Smith,*
*k0hps@amsat.org*

## MARA SECRETARY'S REPORT
## November 6, 1997 Meeting

The monthly meeting of the MARA club was held on the 6th of November 1997 at Evers Restaurant in Mt. Crawford, VA. As always, many of the members enjoyed the buffet dinner. The board met briefly to decide on awards and other matters for the Christmas Party.

David (AD4TJ) called the meeting to order at 7:35 p.m. and each person introduced him/herself with name, call, and location. There were 25 members and guests present.

Someone mentioned a military dipole available for donation to the club. Also a reminder was given that it was time to pay annual dues of $12 each for the new year. There was no report from ARES.

The treasurer, Matthew (KD4UPL) reported a beginning balance of $1236.10, receipts of $417.50, disbursements of $369.53, and a new balance of $1284.07.

Thanks were expressed to both outgoing and new officers, the former for a job well done and the later for their willingness to serve.

Two new members were voted into the club who had applied previously. We welcome Gerald Nauman (KN4FM) and Richard Noel (KD4KWE).

NEW BUSINESS: Glen (N4ALS) spoke of the need for 4 wheel drive vehicles for emergency use in adverse weather at Virginia Mennonite Home and asked those willing to help to contact him.

The Christmas Party menu was discussed and chosen. A number will be given to the restaurant but each will pay that night to avoid losing money if we have a weather problem like last year. Our Christmas Party will be on December 4th at Pano's Restaurant. Plan to arrive as near 6:30 p.m. as possible.

OUR JANUARY MEETING will be on 8 January due to our regular date falling on New Years Day.

The 50/50 drawing was won by Glen.

Some announcements were made and Paul (WV3J) showed several kits he had purchased and recommended to those who like to tinker. David (AD4TJ) spoke of contests coming up and John (WA4KQX) reminded us of the 1/3 scale of Sputnik and this being the 40th anniversary of its launch. The meeting was closed and the program presented.

Harry Brooks (N1PE) related how he became involved in maritime communications and told of some of his most interesting experiences. This was enjoyed by all. Harry by now is on his last 90 day deployment before he retires.

*Respectfully submitted,*
*WILTON B. THOMAS (KF4BFL)*
*Secretary*

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## ADDRESS CHANGES NEEDED

Many hams in the valley have been given new addresses or ZIP codes. If you are one of them, please let the

newsletter editor know… We have no other way of finding out!

## VARA SECRETARY'S REPORT
### November 12, 1997 Meeting

The V.A.R.A. club meeting was held at Gavid's Restaurant in Staunton on November 12, 1997. The meeting was opened by the club's president, Pat Smiley (KD4WWF) at 7:30 p.m.

The total amount raised with the 50/50 raffle was $21. Pat Smiley (KD4WWF) won and donated his $10.50 to the club.

The secretary report was accepted as printed in last month's newsletter. Dick Waldmuller (WB8GIF) made the motion to accept and Joan Pitsenbarger (KF4CWR) seconded.

Charlie Garner (WA4ITY) gave the treasury report and it was accepted as read. Dick Waldmuller (WB8GIF) made the motion to accept and Ken Harris (KE4GKD) seconded.

Pat Smiley (KD4WWF) paraphrased a thank you letter sent to the club from Bike Virginia.

An announcement was made that the Christmas party will be at Evers Restaurant in Harrisonburg on December 18 (Thursday). The cutoff date for reservations is December 10. Contact Pat Smiley (KD4WWF) or Charlie Garner (WA4ITY).

The officers' nominating committee, comprising of Dick Waldmuller (WB8GIF), Cowles Andrus III (KB8CNI), and Joe Meek (KD4FKT), announced the current nominees for 1998 officers and after opening up the floor for additional nominees, and hearing none, the nominated members were voted in by majority decision.

The 1998 V.A.R.A. officers will be, President - Ken Harris (KE4GKD), Vice- President - Karen Zirk (KE4WIE), Treasurer - Jeff Rinehart (WB4PJW), and Secretary - Doug Zirk (KE4RMD).

There was a discussion about raising the club dues to $15. Nothing will be done until there can be a committee formed to change the club by-laws. This increase is needed to match what is currently being paid out for newsletter expenses.

There was a motion to adjourn the meeting by Dick Waldmuller (WB8GIF). Joan Pitsenbarger (KF4CWR) seconded and the meeting was adjourned at 8:10 p.m.

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

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Due to the Christmas holiday, the deadline for the January issue of the Monitor is Friday, December 19th.

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## DUES ARE NOW DUE!

RENEW YOUR MEMBERSHIP TODAY TO ENSURE UNINTERRUPTED DELIVERY OF THE MONITOR!

**End of this month's issue.**

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**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

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**THE VALLEY ARA**

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

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*This web page was prepared from*
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*It does not necessarily contain all information*
*which appeared in the paper copy.*

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