Ham Radio Rocks!

The Mt. Vernon Amateur Radio Club

April, 2010 Newsletter

Meetings are held the 2nd Monday of each Month at 7:00 P.M. at the Knox County Chapter of the American Red Cross, 300 N. Mulberry Street, Mt. Vernon, Ohio

Local Ham Community

K8EEN Repeater: 146.790 Mhz (-600 Khz With PL of 71.9 Hz)
KD8EVR Repeater: 442.100 Mhz (+5Mhz With PL of 71.9 Hz)

Skywarn Training Set For April 12, 2010

The April meeting will be the clubs "Skywarn Training Night" hosted by the Knox County Amateur Radio Emergency Service and the Knox County Emergency Management Agency. This annual training is provided by the National Weather Service Each Spring, bringing updated information and a chance for Weather Spotters to renew their certification. It is open to all citizens interested in being a weather spotter. Ruben Clark, KB2SAI, Knox County Emergency Coordinator hopes that Amateur Radio will be well represented at this event. Certification of weather spotters is required every two years.

Local hams have supported this event for many years and routinely participate in "Weather Nets" on the 2 meter repeater during the severe thunderstorm season. It is an important tradition to continue. Please show your Club support and join us for this important event. All new hams are especially encouraged to attend this training. The training is fun and informative. The best part: Nobody fails!

The training starts at a special time of 6:30 P.M. and generally lasts about two hours. A short business meeting will follow the training. Training and the regular club meeting will both be held at the Knox County Memorial Building, 112 East High Street, Mt. Vernon, Ohio. Please note that this is a change from the originally scheduled meeting place.

The next meeting of the Mt. Vernon Amateur Radio Club will be April 12, 2010. This meeting will include our annual Skywarn training sponsored by the Knox County ARES and the Knox County EMA. The location for the meeting/training will be the Knox County Memorial Building, 112 East High Street, Mt. Vernon, Ohio. Note the special time of 6:30 P.M. A short business meeting will follow the training.

Please remember to check into the long running Sunday Night ARES net at 9:00 P.M. on the K8EEN 2-meter Repeater.

Also check out the UHF net on the KD8EVR Repeater. This net runs each Wednesday at 9:00 P.M. and is a social net. Please join us for the fun of it.

Every Wednesday at 5:00 PM, MVARC club members meet at Wendy's, 522 South Main Street, Mt. Vernon, Ohio. Dinner Coordinator Dick Huggins, N8RDH, reports good turnouts for this event. Come share dinner with friends, or make new friends, by attending one or all of these events.

Join MVARC club members every second Saturday of the month for breakfast. Breakfast Coordinator Arlin Bradford, KD8EVR, reports good turnouts for this event.

******The next Breakfast will be April 10, 2010 at 9:00 AM at Allison's Finer Diner, 11587 Upper Gilchrist Road, Mt. Vernon, Ohio******

The Mt. Vernon Amateur Radio Club

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Members are encouraged to send articles pertaining to Amateur Radio, with an emphasis on local activity, equipment reviews, and personal experiences to the Newsletter Editor. Articles are due on the Sunday before the first Monday of the month.

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*****IMPORTANT REMINDERS*****

1. **Earth Day Challenge Marathon: April 25, 2010 at 7:00 AM. Contact Mike McCardel, KC8YLD at mccardelm@gmail.com or kc8yld@arrl.net for more information or to volunteer. We need your help!**
2. **VE testing is scheduled for April 12, 2010, 7:00 PM at the Red Cross training center, 300 N. Mulberry St., Mt. Vernon, Ohio. Pre-registration is required. Contact Mike McCardel at mccardelm@gmail.com or kc8yld@arrl.net**

MVARC

Mt. Vernon Amateur Radio Club
Minutes for the March 7, 2010 Meeting.

By Jeff Butz, N8SMT, Secretary

Attendees:

1.	Dick Huggins	N8RDH
2.	Nathan Campbell	KD8LOY
3.	Tony Spiegel	KC8UR
4.	Mark Bisenius	AC8FV
5.	Nick Altstatt	KD8NGS
6.	Tom Evans	KD8HSA
7.	Steve Barr	KD8GRM
8.	Don Blizzard	W8UMH
9.	Jeff Butz	N8SMT
10.	Ruben Clark	KB2SAI
11.	Charles Fisher	KB8NGP
12.	Don Russell	W8PEN
13.	Jim Jennessee	KD8UT
14.	Mike McCardel	KC8YLD
15.	Dave Phillips	W8DEP

Vice President Spiegel opened the meeting at 7:06 P.M.

The minutes of last month's meeting were read by Don Russell, W8PEN on behalf of club secretary Jeff Butz, N8SMT who forgot his glasses. A motion to approve the minutes as read was made by Dick Huggins, N8RDH and seconded by Ruben Clark, KB8SAI. The motion was approved by voice vote.

Treasurers Report: **Don Russell, W8PEN**
As of January 30, 2010
Balance: $2881.57
2005 Repeater Fund $348.94
Field Day Fund $64.92
Communications Vehicle Fund $540.18
Collected $76.00 for the Red Cross Training at last month's meeting and he added $8.00 from the 50/50 Drawing.

Repeater Report: **Don Russell, W8PEN**
Don reported that both repeaters are up and running great. He is especially glad to hear increasing traffic on the 2 meter repeater due to the influx of newly graduated hams.

EC Report: Ruben Clark, KB2SAI.
Skywarn training is scheduled for April 12th at 6:30 P.M. It will be held at the Knox County Memorial Building on East High Street. Since this is the same night as our regular club meeting we will hold a short club meeting after the training at that location.

Ruben would like to meet with current A.R.E.S. members after the club meeting tonight to update their contact information and with any ham who is interested in joining A.R.E.S.

Information Meeting Report: **Don Russell, W8PEN**
As a result of Arlin Bradford giving a ham radio talk to the 6th grade class Arlin has scheduled an information meeting for parents and students and anyone else who is interested in becoming a ham. The meeting will be held here at the Red Cross Center next Monday at 7:00 P.M..

Old Business

New hams becoming club members.
This has been the policy in the past but it has been done on a case by case basis. Don Russell moved that anyone that has taken the Club's Technician Class Course and passed his or her Technician's Test automatically receives membership in the club for the remainder of the year. The motion was seconded by Don Blizzard, W8UMH. the motion passed by a show of hands.

A motion to adjourn the meeting was made by Dick Huggins, N8RDH and seconded by Jeff Butz, N8SMT. The meeting was adjourned at 7:28 P.M.

Earth Day Marathon

By Mike McCardel, KC8YLD

Earth Day Challenge Marathon is Sunday April 25. It begins and ends at McBride Field on the campus of Kenyon College. Walkers will take out at 7 AM and the runners will start at 8 AM. We are asking that those helping with communications to check in at McBride Field no later than 6:45 am. If you can't make it by then please notify Mike McCardel, KC8YLD, kc8yld@arrl.net, 740-481-1972. We can use your help, regardless when you can make it, we can assign you to legs of the race that won't need staffed until later in the day. We hope to staff the net control position, the start/finish line, each aid station,at each turn, the EMTs who will be standing by, and perhaps transportation teams.

First walkers will reach Aid station 1 about 7:25, Aid station 2 by 7:50, Aid station 3 by 8:15 and Aid station 4 by 8:40. Note that the runners will begin to catch up and overtake the walkers shortly after this time. Walkers and runner will converge on Aid station 5 between 9 and 9:15am. By this time the race is pretty spread out. The best runners will average 5:30-6:30 a mile. Last year we secured the whole course by 2:30pm.

We operate as a tactical net. This means we will refer to each other by their station and give our personal callsigns at the end of every exchange. All traffic is to go through Net Control. If you need to talk to one of the other operators please contact Net Control for permission. We will use tactical calls synonymous with you position. Examples, Station 1, Station 2 etc., EMT, Race, Half Turn, North turn etc.

If you want to participate you don't have to commit until race day. However if you let me know by April 22 with your T-Shirt size, I might be able to score you an EDC Marathon T-shirt.

This is a great service. Serves as a Simulated Emergency Test, it's a fantastic learning situation under fire, and lastly its has been great fun the past 3 three years. I hope we have a big turnout for this event. Especially you new hams. Its time to dive into the Ham Radio Waters.

Radio Activity

By Don Russell, W8PEN

Moonbounce Part 2.

Last month I summarized my wishes to do some Moonbounce work and set some goals.

It has been said that the most important part of an Amateur Radio Station is the antenna. Having the best antenna goes a long way towards making even a modest station play great. There are a lot of important modules to an EME station. Non more important than the antenna.

There lies the problem with operating EME. Commercial antenna of the type required for serious EME work starts at $300 to $400 per pair. Starts! Add a short tower or mast, rotator for both elevation and horizontal rotation and one can see where this is going to be an expensive proposition. What to do?

After some internet searching, I have decided on the Quagi antenna mentioned in the March Newsletter. A quaqi is a cross between a Quad and a Yaqi, thus its name. The reflector and driven elements are loops and the directors are yagi type elements. The quaqi is

supposedly easy to match. The driven element due to the close proximity of the reflector and to a lesser degree, the first reflector has an impedance of very close to 50 ohms. Just right to keep the typical ham transmitter happy. Simple direct feeding keeps the builder of such an antenna happy too. Since the Quad driven loop is a balanced antenna, there is a problem with feed line radiation when feeding directly with unbalanced coax cable. However, most of what I have read on the subject say that this is an easily manageable problem. It can often be ignored.

Here are a couple web pages describing the original quaqi by K6YNB and N6NB:

http://commfaculty.fullerton.edu/woverbeck/quagi.htm

http://members.optusnet.com.au/jamieb/quagi.html

A quagi is mostly made out of wood, #12 house wiring, and 1/8 aluminum rod or welding rod.

The antennas at the two sites mentioned are the original 8 element quaqi with a 14 foot boom (for 2 meters). A well constructed antenna measures between 12 and 13 db gain over a dipole. Very impressive.

The quaqi I have been looking at for moonbounce uses a 24 foot boom and uses 11 elements. Gain of this antenna is calculated at 13.56 db over a dipole.

Here is the web page for this antenna:

http://www.iw5edi.com/ham-radio/?the-w5un-2-meter-quagi-97,85

See my problem? Should I use the original quaqi with the 14 foot boom and 12 to 13 db gain, or should I use the one that is 24 foot long and adds only .56 to 1.56 db gain to my antenna system? A 24 foot antenna is a really long antenna!

I have not decided yet. However, here is my thinking on the matter:

1. The simplest EME antenna would be a single antenna with as much gain as possible. This would be the 24 footer. This antenna would:

- Be easier to aim than two to four antennas stacked.
- Easy to mount on my existing tower as long as I do not wish to adjust the elevation. Remember from last month I was considering doing EME only as the moon rises or sets thus eliminating the need to change the elevation of the antenna.
- Easier to aim than using two phased antennas.
- No chance of one antenna getting bumped and throwing things out of alignment as in a phased antenna array.

2. More complicated but slightly more effective would be to use two of the 8 element quaqi and the 14 foot boom feed in phase. This antenna would:

- Require a horizontal crossbar about 13 foot long in which one antenna would be mounted on each end, preferably but not necessarily horizontal in polarization.
- Use a phasing harness to match the two antennas to 50 ohms. A fairly easy item to assemble.
- Would have a total array gain of 14.5 db to 15.5 db compared to the 24 footers gain of about 13.5 db. These gains are approximate and would be based on my ability to do a good job of constructing these antennas (a little suspect there).
- Being a phased array, would give me some valuable experience in their construction thus making the step up to a 4 antenna phased array with a gain of 17 db to 18.5 db a little easier.

To be honest, I was seriously considering the 24 foot boom antenna. Then I measured off what 24 foot would be. Man, that is a long antenna. I am now pretty sure I will go with the smaller antenna, even though I am sure I will have build two and use them in phase. A 14 foot antenna may, however, fit on top of my tower, which would make things easier on me (no Field Day style set up. I can even see the possibility of two such antennas on my tower phased together. What I really need to do is join an EME online group and start asking questions or reading questions and answers others have posted. The downside to putting this one or two of these antennas on my tower is that heck, I just got ride of my Tri-Band beam so I would not have to do so much tower climbing! See past “Radio - Activity” columns for the rundown on that.

A side note: Those interested in a quaqi antenna for 2 meter FM will find this site interesting:

http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=12770

That concludes Part 2 of my EME ramblings. If nothing else, I hope members enjoy reading my thoughts as I struggle through the process of designing and building my EME station. Believe me, I benefit a lot just by putting this stuff down on paper.

Not sure what part 3 of this topic will consist of. Perhaps we will see just how I plan mount and rotate my antenna. Heck, I am not sure myself yet. I will try to make it interesting.

My Foray Into The CQ WW WPX Contest

By Mike McCardel, KC8YLD

The CQ WW WPX contest was held the weekend of march 27 and 28. The Acronyms stand for **CQ**, the magazine, **W**orld **W**ide, **W**ork **P**refi**X**es. The goal of the contest is to work as many callsign prefixes you can in 36 hours over a 48 hour period. At least in the single entry calls you must take 12 hours off at some time. The scoring seemed complex but I caught on right away. Besides I had a logging program to do the math for me. How it scores. 1 point for every QSO inside your country, 2 points for working North American countries outside the US. 3 points for QSOs with stations on another continent. Add these scores together and multiply them by the number of unique prefixes worked. A prefix is everything up the last number in a callsign. Example, W8 is one, WA8 one WB8 is one etc. With the plethora of DX stations working the contest, there seems to be a limitless pool of prefixes. Prefixes add up quickly and the multiplier makes your score increase like you're playing a pinball game (or for you kids out there a video game).

It was my first venture into a CQ sponsored contest. Other than Field Day it is the longest time I spent working a contest. My goal was to pick up some countries I hadn't worked, get some experience and work at least 100 stations. The contest began at 0000 UTC March 27, Friday Night 8pm here in Knox County. I didn't begin until Saturday Morning about 10am local. So between 10am Saturday and 8pm Sunday my log shows I worked the contest about 20 hours. I started up again early Sunday afternoon.

My strategy was simply, get on 20 meters and just troll up and down the band and try to work every new station I came across. Taking advantage of my Extra class credentials this allowed me to patrol 14.150 thru 14.350 MHz. I made sure to listen and confirm the call sign before i jumped in the fray every time I recognized a new call. I worked deliberatively and steady.

When the contest closed I had exceeded all of my goals. I made 239 contacts, acquired 221 prefixes, and scored 131,495 points. In the process I worked a total of 59 DX stations, picking up 25 new Countries, including a few I had never heard of before! I also worked 5 continents, North America, South America, Europe, Africa and Asia. All evening Saturday, I could clearly hear Japanese stations, but got no response from any. That is until 2:45 UTC Sunday morning when I came across JA7BME, Fumiaki Ogasawara, calling CQ on 14.231 MHz. I answered him. To my surprise, he called back "KC8YLD you are 59 675" The adrenaline immediately began to flow. Japan on 100 watts and a wire antenna! It doesn't get much better than that. I returned my call again, gave him my report and serial number and we confirmed the QSO. Then it was on up the band to the next station to work.

I was surprised by how many unique prefixes I worked, especially in percent of my total QSOs. I became motivated to stay on task first reaching 200 contacts, then 200 prefixes and then 100,000 points. It was all very fun and exciting. It will be interesting to see how my scores stack-up against others. I did work a Morocco station, CN2R, late Sunday who was approaching 5100 contacts! Many stations were over the 2000 QSO mark when I worked them. These are usually big power stations with beams and rotators. These guys pile up tens of millions of points! However, the CQ WW WPX has a low power category, and a special sub category called TB-WIRES, for Triband-Wires, for those working off a wire. This is where I intend to compare how well I did. There is also a Rookie category for station who have been licensed within the past three years. This should act as a motivation for all you new guys out there to get jump into contesting in the next couple of years.

I am quite satisfied with my score especially since I never called CQ the whole contest, worked low power thru a 102 foot wire about 40 above my back yard in a valley. What more can I say than I had great fun and achieved a lot of satisfaction from this adventure. My last word is, if you haven't tasted the waters yet, give contesting a try!

CQ Test... April 1st, 2010

By Tom Hain KV8Q

So, a few weeks ago, I wanted to see if I could run as a mobile station across the northern coast of Wisconsin in the Wisconsin QSO Party this year. After checking the weather maps for that area, I found that a mobile operation wouldn't be very practical without a four-wheel drive vehicle. I definitely had to scratch the bicycle idea - that was for sure. But, then, an idea came to me! Why not try this on skis??? Since the ground was completely snow-covered, it only made sense. How would I operate on skis? Where could I put an antenna? What about the rig? I had lots of questions and very little time.

I arrived in eastern end of Douglas County a few hours before the contest began. I planned on using two radios - my Jupiter on 40 CW and the TS-930S on 80 CW. I wanted to focus on 80 and 40 CW for the contest so I used some #10 gauge wire and wrapped the correct amount around my legs and created top-loaded helically-wound verticals for each band. After using an antenna analyzer to get both antennas to properly tune on their respective bands, I put the radios in a backpack and connected the antennas. For the best propagation, I had the 40 meter antenna on my right leg which would be on my south side the majority of the time as I headed east during the contest period. I also mounted my SO2R switch in the backpack which didn't add very much weight at all. The battery pack was a little different matter in the weight department; but, I've always been blessed with a strong back. A small solar panel would keep the batteries charged if the sun came out. I mounted a switch on the top of the ski pole so I could key the radio at the appropriate time. I ran N1MM software on my laptop and that took care of the logging, auto-generated CW when necessary, rig control, etc. The laptop didn't add much weight to the backpack either. When doing some testing prior to the beginning of the contest, I found that I needed some radials for these antennas. I merely rolled out the approximates length of wire, made the proper connections, and dragged these radials from the back of the skis. I was rather surprised that these ground-mounted radials didn't get tangled as I skied to the east.

The contest started and I was off and running. My headphones fit rather nicely under my hat. The hat not only kept me warm, it also provided a nice noise cancellation eliminating all of the noise of the car horns as I travelled east. When I entered Bayfield County, I already had over 400 Q's in the log. I just kept skiing along, pushing my right thumb to send Morse code. keyed callsigns in with my left hand on a keyboard mounted on my chest, and kept making QSO's. Through Bayfield , Ashland, Iron, and Vilas County with no issues. Thank goodness for Depends! That really saved me a lot of time. Prior to leaving, I ate two foot long Subway subs ($5.00 each) so eating would not be an issue. I just got into Forest County, 1,400 QSO's now in the log, and a bunch of deer jumped out in front of me. I used my ski poles to fend them off and that idea was very successful. However, I dropped my ski pole in my right hand in the process. With the antennas on my legs and the 250 pound backpack, I just couldn't quite bend over to pick it up. A bit disappointed, I would now have to rely entirely on the laptop and the software to do all of my sending in the last two counties. Not a major problem; but, the next time, I'll take an extra set of ski poles to eliminate that issue. I'm sure I could mount them somewhere on the backpack without adding too much weight. The rest of the contest was uneventful finishing up in Florence County, Wisconsin with over 2,000 QSO's in ten hours. I was rather surprised to find out that no one else in the contest had more than 1,500 QSO's. A simple, 500 mile cab ride back to Douglas County completed my journey.

I think that I will win my category - CSOOS (crazy single op on skis). Just imagine how I would have operated if this contest actually took place on the first day of April? Until next time, look for me on the low end of the CW bands.

General and Extra Class Study Guides Available

John Dial, WD8I (ex KB8TEV) has donated one set of ARRL General Class Study guides with question pool flash cards and one set of Extra Class study guides with question pool flash cards.

John used these study guides to successfully upgrade from Tech to General to Extra in the past year. Congratulations to John and his new Extra Class Vanity callsign.

With monthly local VE test sessions and free to use study guides, now would be a good time to do that upgrade.

Anyone wishing to use these study guides should contact Don Russell, W8PEN at w8pen@arrl.net or by phone: 740-397-0249. This is on a first come first serve basis.

El-Cheapo VHF/UHF Antennas Part 1

By Don Russell, W8PEN

From my conversations with some of the new hams this month, I have come to realize that there is a lot to learn about antennas. Some of the more distant stations are having a bit of a problem hitting one or both of our repeaters with the standard hand held and rubber duck antenna. The first thought that comes to mind is: “Darn, guess I have to buy an antenna too!”.

Not so fast! Hams are noted for building their own equipment, and antennas are one of the easier projects.

What better way to become knowledgeable about antennas than to build your own? Not only that, but commercial antennas cost from $40 to $150 or more for Omni direction (verticals) or directional (beam) antennas. I have some good news. One can build a pretty decent antenna for less than $10!

To prove this, I have set out to build a dual band 70 cm / 2 meter ground plane antenna and a 3 or 4 element 2 meter beam, each costing under $10. Construction will be using plastic PVC pipe and coat hanger wire. Coat hanger wire? Well, yes. Not as attractive as aluminum, but does a very nice job imitating an antenna rod.

So I went shopping and picked up a few items:

1. Six pack of chrome coat hangers for $4.17. I could have gone real cheap and bought a ten pack of light weight coat hangers for $1.77, but I am glad I did not. Turned out the ten pack were smaller hangers and may not have been long enough when taken apart. They would, however, have been just fine for a 70 cm beam. In fact, they would work well for the dual band ground plane antenna that I am about to describe. Use what you have. If you have some extra coat hangers, use a couple of them. 1/8 inch welding rod works well too. I found they were too expensive for this project however.
2. One ten foot ½ inch PVC pipe ten feet long for $1.32 and one ten foot ¾ inch PVC pipe 10 feet long for $1.66. I also picked up one ¾ inch to ½ inch elbow adaptor for $0.47 and one ¾ inch coupler for $0.23.

This totaled $7.85 and I am thinking this will make both antennas mentioned above. Not bad. Two antennas for under $10.00.

One item not factored into the cost is the coax feed line and fittings. This does not come with commercial antennas either so I feel comfortable with the extra cost.. Lucky for me, I always have a few stray pieces of coax cable laying around. The beginner may have to run to Radio Shack and pick up what he or she needs.

The first antenna I built was a 3 element 2 meter beam. This antenna worked really well and I was able to talk to Steve Barr, KD8GRM, on 146.52 simplex while he was mobile about 18 miles away. I had the antenna mounted on the ¾ inch PVC pipe at 10 feet and was using my handheld set to 5 watts. I had good copy on Steve and he could hear most of what I said. I can take that with 5 watts on simplex at 18 miles.

Then I built the dual band ground plane antenna. Again, with the antenna at 10 feet, I was able to hit the Newark repeater with 1-½ watts. Had a very nice QSO. I could also hit the Mansfield Repeater, but got not one to come back to me. Didn't get to check out 70 cm much, but I could key up our local repeater and the one in Mansfield, so I am confident that it at least works. SWR was less than 1.5 to 1 on both bands without having to adjust it. This is the antenna I am going to describe here. It is simpler and being dual band, perhaps more of a benefit locally.

The idea for the dual band ground plane antenna came from here:

http://www.eham.net/articles/7005

The plans there are very good and one may wish to build the antenna per the website. I wanted to make mine with the material on hand, so here goes:

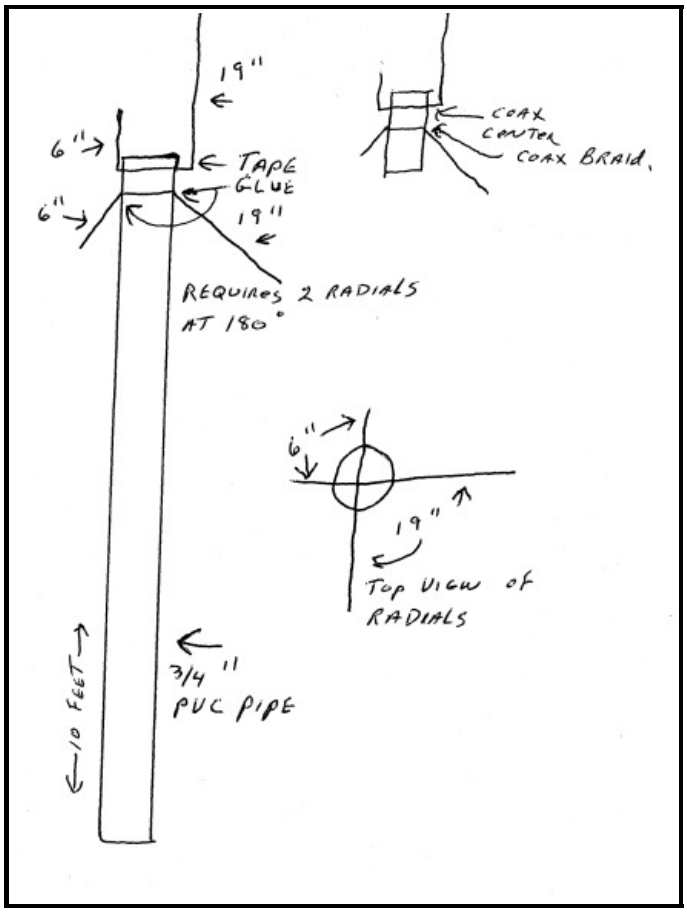
1. Use 3 of the coat hangers from the 6 pack. Save the other hangers for the next project. Untwist and straighten each coat hanger as much as possible.
2. Avoid the twisted area of the coat hanger and cut off about 30 inches. One should now have a fairly straight piece of stiff wire that will serve as the elements for the ground plane antenna.
3. Using the ¾ inch PVC pipe, drill 3 holes through. One hole will be at one of the ends (now called the top) and about 1-½ inches from the end. Drill through both walls. About ½ inch down from the first hole, drill another hole through both walls. The last hole should be about ¼ inch down from the 2nd hole and drilled 180 degrees off so that your elements will be crossed and forming an "x" Pattern.
4. Insert the top wire (the driven element) into the top hole so that at least 7 inches are on one side. Put a 90 degree bend in this wire at the 6 inch mark. You should have one wire 6 inches long sticking straight up. One the other side, file the wire so that there is a good spot for a solder connection, perhaps ½ inches in width. Now bend this side straight up and trim to 19 inches. You should have to elements at the top of the PVC pipe running vertically, one being 6 inches and the other being 19 inches long.
5. Insert one of the wire rods through the second hole (now called the radiators). Measure 6 inches on one end and bend the rod down at a 45 degree angle. One the opposite side, once again file a ½ inch width spot for soldering. Bend this side down at a 45 degree angle and trim to 19 inches.
6. Do the same as in #5 to the last hole. Now you will have the radials and the driven element mounted. It will be sloppy right now and a little more work needs to be done.
7. Prepare your coax cable (RG8-X is best for this). Cut 2 or 3 inches off the outside material so that all you have is the braided shield wire. Push the braid down and with a very small screw driver, make a hole in the braid. The braid is weaved, so just insert the screwdriver and wiggle around until there is a

hole big enough to feed the white center insulation through the hole. Using the screwdriver inserted under the white insulation, force it up through the hole just created. The results should be one 2 inch long braid and the white center conductor being separated.

8. Solder the outside braid to the radials of the antenna where it was filed. Two solder joints. One on each radial. This is why it was prepared to 2 inches in length. Cut any excess braid off with wire cutters.
9. Now measure and cut the center of the coax so the wire will wrap around the prepared spot on the driven element. Solder there.
10. Run your coax to your station and add the appropriate connector on that end (PL-259, BNC, or SMA, depending on your radio).
11. Wrap some electrical tape around the vertical driven elements at the very top of the PVC pipe so that the elements are secure in the vertical position.
12. Use some glue on the radial to permanently position them facing 45 degrees down.

If one followed directions, you should have completed the antenna and now have a 10 foot pole with a ground plane antenna on top. Secure the pole in whatever fashion you desire so that it remains vertical. One can even drive a stake in the ground and tape the PVC pipe to the stake if needed. I will leave that up to you.

If you need a cheap antenna, try this one. It works pretty darn good for the price. An equivalent antenna may cost upwards of $39 commercially.



Membership Form

Club dues run from Jan. 1 until Dec. 31 and are collected during the last quarter of the year. You can mail in the dues to the address below or bring them to a meeting. Dues are prorated for new members at the time of application. Visit our Web Page at www.mvarc.net

Dues Schedule: $12 regular

$10 for second member in the same family, for those over 65 yrs. of age, and for those living outside Knox County

Mt. Vernon Amateur Radio Club, P.O. Box 372, Mt. Vernon, OH 43050

Name_____Call-Sign_____

Street_____

City_____State_____Zip Code_____

Phone Number_____License Class_____

ARRL Member (Y/N)_____E-Mail_____

Extra Donation (Optional)_____

Members are entitled to a free MVARC E-Mail address. Would you like one? No_____Yes_____

If yes please enter password_____

Emergency Reference Information for Amateur Radio Stations (Revised March 23, 2010)

Telephone Numbers
(List name and/or number)

State Police 397-5115
Sheriff 397-3333
Police 911 See Local Town
Fire Department 911 See Local Town
Ambulance 911 See Local Town
SM - Frank J. Piper, KI8GW – Home: 614-589-4641 ki8gw@arrl.org
SEC – John W Sovik, KB8WPZ– Phone: 330-793-4058 Cell: 330-727-7881 kb8wpz@arrl.net
DEC – Lee Haefer, KC8PFC – H: 419-562-8563 Cell: 419-834-0674, lhaefer@columbus.rr.com
EC – Ruben Clark, KB2SAI – H: 326-4154, Cell: 501-8106, W: 392-9246
AEC – Arlin Bradford, KD8EVR – H: 397-5908, Cell: 263-0473 W: 627-0922
KCARES Net Mgr - Ruben Clark, KB2SAI – H: 326-4154, Cell: 501-8106, W: 392-9246
MVARC, K8EEN, Repeater Trustee – Don Russell, W8PEN, 740-397-0249
National Weather Service (SKYWARN) 1-800-262-9683 — Cleveland
Red Cross 397-6300, 300 N. Mulberry St., Mount Vernon, OH
Salvation Army 392-8716, 206 E Ohio Ave., Mount Vernon, OH
National Guard 397-4330
Skywarn 1-800-262-9683
Knox ARRL PIO - E. Michael McCardel, KC8YLD, Cell: 599-6614, W: 427-5352
Ohio Section PIC – Emily E Wells, KC8RAL, H: 330-394-3560
Official Observer Coordinator -- Richard L Swain, KK8O, 419-468-6050
Local Official Observer – Tony Spiegel, KC8UR, 392-7586

What to report:
Caller's name
Location – Situation
Injuries: number, extent
Fire?
Traffic blocked?
Need assistance?
Weather conditions?

		Frequency	*Local Time*	*Days*
KCARES Net	**K8EEN**	**146.790 MHz**	**9pm**	**Sunday**
MVARC Net	**KD8EVR**	**442.100 MHz**	**9pm**	**Wed**
OH Sec Net		**3875 KHz**	**5pm**	**Daily**
RACES Net	**SEE KCARES**			
SKYWARN Net	**K8EEN**	**146.79 MHz**	**As Needed**	**As Needed**
SECTION/LOCAL NETS				
OSSBN		**3972.5 KHz**	**10:30am, 4:15, 6:45pm**	**Daily**
Ohio Slow Net (CW)	**OSN**	**3708 KHz**	**6:10pm**	**Daily**
D8RN (SSB)		**3865 KHz (7240 KHz)**	**12:30pm, 4:30pm**	**Daily**
Red Cross/ARES Frequency		**147.42 MHz**	**As Needed**	**As Needed**
SATERN		**14265 KHz**	**As Needed**	**As Needed**

(Salvation Army Team Emergency Radio Network)

Skywarn Frequencies
Knox 146.79
Richland 146.94
Licking 146.88
Ashland 147.105
Holmes 146.67
Coshocton 147.045
Morrow 146.775
NWS Backbone 52.68
Monitor Only!

ARES Section Wide Emergency Assignments

Administrative	3.8750 MHz
	7.240 MHz
Emergency	3.9870 MHz
Traffic	3.9725 MHz
DATA	3.6050 MHz
CW	3.5770 MHz

Local Frequencies for Monitoring

WWG57, Butler, OH NWS Radio	162.4500 MHz
Knox County Fire	154.3250 MHz
Knox County Law Enforcement Repeater	159.3300 MHz
Mount Vernon Fire	159.0450 MHz
Mount Vernon Police	154.7400 MHz
WX District Net Cleveland District 3	146.9400 MHz
National Red Cross Radio Agency Frequencies	47.4200 MHz
	155.1600 MHz
National Amateur Calling (Wilderness)	52.5250 MHz
	146.5200 MHz
National APRS	144.3900 MHz

KD8EVR Repeater 442.100 MHz PL71.9 +5MHz

Echolink Codes for W8PEN link via KD8EVR/R
00 Connect to a Random Node
01 Connect to a Random Link
03 Connect to a Random User
08 Echolink Status
09 Reconnect to the last Node
79 K8EEN-R: Mt. Vernon, Ohio
80 K40BX-R: Hatteras Island, N.C.
82 KG8FV-R: Polk, Ohio (Ashland County)
84 W8DF-R: Battle Creek, Michigan
100: KD8EVR: KD8EVR'S Computer

CXXXX Connect to a known Node where XXXX is the Node Number.

Node Number to the KB2SAI link is: 83753
Node Number to the W8PEN link is 376872

Ohio Section, District 6 (and more) Net Schedules
Central Ohio Traffic Net (COTN) – Daily at 7:15pm on **147.240** (K8DRE, Capital City Repeater Assoc. Worthington)
Burning River Traffic Net – Daily at 9:30PM on **147.150** (Cleveland and North Central Ohio)
Ashland ----- Club net Tuesday night at 7:30PM on **147.105** (71.9pl) [except 2ndTuesday which is club meeting night.]
Crawford ---- Galion ARC – Tuesday nights at 8PM on **146.850** (71.9pl)
Holmes ------ Tuesday night —watch net| at 9PM on **146.670** (71.9pl)
Hancock ---- Wednesday Night at 8PM on linked **147.150** (88.5pl) & 444.150
Marion ------ Wednesday nights at 8PM on **146.300** (71.9PL) *If repeater is Down use 146.460 simplex*
Richland ---- Wednesday Nights at 9PM on **146.940** (71.9 pl)
Wayne ------- Wednesday night at 9PM on **147.210** (71.9pl)
SKYWARN – Wednesday Nights at 9 PM on **52.68** (Open ***only*** to registered Back-Bone operators.) Feel free to listen in.
Ashland ----- ARES net Thursday night at 7:30PM on **147.105** (71.9pl)
Huron ------- Sunday Nights at 6:30PM on **146.865** (110.9pl)
Wyandot ----- Sunday night at 7PM on **147.210** (107.2pl)
Knox --------- Sunday Night at 9PM on **146.790** (71.9pl) *If repeater is Down use 146.790 simplex*
Knox --------- Wednesday Night 9PM on **442.100** (71.9pl) *If repeater is Down use 442.100 simplex*
Seneca ------- Sunday Nights at 8PM on **145.450** (107.2pl)
SSTV NET – Sundays Nights at 8PM on **145.230** (NO PL)
Morrow ----- Sunday night at 9PM on **146.775** (71.9pl)
Crawford ---- B.A.R.C. – Sundays at 9PM on **147.165** (88.5 pl)
Northern Ohio Simplex Net – 4th Sunday Each Month at 4:30PM on 146.430. – They will use relay stations for the distant stations on this net, so please give it a try. It will originate from Tiffin with Karl Erbland K8ARL as net control.
NOTE: District 6 is made up of Ashland, Crawford, Hancock, Holmes, Knox, Marion, Morrow, Richland, Wayne and Wyandot Counties.

National Traffic System Nets (Local Time)
D8RN (Early) 12:30 PM 7240 KHz
D8RN (Late) 4:30 PM 3940 KHz
EAN (Mon-Fri) 2:30 PM 7240 KHz
DEAN (Sat, Sun) CW 2:30 PM 7050 KHz
8RN (Early) CW 7:45 PM 3530 KHz
8RN (Late) CW 9:30 PM 3530 KHz EAN CW 8:30 PM 3679 KHz
OSSBN Traffic Net 10:30 AM, 4:15 PM, 6:45 PM 3972.5 KHz
OSSBN Alternate Frequency 3968 KHz
BN (CW Net) 6:45& 0:00PM 3577 KHz
BNR (Teletype) 6:00 PM 3605 KHz
Ohio Section ARES Net 5:00 PM 3875 KHz
OSN (CW Ohio Slow Net) 6:10 PM 3708 KHz
COTN (Cent OH Traffic Net) 7:15 PM 147.240 MHz
Independent Net (Phone) 9:00 PM 3985 KHz

National Red Cross Frequencies

VHF - Low Band Operations			**VHF - High Band Operations**	
Channel	**Description**	**FREQ**	**Description**	**FREQ**
1 RED	Primary	47.4200	Ch1 PRIMARY	
		155.1600		
2 BLACK	Secondary	47.4200	Ch2	
		155.2200		
3 TAN	Alternate	47.4600	Ch3	
		155.2800		
4 Yellow	Backup	47.6600	Ch4 BACKUP	
		155.3400		
5 Orange	Tactical 1	47.5400	Ch5	
		155.4000		
6 BLUE	Tactical 2	47.6200		
		154.5150		
7 Purple	Tactical 3	47.5800		
		154.6000		
		43.0000		

K8EEN Repeater 146.79 MHz PL71.9 -600KHz

GENERAL CODES

TRANSMITTED TONE:
367 Repeater in Weather Watch mode
368 Repeater in Weather Warning mode
369 Repeater in open operation
388 Repeater in net operation
377 Repeater in PL mode Normal Repeater Mode

TIME OF DAY: 17 (un-key)
DTMF PAD TEST: 16XXXXXXXXXX (un-key)
SIGNAL REPORT FROM REPEATER: 24* (un-key)

PL ACCESS: Tone required: 71.9 Hz.
For radios without PL, enter 15 on the keypad. After one minute of no activity, the repeater will reset to PL and require 15 to be entered again.

ECHO LINK CODES: (KB2SAI Link)
#8123 Echo Link on
#8159 Echo Link off
To access a known Echo Link node, enter #C**XXXXX**, where **XXXXX** is the node number.

To disconnect from a node, press the # key.
Node Number to the KB2SAI link is: 83753
Node Number to the W8PEN link is 376872

 # Disconnect for a Station or Node.