

**The Mount Vernon Amateur Radio Club
PO Box 372 Mount Vernon, Ohio 43050**

September, 2018



**Meetings are held on the 2nd Monday of each month at 7:00 pm
at the Knox County Chapter of the American Red Cross Annex
300 North Mulberry Street Mount Vernon, OH 43050**



**K8EEN Repeater: 146.790. MHz (600KHz with PL of 71.9 Hz)
K8EEN-R Echolink Node: 809800
K8EEN Repeater: 444.600 MHz (+5 MHz with PL of 71.9 Hz)**

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President's View

It's September already, and still hot outside. I hope you are keeping cool during this warm spell. As usual it has been busy here in the Counts household, between our 8 grown children, numerous grandchildren, a couple of rental properties and the farm there is not much free time. It seems that someone watches my calendar and fills in any hole that I might have.



This weekend is OSPOTA at the Gorge in Mohican State Park, I hope to see you there as it should be fun. You never know what demonstrations may take place (neither do we), like replacement of 2 cycle gas line or the "proper technique" to hang an antenna using a sling shot. It's always fun and informative.

OSPOTA marks the last planned activity for the club (actually there is one more the Christmas party but we will discuss that at the next couple of meeting) for the year and is the start of planning for next year. Start marking you calendars now for 2019 for WFD, NVIS, FD, Dan Emmett Days and OSPOTA. If you have a question as to what these acronyms stand for, or about the events come to the meeting and ask. I would be glad to fill you in.

I don't know how many of you receive PostScript I think it is published weekly, by Scott N8SY. If you don't you should, as it contains a lot of good information concerning the Ohio section. The latest one contains several things I think would be of interest to all. So check it out at: <http://arrl-ohio.org/news>. We will discuss a couple of them at the meeting, my usual plug to get you to the meeting.

Well as usual, I'm holding up Bill. I'm glad he is patient with me most months, so I am going to close. Hope to see you Friday morning at Hardee's, Saturday at the Gorge, or Monday night at the meeting.

73,

Frank, KC8EVS

By Dan Romanchik, KB6NU

One of the things that I keep telling myself that I need to learn how to do is 3D printing. This morning, I ran across a couple more 3D printing projects for ham radio that I thought I'd pass along.

The first I found on reddit: 3D Printed Parts for Portable Tape Measure Yagi Designs

<https://www.reddit.com/r/amateurradio/comments/963br3/3d>

The summary on Thingiverse

<https://www.thingiverse.com/thing:3042505>

which is a website where "makers" share their designs, says:

These parts are made for use with 1-in. PVC pipe and 1-in. Harbor Freight tape measure steel. You can use electrical tape to attach the element holders to the side of the pipe, and use the driven element bridge to give structural rigidity across the driven dipole element. I have used this with up to 5 elements on 2m with good success. When not using the antenna, just pinch the elements to remove them from the holders, and store them INSIDE the tube! you can add some end caps to make this ultra portable. Use these parts with any of the multitude of tape measure YAGI design guides online.

Here's a look at an antenna made with these parts:



3D Parts continues, on page 8

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**August Meeting Minutes
August 13, 2018**



Frank, KC8EVS called the meeting to order at 7:00 pm.

There were 14 MVARC members present.

July Meeting Minutes accepted: Motion by Scott, N8SY and seconded by Emery, W8TW.

Treasurers Report presented by Terry, KI8N. Motion to accept by Emery, W8TW and Seconded by Don, W8PEN. Motion passed to accept Treasurers Report. For club finance specifics please contact Terry, KI8N.

Repeaters:

Don, W8PEN, reported the 146.79 repeater is working. Some static has been reported.

The 444.6 repeater at Knox County Hospital is working.

Noted that Pelotonia used the repeater with no notification. It was observed that they rarely used call signs and did not want any other operators to use the repeater. MVARC will attempt to contact the responsible person and let them know the repeater is an open source and they should let others operate for a short period of time.

Mesh:

Don, W8PEN, reported Mesh network is working but hasn't been used lately.

ARES:

There is an exercise September 29; LEPC (Local Emergency Planning Committee). This event is open to the public. Contact Bill, KD8WHQ for more information.

Old Business:

Frank, KC8EVS discussed upcoming 2018 club events and the need for coordinators to assist. These events are the normal activities the club participates in:

August 9 - 11: Dan Emmitt Special Event Station August – Terry, KI8N coordinating. Presented operating schedule, QST submitted and QRZ page updated. Still need to develop a certificate and method for distributing. Still need event operators either from home or the Red Cross Training Center station.

August 25: Ohio QSO party. If there is any interest the Red Cross station can be made available.

September 8: Ohio State Parks on the Air – Operating from Mohican State Park at the Gorge. Event scheduled 10am to 6pm. Terry, KI8N to bring generator - Don, W8PEN to bring antennas – Tom, KD8HSA to bring Go Boxes and extension cord. Bring own lunch.

New Business:

Need to organize a Nomination Committee for December officer elections.

Arrangements for MVARC December Christmas Party need to be planned/organized.

Emery, W8TW passed around a Grid Dip meter for attendees to look at.

Don, W8PEN stated that some Equipment from Don, W8UMH(SK) are still available; 3 amplifiers and a 2M HT. Contact Don for prices and more information.

Scott, N8SY MVARC members need to register on ARES Connect and start logging activities.

Michael, KE8HGE provided a first look at the new Tech class materials.

Don, W8PEN put on a show and tell about building wire antennas. He has a 2-band dipole fed with ladder line. He also showed how to build ladder line using wire and plastic coat hanger parts.

50/50 Drawing won by Bill, KC8BB.

Adjournment

Motion to adjourn by Don, KB8QPO and seconded by Terry, KI8N. Motion passed and meeting adjourned at approximately 7:45 pm.

Terry Windsor, KI8N
MVARC Secretary/Treasurer

By Don Russell, W8PEN



Got a few things to report on this month. I have not been doing a very good job keeping members up to date on some important happenings. So lets get to it.

Mesh Network

Due to my interest in meteor scatter and moon bounce, I have been ignoring our Mesh Network for quite a while. I checked things out the other day and everything is still running. Then I ran into a problem with my wifi router at the house and had to turn off the internet access of the mesh nodes. This is not really a problem except for those connecting via the internet. Using the internet for our mesh network is called "tunneling" and it allows us to have some nodes that are too far away to connect via RF. Personally, I would rather do away with all the nodes that need to tunnel and simply rely on the RF only nodes. Unfortunately, this hard nose attitude will not help us expand. Using the internet to get a node going, and then working on getting that node connected via RF seems to be a logical way to go. So I will have to work on getting the internet tunneling back on line

All our current RF nodes are working as they should. The phone system is still working reliably. The mesh web page is still running, although it needs a serious update. The email server I need to check out. I have not tried to send any emails lately.

Certainly, this project has slowed way down. I am still interested in getting new nodes up and running. Notably a node at the water tower would be a big help.

We should consider, as a club, putting together a few portable nodes that could be taken to an event and set up. Probably two or three of these would do. I will have to ponder on that some more.

There are also concerns within the AREDN (Amateur Radio Emergency Digital Network) group itself. They are fighting some legal issues created by various members of the development team. I think things are slowly getting ironed out. The software needed is still available and I may simply download the current approved software so that we will not loose it. In fact, I probably have most of it on my computer anyway.

Their troubles have me concerned, but I think things will turn out alright in the end.

AREDN, by the way, is the group who's software we are using for the Mesh Nodes.

[Radio Activity, continues on page 6](#)

By Don Russell W8PEN



Repeaters

Not much to say about our repeaters. They are still working well.

The 70cm repeater could use a little activity. I give a call out every time I am mobile, but have not had an answer in a while. Of course, the 2 meter repeater isn't all that active either.

But that is the way it is with repeaters all over right now.

My EME Project

Yes, I am still working on EME. Still not having much success, but I am determined.

For those that are unfamiliar with EME, this is a communications mode in which signals are bounced off the moon to provide communications between distant stations. The moon is the highest repeater site we have available! Instead of repeater equipment set up on the moon, we use the moon as a reflector. Saves making a run to the moon when the repeater breaks down.

While I have not been successful yet. Not even hearing signals bouncing off the moon, I decided to go whole hog and install a short tower with 2 phased antennas mounted on it. I have purchased the tower and an antenna rotor that will move the antenna both horizontally and Vertically (Called Azimuth and Elevation). This way I will be able to track the moon through the sky instead of just listening in during moon set or moon rise.

The two antennas I will be using are 5 wavelength long at 35 feet and have a forward gain of about 17.5 Dbi each. Phasing these antennas together will give me close to 20 Dbi gain. I should hear some stations off the moon with this much gain.

For transmit, I have purchased a 300 watt amplifier to replace the 150 watt amplifier that I was using. I also had to purchase a 70 amp power supply so I could drive this amplifier to full power. The amplifier and built in low noise preamplifier will be mounted on the tower in a weather proof box. This will provide the most power to the antennas themselves without having to buy really expensive hardline. I have not worked out the details of this yet.

I am hoping on having things set up with at least one antenna by September 9th. That is when the next "good EME conditions" is expected to be. I am waiting on the 2nd antenna to be shipped.

By Don Russell W8PEN



Meteor Scatter

My meteor scatter efforts have improved. I am now making regular 2 meter meteor scatter contacts in the 700 – 1100 mile range. I am using one 17 element antenna and 150 – 200 watts to do this. It has been fun.

Most of my problems have been with receive. The Yaesu FT-817's receiver just is not sensitive enough for meteor scatter or EME without a lot of help. I have resorted in using a Funcube plus SDR receiver and a preamp. SDR = Software Defined Radio. The Funcube seems to decode signals at a weaker level than the FT-847 does.

On the 6 meter side of meteor scatter, I have not been doing much lately due to all the E skip that has been happening. For the last three months 6 meters has been open almost daily via E skip to stations as far away as California. Again, I am using digital, but when the band was open, SSB stations were plentiful.

E skip to stations as far away as California. Again, I am using digital, but when the band was open, SSB stations were plentiful.

E-skip has mostly disappeared on 6 meters lately, so I am back on 6 meters using meteor scatter. Meteor scatter reception as a unique "ping" like a fire cracker going off that I love to listen to.

Meteor scatter and EME are fun modes but are not for everyone. EME takes a lot of money. 6 meter meteor scatter can be done with any transceiver that works on 6 meters and a dipole antenna (although a beam is better).

But meteor scatter and EME are not conversation modes. So if you like to talk, don't bother. What you get is an exchange of grid numbers or signal reports along with call letters. If lucky, you may get a 73. But most of the conversation is done on the meteor scatter internet page.

That is a wrap for this month. See everyone at the September meeting.

By Dan Romanchik



The element holders are attached to the boom with electrical tape in the photo above. While I haven't tried it, I'd suggest that the antenna might be a bit more robust if you could screw or perhaps glue the holders to the boom.

There are lots of other cool amateur radio 3D printing projects available on Thingiverse

<https://www.thingiverse.com/search?q=ham+radio&dwh=415b6d8da129c3c>

Browsing through the list quickly, here are just two that look like they might be useful to me:

Soldering Fingers

<https://www.thingiverse.com/thing:1725308> This project looks simple and quick.

µBitx Case

<https://www.thingiverse.com/thing:2925336>

I still gotta do something with the µBitx I bought. This looks like it might get me started.

Finally getting in gear Last week, I attended a 3D printing class at our local maker space, All Hands Active (allhandsactive.org), and now I feel like I can finally attempt a 3D printing project. I'm thinking about starting out with the simple Soldering Fingers project. If that goes well, I'll try a Raspberry Pic case and finally start using that in the shack. And, while these projects all seem pretty cool, I feel like I'm only scratching the surface.

Have any of you 3D printed anything cool for your ham radio projects? Is there another source of designs for ham radio 3D printed stuff besides Thingiverse?

When he's not 3D printing enclosures for his ham radio projects, Dan blogs about amateur radio, writes exam study guides (www.kb6nu.com/study-guides), and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him about your experiences with 3D printing at cwgeek@kb6nu.com.

September, 2018

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2 9:00 pm ARES Sunday Night Net On K8EEN KC8BB – Bill	3	4	5 5:00 pm Dinner at Southside Diner	6	7 10:00 am Breakfast at Hardee's	8 10:00 am OSPOTA Mohican State Park Gorge
9 9:00 pm ARES Sunday Night Net on K8EEN W8PEN – Don	10 7:00 p.m. MVARC Monthly Meeting -Red Cross Annex	11	12 5:00 pm Dinner at Southside Diner	13	14 10:00 am Breakfast at Hardee's	15
16 9:00 pm ARES Sunday Night Net on K8EEN KE8HGE –Michael	17	18	19 5:00 pm Dinner at Southside Diner	20	21 10:00 am Breakfast at Hardee's	22
23 9:00 pm ARES Sunday Night Net on K8EEN KE8HNF – Louie	24	25	26 5:00 pm Dinner at Southside Diner	27	28 10:00 am Breakfast at Hardee's	29
30 9:00 pm ARES Sunday Night Net On K8EEN KC8BB – Bill	1 Oct	2	3 5:00 pm Dinner at Southside Diner	4	5 10:00 am Breakfast at Hardee's	6 9:00 am Breakfast at Barb's Diner Columbus Road
7 9:00 pm ARES Sunday Night Net on K8EEN W8PEN – Don	8 7:00 p.m. MVARC Monthly Meeting -Red Cross Annex	9	10 5:00 pm Dinner at Southside Diner	11	12 10:00 am Breakfast at Hardee's	13