



**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)**

INSIDE THIS ISSUE:

President's View	1
Ham Radio News & Information	2
April Meeting Minutes	3-4
Radio Activity	5-6-7
Could you repeat that?	8
Getting loaded (antenna-wise anyway)	9
May / June Calendar	10

President's View



It's May! What you say nothing happening in May? Well hopefully it will start to dry out I don't think I have ever seen it so wet. Not only did the Kentucky Derby run in the mud, but had a NASCAR finish with an inside lane horse sliding to the outside blocking two others enabling some other horse to sail by to win. The next exciting thing is Hamvention coming up in a week, May 17-19th! This year they are opening the gates on Sunday for FREE, so there is no reason not to come out and check things out.

I wasn't able to attend NVIS this year, but heard they had a great time. They made a few contacts and the wind tunnel (equipment storage shed) lived up to its name and was cold. I have heard rumors that they want to find a warmer facility next year. I hope to find an article in this newsletter concerning the day.

Next month the fourth weekend June 22-23 is Field Day. We will be planning to start this meeting and finish up the details in the June meeting so be sure to plan to attend these meetings to be up to date.

Next meeting is May 13th, at 7pm at the American Red Cross hope to see you there. Also, we have a lively discussion on Friday mornings at 10am at the Red Cross with plenty of coffee and whatever you like to bring for your breakfast. Come join us if you can, we would be glad to see you.

Frank, KC8EVS

2019 ARRL National Convention at the Hamvention

May 17-19, 2019
Green County Fairgrounds and Expo Center
120 Fairground Road
Xenia, OH 45385

Tickets and Info: <http://www.hamvention.org/>

<http://www.arrl.org/expo>

Field Day: June 22 and 23 at the Apple Valley ball Field

Traffic Nets:

<http://www.ossbn.org/>

Ohio Single Side-band Net.org, our Ohio connection for what is going on in the Ohio Traffic System. The Net meets on 3972.5 KHz at 10:30 a.m., 4:15 p.m. and 6:45 p.m. daily. Alternate Frequency for all sessions 3968 KHZ

<http://www.cotn.us/> The Central Ohio Traffic Net is a part of the Ohio Section of the National Traffic System. We meet daily to handle traffic; all licensed amateur radio operators are welcome to check in and to learn how to handle traffic. The Net meets daily at 7:15 p.m. local time.

Area Radio Clubs:

Delaware Amateur Radio Association: Radio <http://k8es.org/>

Newark Amateur Radio Assoc: <https://www.n8ara.org/>

(Mansfield) InterCity Amateur Radio Club: <https://iarc.club/>

SDR

<http://websdr.org/>

A WebSDR is a Software-Defined Radio receiver connected to the internet, allowing many listeners to listen and tune it simultaneously. Go to the chart in the middle of the page and select the **Band** you want, then **Region** (North America). This will bring up 18 listening stations in the United States and Canada. Pennsylvania, Alabama and Utah are favorites for this area. There is also a mobile application available for free.

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April 8, 2019 Meeting Minutes

By Terry Windsor



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

18 MVARC members present.

March Meeting Minutes accepted: Motion by Louie, NT8I and seconded by Bill, KD8WHQ.

Treasurers Report presented by Terry, KI8N. Motion to accept by Louie, NT8I and seconded by Bill, KD8WHQ. Motion passed to accept Treasurers Report. For club finance specifics please contact Terry, KI8N.

Repeaters:

Don, W8PEN, reported the 146.79 repeater is working again. The Maggiore 146.79 repeater had failed but Don has installed an external amplifier using the repeater exciter to provide 50 watts output. Don did find the controller paired with the Yaesu repeater will not work in PL mode but works in open mode. We are operating with the Maggiore repeater at this time.

There is still some noise/static and further troubleshooting of cables, interconnects, and antenna are required.

The 444.6 repeater at Knox County Hospital is working however, the squelch is hanging and needs adjusted. Still need internet connection and equipment to install and operate WiresX.

Mesh:

Don, W8PEN, reported Mesh network is working. Don is working on the web page with new functions: TeamSpeak: Voice and Keyboard. Planning to install a replacement node at KCH with a rocket and a node at the water tower.

ARES:

Bill, KD8WHQ reported the following:

April 6 Ohio Section ARES Conference at OSU Marion Campus, hosted 130 people with the following presentations: ARES changes, Solar Power, Message Handling via FLDIGI, and a Breakout Table Top Exercise simulating riots.

There is Active Shooter training scheduled April 23, 24, and 25 with the Sheriff, Police and EMA. State wide Exercise is scheduled August 6.

Old Business:

Frank, KC8EVS discussed upcoming 2019 events.

NVIS Day April 27, 10 am to 4 pm. Centerburg Conservation Corps.

Dayton Hamvention starting May 17.

Field Day June 22 and 23. Frank, KD8EVS has reserved the Apple Valley ball field.

Ohio Hamfest August 3.

Dan Emmitt August 10.

Possible participation in Ohio Courthouses Special Event August 24, 9am – 4pm.

Ohio State Parks on the Air September 7. Will operate from Mohican State Park.

The ARRL Ohio Section calendar lists most of these events:

<https://arrl-ohio.org/g-calendar/default.html>

MVARC Webpage

Michael, KE8HGE is working on content and security updates.

New Business:

Frank, KC8EVS will schedule a meeting with the Club's Directors to review the Bylaws since the last review was 2/2013. Mentionable items are increased Director Involvement and term limits.

MVARC Ohio charitable registration is due in May. This is a five year renewable event. Also the responsible officer for this action needs to be changed as Jim Williams, N8IBR (SK) is listed. Terry, KI8N to be the new responsible person.

Club equipment insurance policy is due for renewal in May. Discussion to look into new insurers to compare costs.

Discussion of community event to clean the area around the Red Cross building - Tabled.

Bill, KC8BB needs a permanent replacement for the Sunday night MVARC Net.

Motions for club expenditures:

Don, W8PEN cost of repeater amplifier and cables (\$130.00): Bill, KC8BB and Bill, KD8WHQ
– Approved

Terry, KI8N State of Ohio charitable registration and change of officer (\$25.00 each): Barry, N8PPF and Louie, NT8I – Approved.

Adjournment

Motion to adjourn by Barry, N8PPF and seconded by Bill, KD8WHQ. Motion passed and meeting adjourned.

50/50 Drawing won by Don, W8PEN.

Terry Windsor, KI8N
MVARC Secretary/Treasurer

By Don Russell, W8PEN



A few things of note before getting to the wrap up of How to Remote Your Radio.

2 Meter Repeater

The 2 Meter Repeater has been fixed. At least so far, (knock on wood). Please see the article by Louie NT8I elsewhere in this newsletter.

Local Mesh Network

There has been a lot of work on the Local Mesh Network this past month. We were having a few minor issues with some nodes and several applications were not working the way they should. Currently, all applications are working properly. Still have one node down.

Current Nodes:

W8PEN-SOUTH: Hosted by myself at the top of my 48 foot tower, South of Mt. Vernon.

K8EEN-SERVER: This is the node that runs our applications, Telephone PBX system, Mesh Chat, K8EEN WEB PAGE and TeamSpeak, and local E-mail. TeamSpeak is new and allows keyboard chats and well as voice (VOIP). This node is not an RF node. It is connected through a switch to W8PEN-SOUTH.

K8EEN-RED-CROSS: Located at the Red Cross.

K8EEN-5: This is a link located at the Red Cross and links to Bill, KC8BB.

K8EEN-EAST: Located at KCH hospital.

K8EEN-NORTH: Located at the Water Tower (2-meter Repeater site) – Recently installed.

N8PPF-1: Hosted by Barry N8PPF, South of Mt. Vernon.

NT8I-FREDRICKTOWN: Hosted by Loui NT8I.

KC8BB-1: Hosted by Bill KC8BB. This node is currently down but should be back up and running soon.

KC8EVS-1: This node is hosted by Frank KC8EVS. It is a lonely node in that it does not see any of the other nodes so is not connected to the local mesh network as of yet. We are hoping that once we get Bill's KC8BB-1 node working, KC8EVS-1 will be picked up.

With the installation of a node at the water tower and an improved node at KCH, I am hopeful that anyone wishing to set up their own node in or close to Mt. Vernon should be able to do so. If you are interested, please let me know and we will do a test at your location. Your cost would be around \$100 to install a node at your home.

For those interested in setting up their own node, four services would be available immediately (Mesh Chat, Mesh E-Mail, K8EEN-Web Page, and TeamSpeak). None of these services go outside our Mesh Network so everything would be local, including the E-mail. At least for now.

If one wants to use the PBX system, then an IP phone will need to be purchased. These cost around \$50. Grandstream is the preferred brand of telephone. Contact me for guidance on this. I would have to add your phone to the PBX system.

We have made real progress here. I am hopeful that all this work will pay off in supporting our served agencies. We are very close to doing so.

By Don Russell, W8PEN



How to Remote Your Computer Part III

We finally come to the conclusion of this series. It has been a fun ride.

If you have followed this series from the start, you have learned how to properly connect your radio to a computer and make on the air contacts without having to touch your radio in any way. Further, you have learned how to remote your radio and operate any of the available digital modes.

The next step is to be able to use voice instead of digital to communicate via remote.

Using digital was the easy part. There is no need to send audio between the server computer and the client computer. True, you do not hear anything by doing it this way, but you still see the decoded screen, be it PSK31, JT65, FT8 or any other digital mode.

While sending audio between the remote computer and the client computer is not difficult, it does take some patience in adjusting levels.

For sending audio back and forth, most hams use Skype. This service has been around for awhile and the audio quality is excellent. This only applies if one is using the internet for remoting. If you are remoting from a local network, then there are a few other options that work. But for now, lets stick with the internet and Skype.

The most complicated part of this is to set up two Skype accounts. I use w8pen and w8pen-1. So first thing to do is download Skype: <https://www.skype.com/en/>

Once again, for clarification, the main computer is called the CLIENT. This is the computer that you have by your side when operating remotely. The shack computer is referred to as the SERVER. This is the computer located in your shack that is running software that controls the radio.

Next, set up account #1. Put this Skype account on the server computer. Name the account whatever you want. Simply run the Skype setup program and follow the instructions. You can check Skype by using the Echo / Sound Test Service. Once you have the first account working properly then set up account #2.

Set up account #2 on the client computer. Be sure to give it a different name for the second account. Simply run setup and follow the instructions. Test account #2 using the Echo / Sound Test Service.

Hint on testing both accounts: Make sure your microphone and speakers are enabled. I have a habit of turning the microphone off.

On Skype account #1 (The server), go to SETTINGS – CALLING – ADVANCED. Click on “Answer Incoming Calls Automatically.

You are ready to make a test call. Using account #2 on the client computer, make a call to account #1 on the server computer. Results should be an immediate answer and you will have an open line between the server computer and the client computer. Now hang up.

If you have been using the radio for digital contacts via remote, then you have the audio set up correctly and no adjustments are needed. Just make sure Skype is using the same speaker / microphone that your digital program was. This is only a problem if you use more than one soundcard. Turn the radio on, bring up the rig control program. Set the frequency to somewhere in the phone bands. It would be a good idea to tune to a station. For this test, you should be sitting at your station but connected to the server computer and using the client computer to tune around the band. Then connect to Skype as you did above. Your efforts should be awarded by hearing the signal you tuned in through the speakers of the client computer.

By Don Russell, W8PEN



To test the transmit (connecting a dummy load recommended for testing) use the rig control PTT switch located on the client computers screen. For this test you can either plug a microphone into the client computer or use the internal computer microphone. Press the PTT. Now talk as you would with the radios actual microphone. You should adjust the transmitters microphone gain for proper operation. I like using a microphone and headset for this.

Congratulations, you are now operating SSB via remote control. As a final test, try making a contact using the client computer and sitting at the radio. This is simply so you can keep an eye on everything for the first time. You may even wish to schedule a friend to talk to.

According to my friend Lynn, KG8D the audio is very clean when I operate SSB remotely. Lynn has been my go to guy for testing this system.

After a successful test contact you are ready to go. Basically, you can operate your radio on SSB anywhere you can get the internet. Have fun.

Sometime in the future I plan on a final article that explains how to do CW remotely. I just have to figure out how to do it. Sure, it would be easy to send CW remotely using the keyboard. Done that already. But I would like to be able to use a straight key or keyer remotely and that requires a bit of extra equipment. It may be a while before I sit down and figure that out.

See you all at the May meeting. Let me know if this set of articles was a least an interesting read and whether you have attempted to remote your radio.

Louie Wilkinson, NT8I

With spring in Ohio, you know you can expect rain. Need to mow the yard? Rain. Need to clean the gutters? Rain. Or perhaps a little closer to home, need to do antenna work? Rain. Fortunately, there was a break, long enough for Don, W8PEN and myself NT8I, to finally work on the repeater. We have been fighting noise for some time now, crackling, popping and static. At times so bad, our 2-meter repeater was basically unusable. After several theories as to the cause, along with several attempts to remedy it, we had exhausted all options but a drastic one. Our plan was set. Monday we would scale the water tower and replace the coax that ran from the hardline out to the antenna. Suspecting the type of coax used, combined with its age was to blame. At least this plan sounded better than taking the whole antenna down.

I was the first up the tower with a backpack full of equipment, tools and parts. After getting secured on the roof and doing some initial inspection of our antenna, I checked for loose masts, damaged coax and just about anything else I could think of. I was left with no 'smoking gun' as it were. Nothing out of the ordinary, everything seemed to be in good shape and working order. I was then joined on the lovely outlook over Mt. Vernon by Don, who had in tow the mast to be used for our latest mesh node. We were set to proceed with replacing the coax, and first order of business was to get it disconnected from the antenna. Anyone who has tried to remove coax seal can probably picture the battle that took place. Armed with a small utility knife I was up against a formidable opponent. The battle lasted several minutes and included a colorful string of profanities which Don seemed to find amusing, at least someone enjoyed it. But the coax seal was not the only battle, once it was removed. I found that despite the use of vice grips and pliers, the connectors simply did not want to come apart. Further attempts finally revealed (what I believe to be) the problem we had spent so long searching for.

The type-N connector on the antenna itself was able to free-spin on the coax, with just the center pin remaining solid. This indicated that the braid of the coax lead for the antenna was not secure in the connector, and the connector itself was not secure. As many people already know, a loose connection can cause all sorts of 'weird' behavior. Intermittent cracks, pops and static, especially when you add in wind causing the connector to shift even slightly, and temperature changes causing the expansion and contraction of metals at different rates. Fortunately, Barry N8PPF had made it out for the party and provided ground crew support by running home to retrieve a soldering iron and new type-N connector. Unfortunately for me, this meant a trip back down the tower to get the additional tools and parts.

135 feet doesn't sound like a lot, but when you are going up a ladder, it loses its appeal quite fast. With a soldering iron, a new connector and my extra hands, Don was able to replace the connector and we buttoned everything back up, fresh new coax seal, liquid tape, and a healthy amount of zip ties. Though the repeater was not our only mission that day, Don had brought up a mast for a new mesh node. That went up without any excitement, and a new Cat 5 cable run down the tower to power it, went in without any issues. This new mesh node is providing better coverage, and for the first time, at 10.2 miles north of the water tower, my mesh node is connecting and staying connected. Although the connection is marginal at best, a larger antenna and more height on my end should resolve that. (and really, that is $\frac{2}{3}$ the solution to any ham radio issue, more height, bigger antenna, more power)

In the days and weeks after this excursion, I have been listening to the repeater with a keen ear, always waiting for a crackle, or pop, telling me the issue lives on. But so far, I, and everyone who I have talked to, have reported that everything is working great. If you made it this far, thanks for sticking with me, it was a long, fun day. I was happy to get the experience, and happy I could provide my help to improve the quality of the repeater, not only for our club members, but anyone who might be passing through or listening in thinking about getting their ticket punched. Until next time, 73.

-Louie, NT8I

By Dan Romanchik, KB6NU

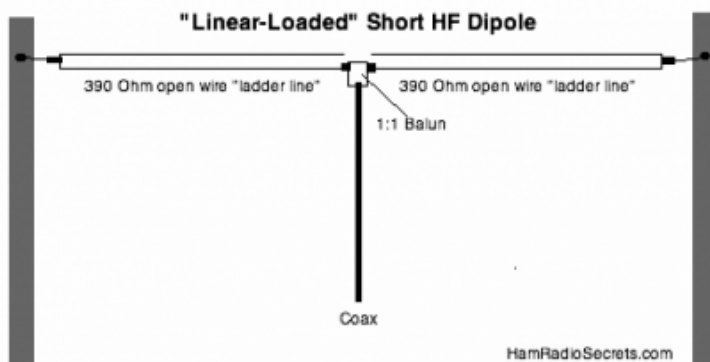
A couple of years ago, I homebrewed a "Cobra" antenna (<https://www.kb6nu.com/yet-another-new-antenna-the-cobra/>). It's a doublet antenna, meaning that it consists of two elements connected to a center insulator, where it connects to a feedline. The unique thing about the Cobra antenna is that each element consists of three parallel conductors connected in series.

My antenna uses a lightweight, three-conductor rotor cable that used to be available from Radio Shack. The feedline is 450 Ω ladder line that connects to an antenna tuner to give me multi-band operation.

Connecting the conductors in this way is supposed to provide "linear loading." Somehow, running the conductors in parallel is supposed to increase the antenna's effective length. My antenna is only 73-ft. long, but it easily tunes up on 80m.

The *ARRL Antenna Book* has a short section on linear loading. It says that linear loading is a "little understood" alternative to inductive loading that can be applied to almost any type of antenna. Furthermore, "...it introduces very little loss, does not degrade directivity patterns, and has low enough Q to allow reasonably good bandwidths."

As I mentioned, I've been using this antenna with good results for a little more than two years now. When I first put it up, someone mentioned the concept of linear loading to me, but not being an antenna guru, I didn't give it much thought. About a week ago, though, I ran across a link to the page Short Ham Antennas for HF <https://www.hamradiosecrets.com/short-ham-antennas.html> That got me thinking about the topic again.



This page describes a way to build a linearly-loaded dipole antenna with a feed point impedance of approximately 35 Ω . This allows you to feed it with coax instead of the ladder line that I use. The author uses 390 Ω ladder line for the elements. He says it's commonly available, but I don't think I've ever seen 390 Ω ladder line. You could probably use 450 Ω ladder line by adjusting the element lengths a little.

At that point, I started Googling. The next linear-loaded antenna design that I ran across is a design from M0PZT <http://www.m0pzt.com/40m-linear-loaded-dipole/> He built his elements from some sturdy wire and homebrewed spacers made from PVC pipe. He's used this design for the 40m elements of a fan dipole covering the 40m, 20m, 15m, and 12m bands. Only the 40m elements are linear-loaded.

I also found a design for a linear loaded vertical antenna for 40m and 80m <https://www.qsl.net/pa3hbb/ll.htm> This antenna is only 7.736m, or 25.4 ft. tall. Of course, it requires a good radial system to work well, but it will work a lot better for DX than a low doublet or dipole.

Finally, there's an eHam discussion on linear loading

<https://www.eham.net/ehamforum/smf/index.php?topic=844180>.

Unlike a lot of e-Ham discussions, this one is quite civil. It's worth reading if you're interested in the topic.

So, if you're thinking of getting loaded, errrrr, I mean loading your antennas, here's a method for you to consider. It works!

May, 2019

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
5 9:00 pm ARES Sunday Night Net W8DOH – Greg	6	7	8 5:00 pm Dinner at Southside Diner	9	10 10:00 am Breakfast at Club Meeting room	11 10:00 am Breakfast at Barb’s Diner Columbus Road
12 9:00 pm ARES Sunday Night Net W8PEN – Don	13 7:00 p.m. MVARC Monthly Meeting -Red Cross Annex	14	15 5:00 pm Dinner at Southside Diner	16	17 Hamvention Xenia, OH 10:00 am Breakfast at Club Meeting room	18 Hamvention Xenia, OH
19 Hamvention Xenia, OH 9:00 pm ARES Sunday Night Net on K8EEN NT8I – Louie	20	21	22 5:00 pm Dinner at Southside Diner	23	24 10:00 am Breakfast at Club Meeting room	25
26 9:00 pm ARES Sunday Night Net on K8EEN KE8HGE -Michael	27	28	29 5:00 pm Dinner at Southside Diner	30	31 10:00 am Breakfast at Club Meeting room	1 June
2 9:00 pm ARES Sunday Night Net On K8EEN W8DOH - Greg	3	4	5 5:00 pm Dinner at Southside Diner	6	7 10:00 am Breakfast at Club Meeting room	8 10:00 am Breakfast at Barb’s Diner Columbus Road
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