

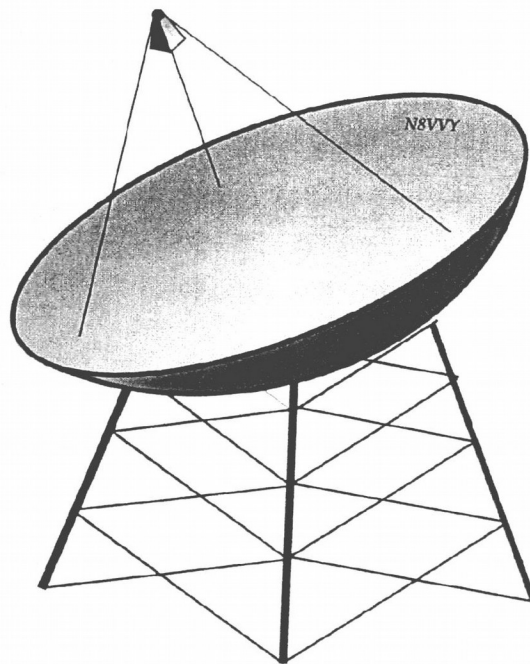
# ANOMALOUS PROPAGATION

Newsletter: *The Midwest VHF/UHF Society*

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June 2019

Beacons: 1296.079 **W8KSE** EM79ur Dayton, OH---- 2W to Big Wheel at 800' AGL.

Our Beacon List will be updated shortly. Sorry fr the delay!

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## Field Day: June 22/23 2019

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**DE N8ZM:** I am writing this the day before the June ARRL VHF contest, so won't have much to say about that at this point except that a lot of effort has been going into our contest site recently to keep up with maintenance items as well as make improvements to the overall operation. This time around we will have an ICOM 7610 on 6m; a 7300 on 2m to a W6PQL solid state amp built by Randy, WB8ART; a 7300 to a transverter for 220; and a shiny new 9700 for 432, 902(via transverter), and 1296. It took a bit of coordination to arrange to use all those boxes for the weekend, but we think they will serve us well. We also plan to be on the air for the CQWW in July, the 222 and up (or whatever it is called now) in August, and of course, the September ARRL contest. Should be a busy summer! By the way, we now have obtained a new call sign to use up there, N8GA, replacing N8ZM. Seems too many people have their computers feeding their logging programs from some database that sees my call sign, and inserts grid EM79, even after we tell them we are actually operating from EN80. And then they want to argue with us about it. Apparently, computers are always right! Anyway, I hope you were on for the contest and worked as many stations as possible. And sent in your log!

As expected, Hamvention went well this year, and there wasn't any rain at all! Attendance was reported to be up substantially too. MVUS was there, thanks to Mike Schulsinger, John Human, Joe Burke, Gerd Schrick, Tom Stauffer, and Mike Suhar. Thanks guys! Several folks renewed their memberships, and met up with friends who they don't often get to see in person. I expect we will be back there next year.

Speaking of dues, now is a good time to renew (OK, it's always a good time to renew) and keep Anom Prop coming to your mailbox, whether electronic or via USPS. Naturally, we prefer electronic to keep costs down, but we understand that some have a preference for paper copies. I'm one, so when my electronic version arrives as a PDF, I simply print it out at home. Of course, that saves MVUSA the costs of printing and postage, and I've concluded that my cost for printing it at home is cheaper per page than having it printed at a commercial print shop. Which helps us keep our dues among the lowest of any club I know of in this area besides that behemoth organization that puts on Hamvention. SO if you haven't yet switched over to the paperless version of Anom Prop, just let me know ([n8zm@mvus.org](mailto:n8zm@mvus.org)) and I'll see that you are moved from the paper to paperless list. And Thanks!

With that, I'll remind you that our June meeting will be on Friday the 28<sup>th</sup>, at 6:30 at the MCL Cafeteria in Kettering. See YOU there!

**...de Tom, N8ZM**

## **This and That**

**Eating Habits:** One third of the world uses a fork, another third uses chopsticks and the rest uses their fingers. [Statistics]

**Ignorance.** Not so much not knowing things, as knowing things that ain't so.

[Mark Twain]

**Nothing** is more terrible than ignorance in action.

[Goethe]

**Hate.** Men hate those to whom they have to lie.

[Victor Hugo]

**Missing it.** The man who does nothing but wait for his ship to come in has already missed the boat!

[Unknown]

**Short Course in Human Relations:** I admit I made a mistake! You did a good job! What is your opinion? If you please... Thank you!

And the least important word: I .

[Unknown]

**The Future.** I have seen the future and it is very much like the present, only longer.

[Kehlog Albran]

**Success.** If you have tried to do something and failed, you are vastly better off than if you had tried to do nothing and succeeded.

[On back of sweetener package]

**Experience.** Experience is a wonderful thing. It enables you to recognize a mistake when you make it again.

[Same as above]

**Action.** Never confuse motion with action.

[Unknown]

**Independance?** That's middleclass blasphemy. We are all dependant on one another, every soul of us on earth..

[ G.B.S.]

**Bookreview.** The covers of this book are too far apart.

[Ambrose Bierce]

**Justice.** Habit creates the appearance of justice; progress has no greater enemy than habit.

[Jose Marti]

**Young and ...** You are young only once but you can stay immature as long as you live.

[Unknown]

**A clean mind.** What this country needs is dirtier fingernails and a cleaner mind.

[Will Rogers]

# J-Pole Antenna for 223 MHz

By Joe, WA8OGS

I needed a better antenna for my 1.25 meter band (222-225 MHz) BridgeCom BCH-220 handheld. I've used the stubby antenna with the radio for over a year, so a better antenna is long overdue. I'll plan on using this antenna when in my home shack, so I plan to mount a vertical in the rafters above the garage ceiling.

I decided to build a J-pole antenna. This is a half-wave antenna with a 1/4-wave matching stub, with the shape resembling a letter J, hence the name. The antenna looks easy to make using 1/2 inch copper water pipe and a few copper fittings.

I already had a piece of 1/2 inch copper pipe. So off I went to the big-box store to get the needed fittings: a 1/2" copper Tee, a 90-degree elbow, two couplings (in case I needed to adjust the length), and two end caps. I also got a few copper plated 2-hole pipe straps, thinking these might make it easier to attach the coax feed to, for making the tuning adjustments. I already had a tubing cutter tool and a propane torch, but these tools would also be available at the big-box-store.

I followed the description in the ARRL Antenna Book (23rd edition, page 15-7). The websites at the bottom of this article have additional information on the J-pole. I did a dry fit after cutting the pieces to the correct length. I then cleaned all the solder areas - both inside and outside of the joints to be soldered, using a pipe cleaning tool (fine steel wool can also be used for this). Next I applied flux to both sides of all the joints, and completed the soldering.

Coax is attached about 1.5 inches above the bottom of the J, with the shield connected to one side and the center conductor connected to the other. I looked at pictures on the internet to see how others did this. I had purchased a few copper plated 2-hole pipe straps, and planned to use these to more easily slide the coax connection point along the copper pipe. I found a chassis N-connector in my connector box that fit in a 3/8" hole (BNC bulkhead size), so I enlarged one of the holes in a copper strap to mount this chassis/bulkhead connector. I then bent this strap to fit around the 1/2" copper pipe. I took another clamp and bent it to fit around the 1/2" pipe, allowing the existing holes to line up to bolt a crimp terminal to. **See included picture showing N-connector feed assembly.**

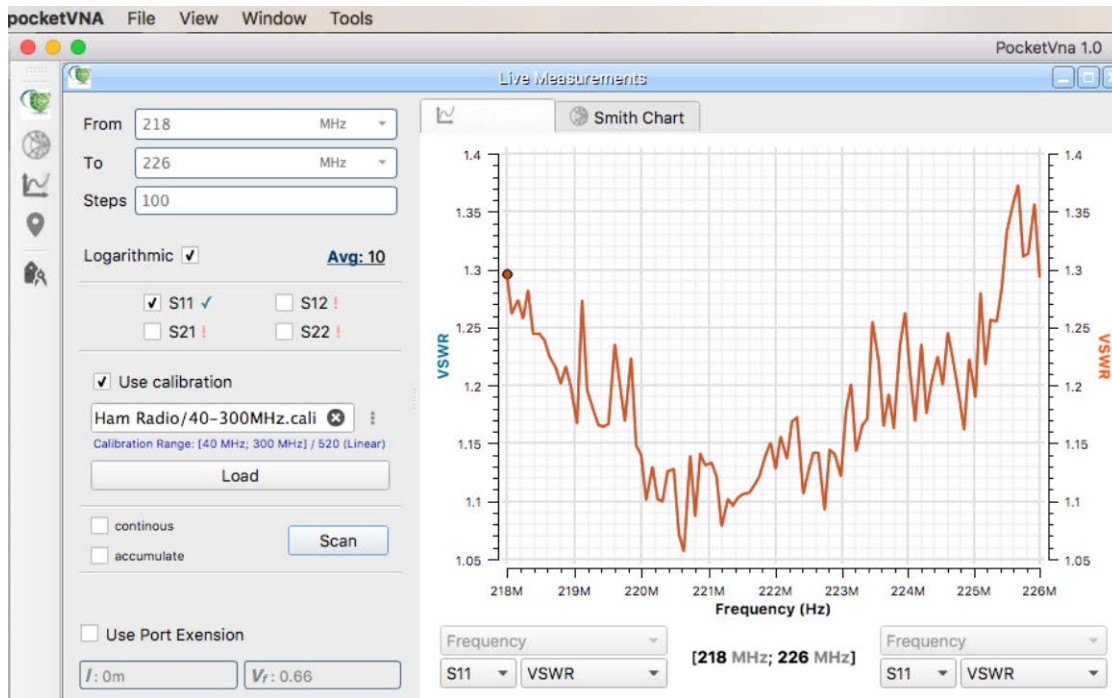
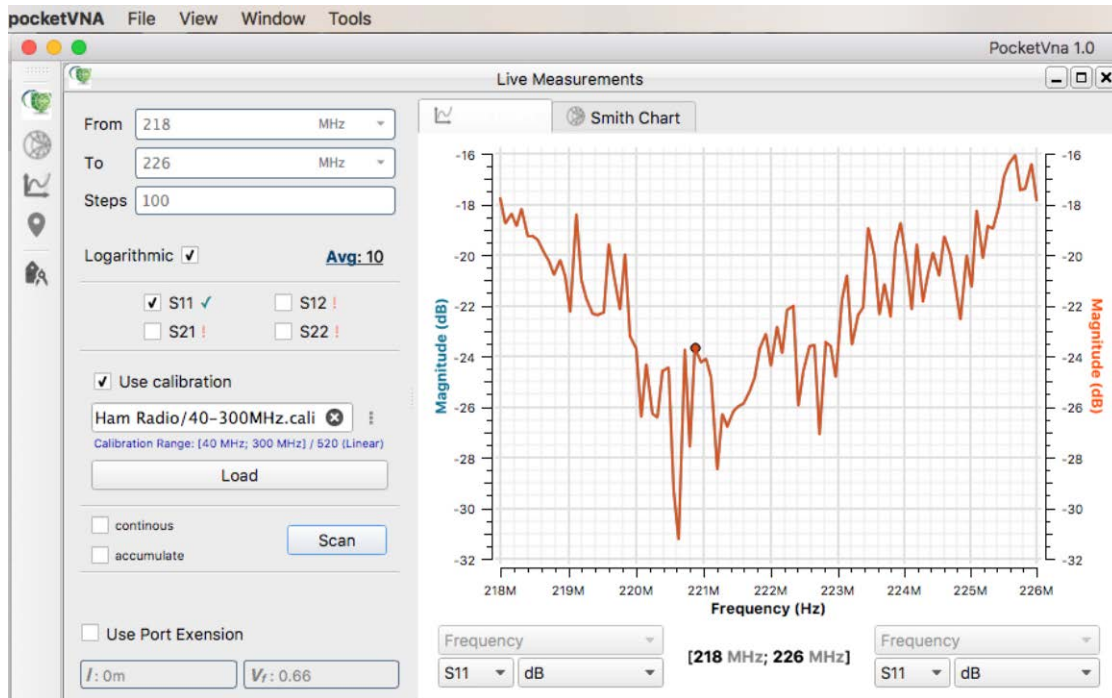
I used RG-213 coax, and made a coiled coax choke balun with 2-1/2 turns of coax about 2-1/2" in diameter near the end that will attach to the antenna. This is visible in one of the pictures, just below the corner of the keyboard. I used black cable ties to hold this coil in place. Ferrite beads could also be used instead of coiled coax for the balun.

I attached the J-pole antenna to a portable mount in my shack area for initial testing. Tuning the antenna took a little longer than I thought, due to the J-pole initially being resonant much higher than it was suppose to be. Maybe some measurements were tip-to-tip vs. center-to-center. I had a few short adapters and reducers that I then used to lengthen the tips, using different sizes to get the tuning where it should be. Sliding the coax connector straps made tuning adjustment changes easy.

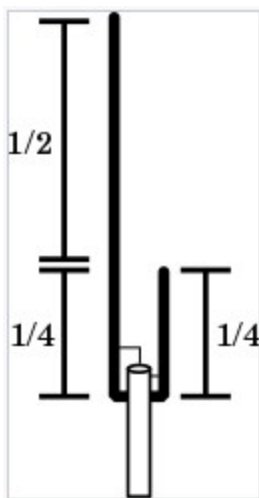
My final dimensions were 41-1/4" from the top of the copper cap to the top side of the short cross piece for the long piece; 12-3/8" from the top of the cap to the top side of the cross piece for the shorter piece. The copper tubing piece below the T-connector should be at least 18-24" per the ARRL Antenna Book; mine about 20+", and I just stick it in a piece of pvc tubing to support it. I then soldered the sliding feed straps and the added adapters and end caps to make it all permanent. If mounting outside, the exposed N connector and feed connections could be protected with Liquid Electrical Tape, available at the big box stores.

I intend to use the J-pole on the 222.25-225 MHz FM portion on the band. But it has a great match over the entire 222-225 MHz band. See the Vector Network Analyzer screen shots - below 1.3:1 SWR from 218 to 225 MHz!

The J-pole is a nice easy project. I hope to talk with you on one of the 1.25 meter repeaters.







## Hamvention 2019 - 17/18/19 May – Xenia-Ohio



Antennas on Top



MVUS Booth 2019



HARA Arena May 30, 2019



Golf carts are a great ride !

## Hamvention Wrap-Up.

This year the Hamvention was a full success. The weather could be described in one word: "Perfect". There were no problems, I am aware of, with parking.

The food court had a phenomenal number (25) of places, where something to eat was available for each taste. The selection of forums were great and, as far as I could see, well attended. Looking through the list I had marked the very last one, but when the time came, I was otherwise busy and missed it.

My acquisitions were sparse, wound up with a couple of books from the RSGB, one relating to Moon Bounce and the other with the enticing title: 60 Antennas you Might Want to Try! This latter one should keep me busy in my "old age".

One item I was looking for, I couldn't find; but on Sunday around noon, I looked around the booths close to our own (MVUS, Midwest VHF/UHF Society) and there they were: lithium-batteries. I bought 3 for \$9.-, they were the popular ones, looking like a oversized AA-Nicad, rated 6 Ah. These cells have a voltage of 3.7 V, so 3 or 4 in series would give you a 12V battery for your transceiver. They will be a very compact power source for emergency use in case you lose electricity to the house.

I spent some time at the ARRL area and also talked to Bob Bruninga who had written a book on using Green Energy. He had an Electric Vehicle Information Sheet from 2018 with all the in the US available vehicles listed with their essential data. There were 31 electric hybrids, 13 pure electrics and 2 electric motor cycles. Unfortunately, most US passenger cars look alike. It's the typical SUV. If you ask me, what does an SUV look like, I would say: it looks like a blend between an old American station wagon and a hearse. The hybrids, they are labeled: electric & gas, are particularly hard to spot, in effect, you have two motors on board of these.

One last comment, how about the flea market; it was well organized and overwhelming in the offerings. I can understand hams who spend 90+% of their time lingering around out there, and the wx was cooperating this time also. But the inside was almost equally crowded. I tried 3 times at the ICOM area to talk to a Rep. A newer model TRX had caught my attention and I had a few questions...

Finally, I haven't heard any bad news, regarding our Memorial Day Tornado, assume nothing real bad happened in Xenia! We live between Dayton and Beavercreek, right at the edge of the tornadoes passing through!

Vy73, Gerd, WB8iFM



# E-Car as Power Source for Field Day

By Gerd, WB8iFM

Although I grew up with Lead Acid and Nicads as rechargeable batteries I now thoroughly changed to lithium because of the many advantages of those batteries. Lithium batteries have been around for a while and have mostly become known to be used in our electric cars. However, we have enjoyed them in cameras, portable phones and computers for quite awhile also. They are also used in small tools for the house and shop. I have a small drill which is always ready, even after months of no use! Same with a special flashlight, which uses a single lithium cell. Had it for years, it comes in handy if there is a power outage at night and you need to look up at the hardware on a power pole. After several years the light was still operating like new, obviously the charge was holding very well!

Driving an electric car, the first question I usually get is: What is the range? And my answer is, I don't know for sure but my estimate right now is optimistically: 60 miles. After we almost ran out of miles one time, we stopped at the closest gas station, where the kind owner permitted us to plug in our car, even gave us good directions to make it safe to our destination and refused to charge us anything.

It is amazing what the car companies will do to get you to fill up the gas tank. Even when your indicator sits on empty, there is a small amount of gas in there that gets you another mile if you need to. With the "range problem" of the electric car, what do they do to get you to stop at a "charge station" to plug in, is out of this world.

We had this experience once when we got off the interstate on the way home. There were still about 10 miles to go when the display went crazy and demanded we head for the next charging station. but it was late at night, we were close to home and we just gave it a try. Very carefully, driving "totally green" \*\* we made it to the house.

The car has a 24 kWh Lithium battery of several hundred Volts which drives the motor but also feeds ( with a downconverter) a small 12 Volt oldfashioned lead acid battery which feeds the lights, the signals, radio and other electrical devices there may be. There is also a USB-socket where you can plug in accessories.

Here is my idea: this is the ideal source for a Field day station, maybe it even counts for some extra points. And if the 12 V battery stops having drained the main battery, I am with all my Field Day buddies that can, with the FD Generator give me a charge for some extra miles to get me home.

Last year, we made a trip to Germany and I had to forego my FD plot. I usually run a 6m station for the Bellbrook radio club.

But now, this being June of 2019, we give it another try! FD is 22/23 June this year, only 2 weeks left as I write this!



All Photos by Dave Lundy

Joe, N8QOD... Doug Wheelock, Astronaut



Up, Up and Away

2019 Hamvention Balloon Launch.

We launched three balloons at noon on Saturday of Hamvention. As a photo opportunity, I enlisted astronaut Col. Douglas Wheelock KF5BOC, to launch one of the balloons; a wind gust downed his balloon between two parked trucks, so he retrieved it and tried a second attempt. This time it momentarily caught in nearby power lines, but was soon on its way and out of sight. There were no problems with the other launches.

The balloons are small Mylar party balloons with payloads consisting of a GPS receiver, a microprocessor, a 20mw VHF transmitter powered by two solar cells, and a dipole antenna comprised of two guitar strings. The payload only weighs 13 grams (less than 1/2 ounce). A position report is transmitted every 2 minutes using the APRS protocol when the cells are in sunlight. The balloons were inflated with Helium until they could barely lift two pennies off a tabletop.

Position reports received by APRS monitoring stations worldwide are sent to a computer in Finland accessible via the internet. This allowed us to monitor progress Saturday to the Pennsylvania state line where sunset terminated tracking (having no onboard batteries, the Skytrackers only function in sunlight). By Sunday morning all the balloons were over New Jersey. The last reported locations were over the Atlantic Ocean Sunday evening.

**Joe, N8QOD**