# Mahoning Valley Amateur Radio Association Voice Coil


| July 2025 | mvara.w8qly@gmail.com | The Voice Coil - Volume 25-7 |
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## MVARA Officers

| | |
|---|---|
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| **Vice President** | Ralph Streb K8TCP |
| **Secretary** | Rich Slutz KB8GAE |
| **Treasurer** | Nancy Brett KD8QNY |

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| | |
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## President's Corner

**You guys did it again and out did yourselves at field day. We operated 80, 40, 20, 15, 10 and 6. CW did 977 contacts, phone did 1,044 contacts and dig had 560 contacts for a grand total of 2,581 contacts. You guys did an outstanding job this year.**

**We started early on Friday at 7 AM and had 12 antennas in the air by midafternoon. We beat the thunderstorms, and everything was still in the air when we arrived on Saturday.**

**Saturday was a great day, minus the small rain shower that moved through it was a matter of running some coax and getting everyone set up. Everything was up and running by 1:30 PM even the network.**

**Thanks so much Ralph and team. Mark Haverstock gave a great presentation on the remote control of his radios. Dinner was the best again thanks Dean for keeping us fed. All the operators that came out and sat on a radio thanks to you too. You guys make this president very proud. Scott, KE4UHC**

# Upcoming MVARA Events

| Date | Event | Location |
|---|---|---|
| July 2, 2025 | VE Testing | Boardman |
| July 10, 2025 | MVARA Meeting | Boardman |
| August 3, 2025 | Olde Car Show Special Event | Boardman |
| August 14, 2025 | MVARA Corn Roast | Boardman |

# July Club Program


For July we are going to look at a video from the folks at hamradioprep.com. MVARA uses the HRP study materials for our license classes and we have had good results with them. HRP has produced a lot of videos to help their students and one of them is called “Top 5 HF Ham Radios for Beginners.” We will watch the video and follow that with a discussion. Do we agree with their recommendations – why or why not? Do we have recommendations for new Generals buying their first HF Radio. If you have a radio that you think would be good for beginners, feel free to bring it and do a show and tell.

Ed setting up for Coax Program – Mark is hiding off camera with the VNA

# Field Day 2025 Numbers

Rich, KB8GAE, sent along the following summary of our contacts this year.

Here are the numbers from this year's Field Day. We worked 108 more QSOs last year but because we had more 2-point Digi and CW QSOs this year our score is going to be 722 points higher.

Total Contacts by Band and Mode:

| Band | CW | Phone | Dig | Total | % |
|---|---|---|---|---|---|
| 80 | 55 | 133 | 210 | 398 | 15 |
| 40 | 642 | 759 | 142 | 1543 | 60 |
| 20 | 241 | 107 | 60 | 408 | 16 |
| 15 | 39 | 39 | 25 | 103 | 4 |
| 10 | 0 | 6 | 90 | 96 | 4 |
| 6 | 0 | 0 | 33 | 33 | 1 |
| | | | | | |
| Totals | 977 | 1044 | 560 | 2581 | 100 |



# Mahoning County ARES Update

ARES Update June 2025
Our Mahoning County ARES Members continue to rise to the occasion.

ARES was approached by the Autism Society of the Mahoning Valley two weeks before their May 31st Mahoning Valley Warriors event to provide radio communications. The call went out and 15 members quickly volunteered to help. They all met the 7 am roll-call Saturday the 31st at the Canfield Fair Grounds where the event was held. It was a cold, wet morning that organizers quickly responded to by moving most of the day's events into Fairground buildings. ARES Communicators were an important part of that weather-related pivot. The event went on and raised over $60,000 dollars. We want to thank all the members that participated for their quick and professional response.

Mahoning County ARES holds no Field Day events in our area. This is because we have very good Amateur Radio Club Field Day efforts each June put on by our local clubs. The Mahoning Valley Amateur Radio Association (MVARA) and the Western Reserve Amateur Radio Club (WRARC) both operate multi-station Field Day efforts for the entire 24 hours of Field Day. Remember, Field Day is not only fun, but a nationwide emergency exercise that runs 24 hours. It's a great opportunity for ARES Members to practice our communications skills. The MVARA holds their Field Day at the Mill Creek Metro Parks Farm, 7574 Columbiana-Canfield Road (Rt. 46) in Canfield. The WRARC tried a new location this year at Mickler Field, 195 Bridge Str. on the Northside of Struthers. We hope you made it to a Field Day near you and had fun. Remember, you can operate Field Day from your home station or out on your own anywhere in the USA, but we all know it's more fun operating with our friends.

With Field Day behind us, the next important ARES Activity will be the 2025 Canfield Fair. Our ARES activities at the Fair have grown over the past few years. This year we are being asked to provide backup communications for the entire six (6) day run of the Fair. This is a substantial commitment.
We ask that all ARES Members mark their calendars for August 27th through September 1st. We need as many members as possible available for this event. Keep in mind this is an Emergency Management deployment so only EMA Qualified ARES Members can participate. We now have 30 Members at the EMA Qualification Level of training. That is a 50% increase from our Canfield

Fair deployment last year. It's amazing how members are taking to the self-paced ARES Task Book. Although 30 EMA Qualified Members sounds like a lot, six days of activation at the Fair will probably need even more. If you're already a Mahoning County ARES Member you should have received a March 3rd email outlining the steps to get your own ARES Task Book. If you can't find the email, just let us know at mahoning.ares@gmail.com and we'll resend it to you.

Your ARES Leadership Team

## MVARA Setting up for Presentations at Kent State Salem Campus


# Ham Radio Tech: J-Pole Antennas—More than You Probably Wanted to Know

By Mark, K8MSH

Copper Cactus. Steampunk Stick. Slim Jim. Whatever you call it, the J-pole antenna is a reliable alternative to verticals and ground planes for VHF/UHF communication. Due to their simple construction, J-poles are generally inexpensive and easy to build with readily available materials. You can design one to be relatively compact—great for situations where space is limited or to placate HOAs.

One of the main advantages of the J-pole antenna is that it doesn't require radials or a ground plane. This makes it easier to mount on a roof or pole. The use of no radials also reduces wind resistance, simplifying overall construction and providing a more convenient solution for many radio applications.

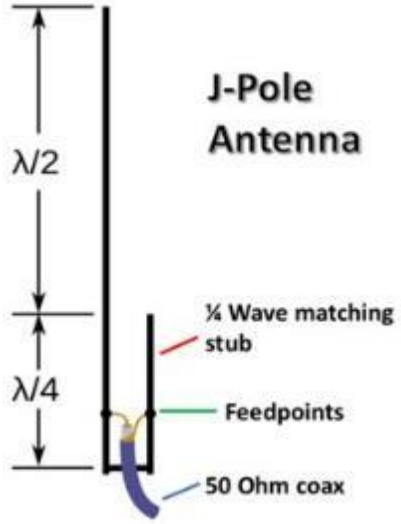
The J-pole feedpoint is at DC ground, so it has a low noise floor and does an excellent job of receiving signals. There are several variants. The Slim Jim is an end-fed folded dipole antenna. The Super-J antenna has an added half-wave element, and the Collinear-J antenna adds a phasing coil to the Super-J.

**J-Pole Antenna History**

The J-pole, also known as the J antenna, is a vertical omnidirectional antenna initially used in the shortwave frequency bands. It was invented by Hans Beggerow in 1909 for use with Zeppelin airships, hence the nickname Zepp antenna. The J-pole was comprised of a single-element, one-half-wavelength long radiator with a quarter-wave parallel tuning stub. The long, weighted antenna wire was reeled out from the rear of the gondola.

The purpose of Beggerow's invention was to move the antenna's high-voltage points away from an airship's envelope to reduce the risk of igniting the ever-present hydrogen leaks. The feedpoint and a counterpoise for the antenna wire were attached to the gondola.

By 1936, the original Zeppelin led to the J configuration, now known as a J-pole. This version was used for land-based transmitters, with the radiating element and the matching section mounted vertically and forming an approximation of the letter J. When the radiating half-wave section is mounted horizontally at right angles to the quarter-wave matching stub, the variation is also classified as a Zepp antenna.




(Image/**Public Domain**)

**How the J-Pole Works**

The basic J-pole antenna is a half-wave vertical radiator, much like a dipole. What makes it different is the method of feeding the half-wave element. A conventional dipole is fed in the middle, creating two quarter-wave elements. The J-pole is fed at the end of a half-wave radiator.

A half-wave antenna fed at one end has a current node at its feedpoint, giving it a very high input impedance near 2,400 ohms. This is much higher than the impedance of commonly used 50-ohm coaxial cable, requiring an impedance matching circuit between the antenna and the feedline. Instead of using a transformer or balun, the antenna is matched to the feedline by a quarter-wave transmission line stub shorted at one end and connected to the half-wave radiator's high

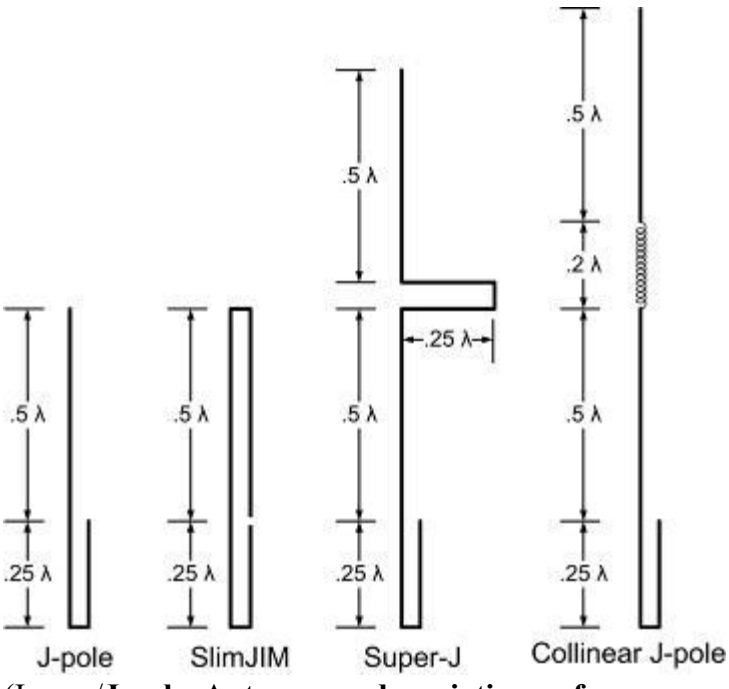
impedance at its other end. Between the shorted and high impedance ends there is a point that is close to 50 ohms. This is where the feedline is attached. Because this is a half-wave antenna, it will exhibit a gain of nearly 1 dB over a quarter-wave ground-plane antenna.

J-pole antennas are somewhat sensitive to surrounding metal objects and should have at least a quarter wavelength of free space around them. There is some disagreement whether there should be any electrical bonding between antenna conductors and the mounting pole or tower to ground. Some do so to keep static charges from building up or for lightning protection. No ground is required because the J-pole is 1/2 wave or longer. The best advice would be to try it and see if the matching is significantly affected.

Primarily a dipole, the J-pole antenna exhibits a mostly omnidirectional pattern in the horizontal plane with an average free-space gain near 2.2 dBi (0.1 dBd) over the standard dipole. The quarter-wave stub modifies the circular pattern shape, increasing the gain slightly on the side of the J stub element and reducing the gain slightly opposite the J stub element.

The J-pole has a mostly omnidirectional radiation pattern in the horizontal plane, meaning it transmits and receives signals in all directions around the antenna. A J-pole antenna typically has a slightly elevated takeoff angle, with the exact angle within a range of 10 to 20 degrees from the horizontal plane. The exact takeoff angle can be influenced by how the J-pole antenna is mounted, including its height above the ground.
J-poles are not limited to the VHF and UHF bands. They can also be utilized for HF but, for practical reasons, you probably won't see many built for bands below 10 meters. To put things in perspective, a 10-meter J-pole would have a long element of 24 feet (tall, but manageable). For 20 meters, we're near 50 feet in height. That's a lot of copper or aluminum.

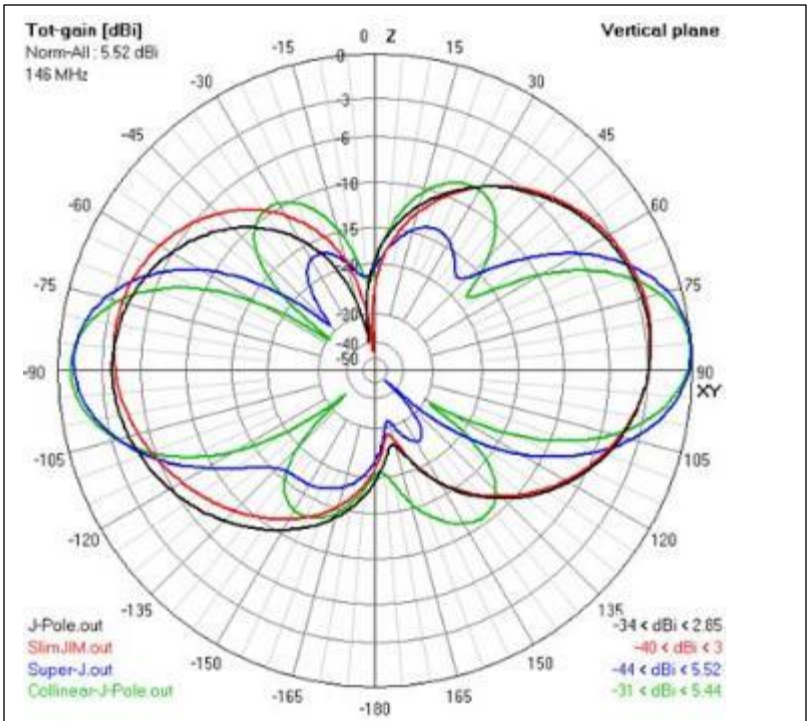
**J- Pole Variations**
The J-pole has been the focus of more than its share of tinkering. Here are some of the more popular variations, with the original J-pole pictured for comparison.




(Image/**J-pole_Antenna_and_variations_of_same.png** by Crcwiki | **CC BY-SA 3.0**)

- **Slim Jim**: Fred Judd, G2BCX, introduced his J-pole variant in 1978. The Slim Jim name comes from its profile and the J-type matching stub (**J I**ntegrated **M**atching). It performs similarly to a folded half-wave antenna and is virtually identical to the traditional J-pole construction.
- **Super-J**: This version of the J-pole antenna adds another collinear half-wave radiator above the conventional J and connects the two with a phase stub to ensure both vertical half-wave sections radiate in current phase. It has more gain than a conventional J-pole, but less than a collinear.
- **Collinear J-Pole**: This J-pole uses a phasing coil with a physical length of 0.2 wavelength. A phasing section is required between two elements of the antenna for them to radiate in phase. In fact, the phasing coil is part of all collinear antennas. Gain is about 3 dB over a conventional J-pole.

Given that small changes can make these variations more or less effective, don't take the gain figures too seriously. Relatively speaking, the basic J-pole and Slim Jim have a slight advantage over a dipole's 2.15 dBi isotropic numbers, followed by the Super-J and Collinear in that order.




(Image:**E-plane_gain_plots_of_J_antenna_variations.png** by Crcwiki | **CC BY-SA 4.0**)

**DIY J-Pole**

Want to build one? You've got several options when it comes to design and materials. The classic copper J-pole is made from copper tubing and fittings, which can be found at big-box stores or your local hardware shop. You could also use **aluminum tubing, which is available from DX Engineering**.

Copper J-poles require some basic soldering skills with a propane torch. There are dozens of YouTube videos explaining the build process, as well as articles and plans describing the parts, measurements, and tuning procedures to get the lowest SWR readings. Use your favorite browser to locate plans for the J-pole variation you'd like to build for your station.

Another option would be to use PVC pipe as a housing for the twin-lead J-pole antenna discussed in the next section. ABS and Schedule 20 PVC pipe are recommended choices and can be found at most big box and hardware stores. Typically, 1/2 and 3/4 inch pipe is used depending on the width of the twin-lead/ladder line. Whether twin-lead or tubing, you should add a few snap-on ferrites on the coax near the antenna feed to mitigate common-mode currents.

**Antenna Roll-Ups**

If you're not into plumbing or metal work, there's an inexpensive option that's relatively easy to build and versatile. A twin-lead J-pole antenna is a good addition to your emergency go-kit. When rolled up, it is a highly compact antenna you can stash in your pocket. It's effective and provides about 3 dBi of gain with a low takeoff angle. When used on your HT, it will dramatically outperform your rubber duck. Hang it on a tree or tape it to a wall or window. It makes a great portable antenna for hotel rooms, vacation homes, or emergency ops. You'll squeeze every ounce of performance possible out of a 2-meter HT. Being a half-wave antenna, it is not dependent on a ground or radials for proper performance. If you don't mind the extra length, it makes sense to ditch the rubber duck. Not a maker? Ready-made J-poles can be found at DX Engineering and online.

**How Does It Stack Up?**

Like most antennas, you'll find those who will swear by them—or swear at them. As an alternative to other commercially available 2M/70cm antennas of various designs, they are a cheap and relatively easy-to-build DIY project. Off-the-shelf J-poles have the benefit of the developer who figured out the needed fixes and quirks to be addressed. L. B. Cebik, W4RNL (SK), noted that "A J-pole is an imperfect antenna that happens to do an excellent job as a practical antenna. It has served well for many decades as an omnidirectional vertical antenna that most users can build from materials available in the home shop or garage, or materials available at the local hardware depot."

The J-pole is a forgiving antenna and somewhat practical on the 10- and 6-meter bands. However, measurements and tuning become more critical on 2 meters and up, so using an antenna analyzer is highly recommended for making adjustments.

**The Good**

- J-poles have more gain than a quarter-wave ground-plane antenna.
- J-poles have a lower angle of radiation than the dipole—good for 2M/70cm.
- Copper J-poles are known for their durability.
- J-poles don't require counterpoise/radials.

**The Not-So-Good**

- Nearby large metal objects can detune a J-pole. You should keep them at least six feet away.
- They're known for producing common-mode current.
- J-poles can be challenging to tune, especially on UHF bands.

*(Originally appeared in On All Bands, January 2025)*

# Amateur License Refresher

It's probably been a while since you took your Amateur License exam. Here are a few sample questions from the current question pools just to keep those synapses firing.

Extra Pool

E2E01
Which of the following types of modulation is used for data emissions below 30 MHz?
A. DTMF tones modulating an FM signal
B. FSK
C. Pulse modulation
D. Spread spectrum

E2E02
Which of the following synchronizes WSJT-X digital mode transmit/receive timing?
A. Alignment of frequency shifts
B. Synchronization of computer clocks
C. Sync-field transmission
D. Sync-pulse timing

General Pool

G6B01
What determines the performance of a ferrite core at different frequencies?
A. Its conductivity
B. Its thickness
C. The composition, or "mix," of materials used
D. The ratio of outer diameter to inner diameter

G6B02
What is meant by the term MMIC?
A. Multi-Mode Integrated Circuit
B. Monolithic Microwave Integrated Circuit
C. Metal Monolayer Integrated Circuit
D. Mode Modulated Integrated Circuit

E2E01 (B)
E2E02 (B)
G6B01 (C)
G6B02 (B)

# Upcoming Contests and QSO Parties

## Dave Fairbanks N8NB

**Source is www.contestcalendar.com**

| | |
|---|---|
| + RAC Canada Day Contest | 0000Z-2359Z, Jul 1 |
| + Worldwide Sideband Activity Contest | 0100Z-0159Z, Jul 1 |
| + ICWC Medium Speed Test | 0300Z-0400Z, Jul 1 |
| + QCX Challenge | 0300Z-0400Z, Jul 1 |
| + Phone Weekly Test | 0230Z-0300Z, Jul 2 |
| + CWops Test (CWT) | 1300Z-1400Z, Jul 2 |
| + Walk for the Bacon QRP Contest | 0000Z-0100Z, Jul 3 and 0200Z-0300Z, Jul 4 |
| + Weekly RTTY Test | 0145Z-0215Z, Jul 4 |
| + NCCC Sprint | 0230Z-0300Z, Jul 4 |
| + K1USN Slow Speed Test | 2000Z-2100Z, Jul 4 |
| + FOC Old School Classic 1960s QSO Party | 0000Z-2359Z, Jul 5 |
| + TA VHF/UHF Contest | 1200Z, Jul 5 to 1200Z, Jul 6 |
| + CQ Worldwide VHF SSB/CW Contest | 1200Z, Jul 5 to 1200Z, Jul 6 |
| + Marconi Memorial HF Contest | 1400Z, Jul 5 to 1400Z, Jul 6 |
| + RSGB 80m Club Championship, CW | 1900Z-2030Z, Jul 7 |
| + Worldwide Sideband Activity Contest | 0100Z-0159Z, Jul 8 |
| + VHF-UHF FT8 Activity Contest | 1700Z-2100Z, Jul 9 |
| + Mini-Test 80 | 1800Z-1859Z, Jul 9 |
| + CWops Test (CWT) | 1900Z-2000Z, Jul 9 |
| + CWops Test (CWT) | 0300Z-0400Z, Jul 10 |
| + CWops Test (CWT) | 0700Z-0800Z, Jul 10 |
| + NCCC FT4 Sprint | 0100Z-0130Z, Jul 11 |
| + IARU HF World Championship | 1200Z, Jul 12 to 1200Z, Jul 13 |
| + 4 States QRP Group Second Sunday Sprint | 0000Z-0200Z, Jul 14 |
| + ICWC Medium Speed Test | 1300Z-1400Z, Jul 14 |
| + Worldwide Sideband Activity Contest | 0100Z-0159Z, Jul 15 |
| + CWops Test (CWT) | 1300Z-1400Z, Jul 16 |
| + VHF-UHF FT8 Activity Contest | 1700Z-2100Z, Jul 16 |
| + Walk for the Bacon QRP Contest | 0000Z-0100Z, Jul 17 and 0200Z-0300Z, Jul 18 |
| + CQ Worldwide VHF Digital Contest | 1200Z, Jul 19 to 1200Z, Jul 20 |
| + Feld Hell Sprint | 1200Z-1359Z, Jul 19 |
| + IARU Region 1 70 MHz Contest | 1400Z, Jul 19 to 1400Z, Jul 20 |
| + North American QSO Party, RTTY | 1800Z, Jul 19 to 0559Z, Jul 20 |
| + RSGB International Low Power Contest | 0900Z-1200Z and 1300Z-1600Z, Jul 20 |
| + Worldwide Sideband Activity Contest | 0100Z-0159Z, Jul 22 |
| + MARAC US Counties QSO Party | 0000Z, Jul 26 to 2400Z, Jul 27 |
| + ARAM 50 MHz Contest | 1200Z, Jul 26 to 1200Z, Jul 27 |
| + Alabama QSO Party | 1500Z, Jul 26 to 0300Z, Jul 27 |
| + RSGB FT4 Contest | 1900Z-2100Z, Jul 28 |

## DX Information

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**Source is www.ng3k.com**

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|---|---|---|---|---|---|
| 2025 Jul03 | 2025 Jul10 | Honduras | HR9 | LoTW | DXW.Net 20241222 |
| 2025 Jul05 | 2025 Jul11 | Mozambique | C94RRC | Club Log OQRS | DXW.Net 20250522 |
| 2025 Jul05 | 2025 Jul15 | Grenada | J38DX | LoTW | OPDX 20250213 |
| 2025 Jul08 | 2025 Aug06 | Benin | TY5FR | LoTW | OPDX 20250610 |
| 2025 Jul10 | 2025 Jul15 | Cyprus | 5B | LoTW | DXW.Net 20250603 |
| 2025 Jul11 | 2025 Jul25 | Iceland | TF | VE2XB | TDDX 20250203 |
| 2025 Jul13 | 2025 Jul19 | Mozambique | C93RRC | Club Log OQRS | DXW.Net 20250522 |
| 2025 Jul14 | 2025 Jul23 | Svalbard | JW0V | I8KHC | DXW.Net 20250408 |
| 2025 Jul16 | 2025 Jul19 | Dodecanese | SV5 NEW | LoTW | DXW.Net 20250621 |
| 2025 Jul17 | 2025 Jul24 | Aland Is | OH0 NEW | LoTW | OPDX 20250619 |
| 2025 Jul17 | 2025 Jul25 | Maldives | 8Q7YY NEW | OH7O | DXW.Net 20250621 |
| 2025 Jul24 | 2025 Aug02 | Svalbard | JW | LoTW | DXW.Net 20250614 |
| 2025 Jul28 | 2025 Aug01 | Rodrigues I | 3B9SP | Club Log OQRS | DXW.Net 20250529 |

# Swap & Shop

**4BTV Hustler Vertical with Tilt-Mount**. 4-band HF vertical for the 10, 15, 20, and 40-meter bands. They can also be upgraded to operate on 75 or 80 meters (optional.) These antennas perform well in restricted space areas, only 21.5 ft height. Radial wires should be used for best performance.

Precision-cut tilt mount is made from 3/16 in. 304 stainless steel, and includes stainless saddle clamps, wing nut knobs. Installation requires 1.5-2 inch diameter heavy-duty ground mounting pipe (not included.) Handy for working on antenna or hiding from HOA in the daytime.

Includes 4BTV kit, tilt plate with optional accessories, antenna connection pigtail w/so-239 connection, original Hustler and DXE high-performance installation guide. Current retail price for all these items is more than $450 total. Sold only as a set. Yours for $160, cash. Local pickup ONLY. Mark, K8MSH **Email: mh@zoominternet.net**

Follow/Like us at: https://www.facebook.com/mahvalradio

Website: The MVARA is on the web at www.mvara.org. It is the place to go for club events, classes, newsletters, VE exams, swap and shop, repeaters, history, documents, and contact information.

24/7 Club Connection: The MVARA is on groups.io at https://groups.io/g/mvara. Members are invited to hang out with us there and discuss any ham related topic that interest them such as, Club Activities, Parks on the Air, Solar Cycle 25, EmComm, Special Event Stations, Contesting, Public Service, and Swap and Shop. There is video on our website at **https://mvara.org/videos.html** that shows how to use and join the 24/7 Club Connection.

The ***VOICE COIL*** is the monthly publication of the Mahoning Valley Amateur Radio Association, Inc. (MVARA) and is intended to present news, issues and opinions of interest to MVARA members and the Amateur Radio Community. We encourage contributions of articles, letters to the editor, etc. and welcome newsletter exchanges with other clubs from around the country and around the world. Permission is granted to reprint material contained herein as long as proper credit is given to this newsletter and the author. Ideas for and contributions to the VOICE COIL should be submitted to: **mvara.w8qly@gmail.com**

Submissions must be received **no later than the 24th** of the month prior to the month of issue, unless otherwise specified. **Submissions should be in MS Word format or ASCII text—no PDF, please!** Material received after the deadline will be used in the next month's VOICE COIL if it is still current and /or newsworthy.

***Swap and Shop Policies***
Swap and Shop listings are open to all licensed Mahoning Valley Hams--you don't need to be an MVARA member. You can include a picture for your listing. Please submit your list to mvara.w8qly@gmail.com for placement in both *Voice Coil* and website. MVARA assumes no

responsibility for transactions made or inaccuracies in ads. You are responsible for checking your ad and notifying us of any corrections. Ads will run for two consecutive issues unless we are notified otherwise.

The Mahoning Valley Amateur Radio Association, Inc, meets the second Thursday of every month. Location and time are subject to change. Dues are $20.00 per year, $10.00 each for additional family members. Contact Nancy, nanceanne34@gmail.com for details.

The club call is **W8QLY**; equipment operated under this call includes a two-meter voice repeater at 146.745 (-600, 110.9 PL).

Club email: mvara.w8qly@gmail.com

MONDAY NIGHT NET operates every Monday at 9:00. PM on 146.745 MHz.
SKYWARN NET - On 146.745 MHz as weather warrants.
ARES NET- First and third Mondays of each month at 8:30 PM on 146.745 MHz; prior to the Monday Night Net.

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