

W8AMZ *AMATEUR RADIO PRODUCTS*

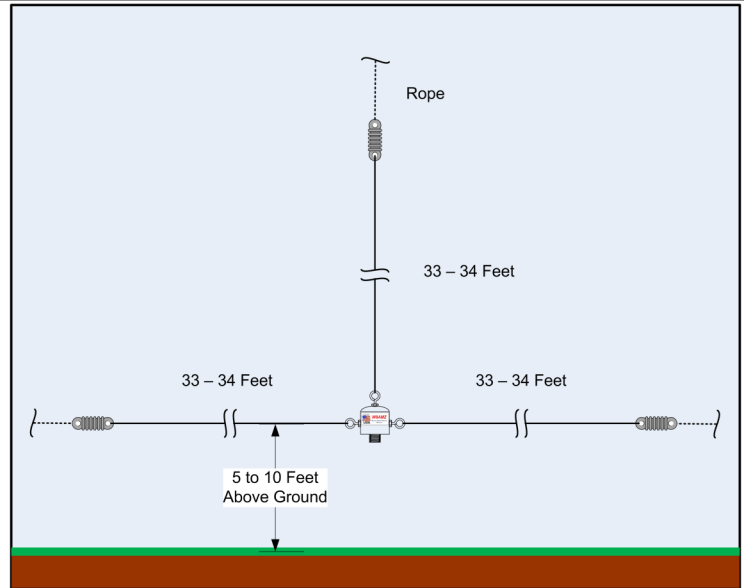
231-855-0281

WWW.W8AMZ.COM

TOM@W8AMZ.COM

40 METER 1/4 WAVE VERTICAL WIRE-MONOPOLE

- **2KW FULL LEGAL LIMIT**
- **14 AWG STRANDED COPPER WIRE**
- **ALL BLACK WIRE FOR EASY CONCEALMENT**
- **HIGH QUALITY SO-239 CONNECTOR FOR DIRECT COAX CONNECTION**
- **EPOXY FILLED WATERPROOF DESIGN FOR MAXIMUM DURABILITY**
- **OMNI-DIRECTIONAL WITH ONLY 2 BALANCED COUNTERPOISE RADIALS**
- **SMALL, LIGHTWEIGHT DESIGN IDEAL FOR BACKPACKERS, EMCOM, FIELD DAY, QRP, ETC.**
- **EXCELLENT DX ANTENNA DUE TO LOW 22° TAKE-OFF ANGLE**
- **PRE-CUT FOR CENTER OF 40M BAND WITH APPROX 1:1.3 SWR OVER ENTIRE BAND**
- **ALSO AVAILABLE UNFINISHED TO ALLOW FOR INDIVIDUAL TUNING NEEDS**



OVERVIEW

The W8AMZ 40m Vertical Wire Monopole antenna uses just three elements, a vertical driven element and two counterpoise radials, to deliver outstanding DX results due to the antenna's omni-directional radiation pattern and extremely low 22 degree take-off angle. A standard half-wave dipole for 40 meters would need to be 90 feet above ground to achieve the same radiation angle. Another outstanding benefit of this antenna is its very low profile/low visibility design. Its compact size makes this antenna ideal for field operations like camping, backpacking, Field Day, portable QRP, or even just rolled up in your EMCOM go bag. Don't forget however, this antenna's rugged, durable design makes it an excellent choice for permanent installation also.

The W8AMZ 40m Vertical Wire Monopole antenna is capable of the full legal 2Kw limit and is built with the same 100% waterproof design as our popular "Classic G5RV" antenna. The lightweight center interface and strain relief for each element are also designed for maximum durability and reliability for many years of dependable service.

The installation requirements for this antenna are fairly straightforward. The vertical driven element needs to be suspended from about 45 feet. Keep in mind you need 34 feet for the vertical element, and the center interface needs to be at least five to ten feet off the ground. Both radial elements should be suspended so that each are as straight and level as possible, also at least five to ten feet off the ground to minimize ground losses.

In order to achieve the low radiation angle and omni-directional radiation pattern using only two bottom elements, the radials have to be inline, 180° apart.

All W8AMZ Amateur Radio Antennas are proudly made in the USA.

Where possible all components used in our antennas are also manufactured in the US

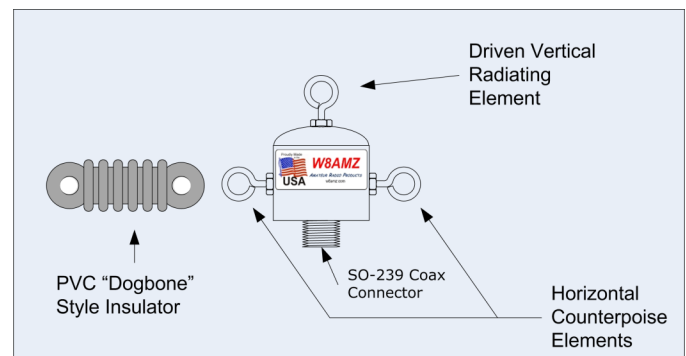
40 METER 1/4 WAVE VERTICAL WIRE-MONOPOLE

INSTALLATION

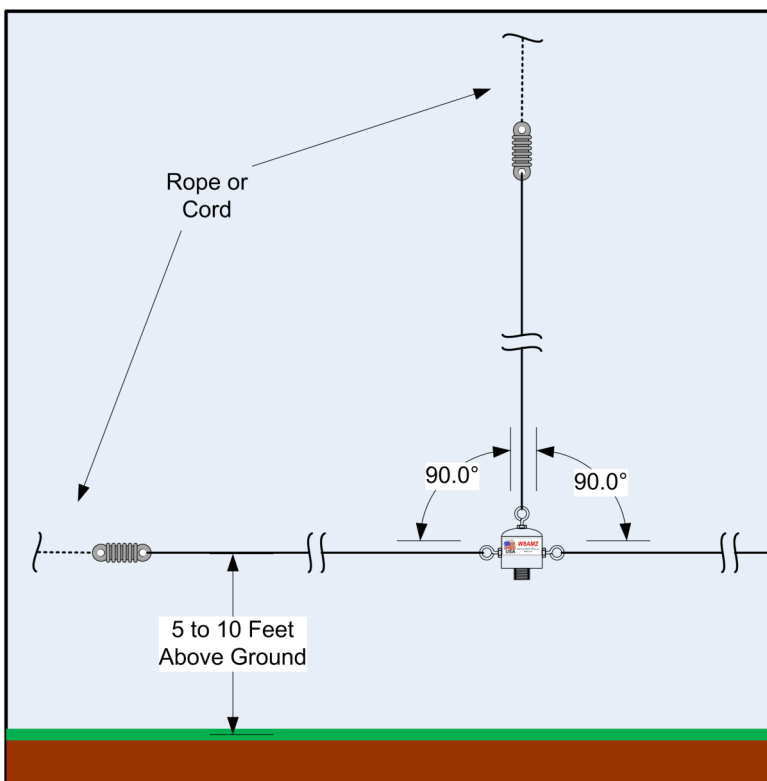
There are two versions of this antenna available. If you have purchased the pre-cut version, the installation instructions are very simple because there is no further assembly of the actual antenna required. The pre-cut version is completely assembled and ready to go. The following installation steps are universal to both models. For assembly and tuning of the uncut kit version please refer to the assembly and tuning section that follows.

For best results this antenna should be hung from something at least 45 feet off the ground. Since this antenna is light weight, a light cord is more than sufficient to hold the vertical and radials up.

Attach rope or cord to the dogbone at the end of the wire coming out of the top of the center interface. This is the vertical radiating element and will need to be suspended from something approximately 45 high so that the bottom center interface is at least five to ten feet off the ground. Suspend the vertical element as far away from the supporting structure as practical, like the limb of a tree away from the trunk, or a horizontal bar installed across your antenna tower. The supporting structure may affect the tuning of the antenna.



If using the pre-cut version an antenna tuner may be necessary to make up the difference. If using the uncut kit version go ahead and hang the antenna in the space allowed since you will have to tune the antenna once its installed for best results anyway.



Once the vertical is suspended and the center interface is at least 5 to ten feet off the ground it's time to support the horizontal elements. Attach rope or cord to the dogbone at the end of each of the radials and tie the other end to something so that each element is level, the driven element is perpendicular, and the radials are perpendicular to the driven element.

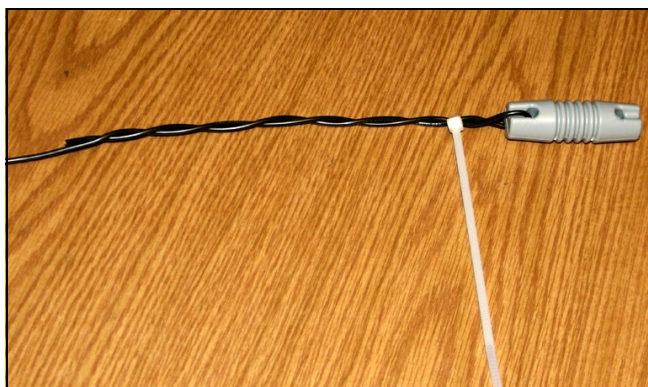
It is important that each of the two counterpoise elements are stretched in a line. The antenna will be omni directional when the elements are suspended as shown in the diagram, inline, stretched out at 180° of each other.

ASSEMBLY & TUNING

Center of CW (Extra)	Center of CW (General)	Center of 40M BAND	Center of Voice (Extra)	Center of Voice (General)
7.062 Mhz	7.075 Mhz	7.150 Mhz	7.212 Mhz	7.238 Mhz
33.14'	33.08'	32.73'	32.45'	32.34'
33' 1-1/2"	33' 1"	32' 9"	32' 5-1/2"	32' 4"

Unfinished Antenna Kit

The unfinished antenna comes with 34 feet of wire for each element. Using the cut chart provided above,

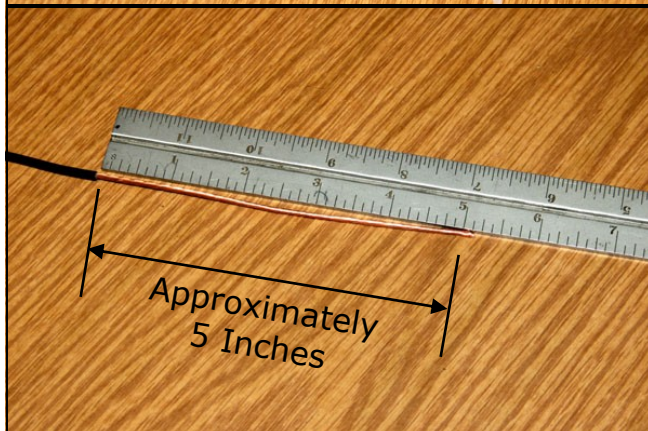


STEP 1

For best results, it's advised to simply run the wire through the dogbone and twist it back on itself so you can secure the end with the provided reusable white zip-ties and adjust the length BEFORE you actually cut the wire elements.

NOTE

The wire must be tightly wound around the element in order for it to null out the excess length and make it appear as if it's cut off.

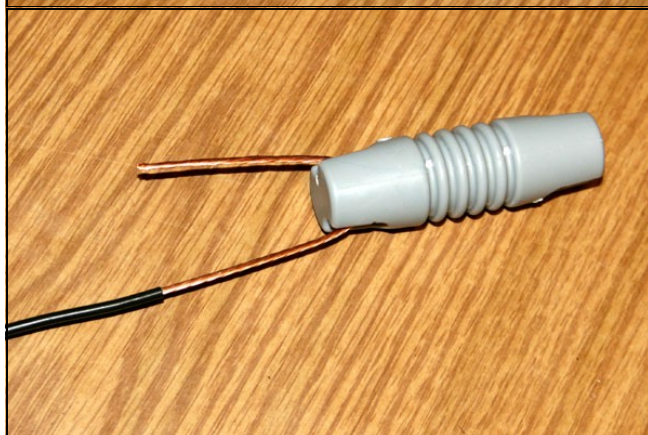


STEP 2

Once you have the antenna resonant at the desired frequency you can cut the wire to length, leaving at least 3 or 4 inches extra to account for wrapping it through the dogbone.

STEP 2-B

Strip approximately 5 inches of wire.

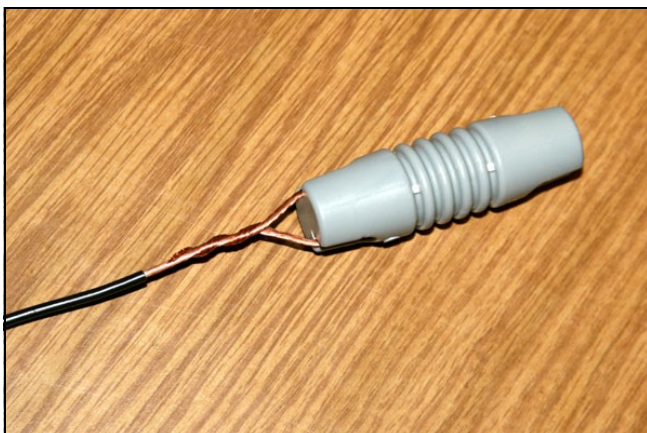


STEP 3

Loop approximately half of the stripped end of the wire through the dogbone and bend it back

ASSEMBLY & TUNING

Unfinished Antenna Kit (continued)



STEP 4

Twist the stripped wire back on itself tightly. Leave the loop going through the dogbone slightly loose to allow for movement and prevent the wire from binding up.



STEP 5

Solder the twisted portion of the wire securely. Don't be overly concerned with soldering the loop going through the dogbone as too much heat can warp or damage the dogbone itself.



STEP 3

Verify that the loop of wire through the dogbone is loose enough to allow it to move freely in the dogbone to prevent binding or bending of the element.

ASSEMBLY & TUNING

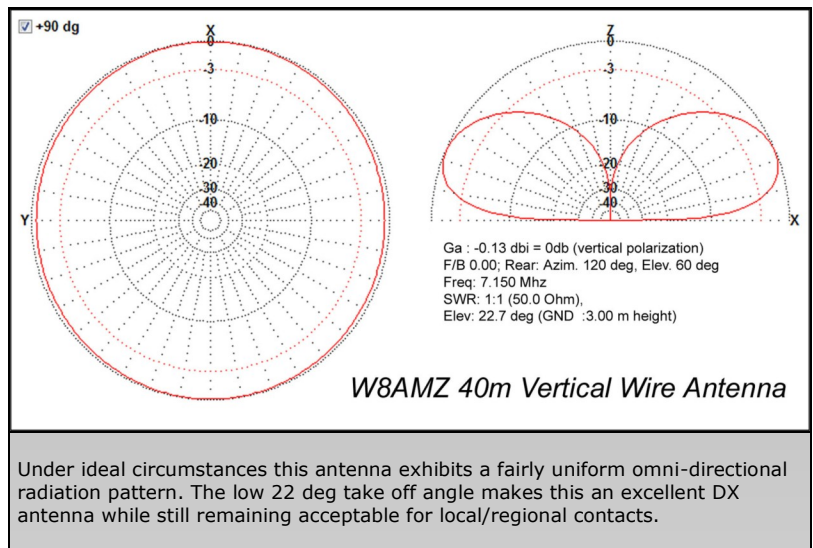
Pre-cut Fully Assembled Antenna

The pre-cut completed antenna is cut for resonance at the middle of the 40 meter band at 7.150Mhz. Unfortunately, due to differences in ground conditions, as well as relationship to other structures, everyone's installation circumstances are different, this antenna may perform better than advertised, or may require an antenna tuner to remain resonant in the proper area of the band.

As with all HF antennas, its proximity to foreign objects will affect the overall tuning of the antenna. Since this is the pre-cut and finished version there are no other adjustments that can be made from the antenna itself. The best way to 'tune' the antenna is to adjust its location and relation to other objects. As you can guess, hanging the antenna very close to a tower is going to affect it more than hanging it from the middle or near-end of a tree branch away from the trunk. Also varying the distance between the ground and the base of the antenna will affect its resonance.

Start with the most ideal installation as you can and make small adjustments to one parameter at a time to obtain the best results. If adjusting the height of the antenna or orientation of the radials doesn't 'tune' the antenna for the desired frequencies of the band, then an antenna tuner will be required.

When hanging your antenna from a tower try suspending the antenna from a conduit, pipe, angle iron, or other sturdy support a little higher than the dogbone insulator. Keep the antenna as far away from the tower as practical. Remember, every antenna installation is a compromise of a number of variables.



CAUTION

ERECT ALL ANTENNA PARTS OUT OF REACH OF PEOPLE AND ANIMALS
POWER LINES ARE DEADLY! STAY AWAY FROM POWER LINES!
STAY AWAY FROM ANTENNA WHEN TRANSMITTING
MARK ALL ANTENNES AND FEEDLINES AS DANGEROUS

CAUTION – High Voltage will be present
on antenna when transmitting
so locate accordingly.

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