

N.V.I.S. Portable Dipole Support Mount

by Stephen Reynolds [W4CNG](#)

There are several types and variations on types of N.V.I.S. antennas out in the world. This article details how to build the center support of a dual band N.V.I.S. Easy Up and Down antenna. The total cost of the PVC is \$22.50 including the Primer and Glue. A parts list is included at the end of the article. What does it do and how does it go together. Since this is the center and support section of a pair of N.V.I.S. dipoles, it will support the center of the feed point of the dipoles up to 15 feet. The whole package consists of 1 ¼ inch Schedule 40 PVC. The longest section is 36 inches. There is a base support section that has a post connection feed point for the vertical post and up to 6 cross arms that provide ground support so the center does not tip over while being deployed. This mount assembly can be set-up by 1 person, but 2 makes it easier and the total time to set-up is less than 5-7 minutes if you are organized, and your antenna wires are not tangled. All connections of mast/ground sections are friction fit. The end caps, splices and ground center section are glued.

First some pictures of the completed unit disassembled. The picture below shows the complete unit disassembled and ready to be deployed. This is only the center support and includes a 1:1 Balun but no dipole wires. These are your determination based on what bands you are going to be operating on. This support is designed to support 2 bands.

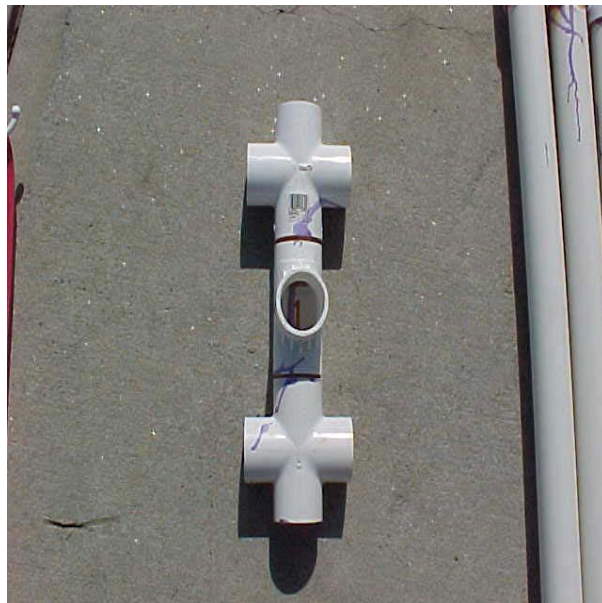


The top section is on the left. It is an Alpha-Delta dipole center support and is bolted to the top section using a ¼ inch x 2.5-inch bolt. It terminates in a SO-239 connector and has side connections that will take up to 4 different wire connections.

This picture is a close-up of the top section. You add your dipole wires and connect to the posts, with up to 3 connections on each post.



This picture below shows the base assembly of the mount. It is built from two 4-way junctions and 1 T connection. They are joined using 2 sections of the mast that have been cut off to 2 inches each. You can see that there are 6 horizontal holes that 3 ft. sections of pipe may be used to provide lateral support to the base section. The vertical opening must be 90 degrees from both horizontal members.



This picture shows the base section with 4 lateral supports with the vertical post open for the mast up to the dipole sections. The 5 vertical sections are ready to be installed.

This picture below shows the assembled center support with two 3ft sections installed. Up to 5 sections may be used for a total of 15ft center support.



The bill of materials to build this is as follows: The total cost for the support at Home Depot is \$22.50. If you need a center insulator, the Alpha Delta is \$20 and some others are less. Yes you can use a 1:1 Balun. Those are between \$15-25 depending on manufacturer.

- 3 10 ft sections of 1 ¼ inch Schedule 40 PVC water pipe.
- 2 4 way splitters
- 1 T connection
- 5 End Caps
- 4 Pipe splicing joints
- 1 Can of Primer
- 1 Can of Pipe Glue (clear or orange)

I am looking for a bag to keep the pieces in, and hope to secure one soon. The total length of any single item was kept at 36 inches so the whole package would be easy to store and transport. A couple of notes on the dipoles to use.

40 meters start with lengths of 34 feet and trim to operating frequency.

75 meters start with lengths of 67 feet and trim to operating frequency.

You can get good 16 or 14GA wire to build the dipole elements with at Home Depot. You will also need at least 4 egg insulators and a quantity of nylon rope for the end of the dipole wires. You will need to install the dipoles 90 degrees to one another. If you chose to install one dipole, you will need two additional support lines (nylon guys) 90 degrees opposite from whichever side you run the dipole from. The center mast must be supported from 4 sides. Tent ground stakes will do fine for securing the ends of the support lines past the end egg insulators. You can also tie them to trees or other support structures. Remember this antenna does not need to be high in the air to work. The center can be 3 feet and the ends 1 foot above the ground and it will work.

Safety Note: When installing in areas where people may walk, tie flagging material to the antenna and support cables to make them more visible. I have always bought Red wire when building dipoles whether indoors or out of doors.