

# 2 Meter Yagi a la Matt Heere N3NWW

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## Materials

- 4 feet 3/4 inch pvc pipe for the boom
- 12 Gauge copper wire for the elements
- 1 – SO-239 female connector
- 1 – Ground sleeve ring
- 1 – Barrel Sleeve adapter to connect the feeder coax.
- Zip ties

## Procedure

- Step 1. Straighten 4 foot lengths of copper wire. His method is to put one end of the wire in a vise and grasp the other end with vice grips, then wack the vice grips with a hammer and the copper wire gets straightened.
- Step 2. Make the front wire (the director) 35 inches long.
- Step 3. Make the back wire (the reflector) 40 inches long.
- Step 4. Mark the boom for the elements. (1) Mark 1 inch from one end of the boom for the director. (2) Mark 36 1/2 inches back from the director mark. (3) Mark 16 inches back from the 36 1/2 inch mark for a driven element.
- Step 5. Use zip ties to attach the elements at the marks. Attach each with two ties in the shape of an “X”. He did this because it was supposed to be a quickie emergency build.
- Step 6. Solder one of the driven elements to the center of the SO-239 connector.
- Step 7. Solder the other driven element to the ground sleeve ring.
- Step 8. Insert the ground sleeve ring in between the SO-239 connector and the barrel sleeve to mount it.
- Step 9. Attach coax to barrel sleeve connector.
- Step 10. Bend the two driven elements so that they are even with each other and at 90 degrees to each other.
- Step 11. Lead the attached coax to the back of the boom where the reflector is, then attach the barrel sleeve to the boom with zip ties.
- Step 12. Tie coax down the length of the boom to keep it out of the field of the antenna.
- Step 13. Make sure all elements are nice and straight.
- Step 14. Get the driven elements down to the top of the boom as possible.
- Step 15. Cut the driven elements to 38 inches long in a manner that both sides are equal. This is a little long.

## Video

[https://www.youtube.com/watch?v=\\_jlvtJqoC98](https://www.youtube.com/watch?v=_jlvtJqoC98)

## Article

<http://www.arrl.org/files/file/Technology/tis/info/pdf/9304054.pdf>

## Design for This Yagi

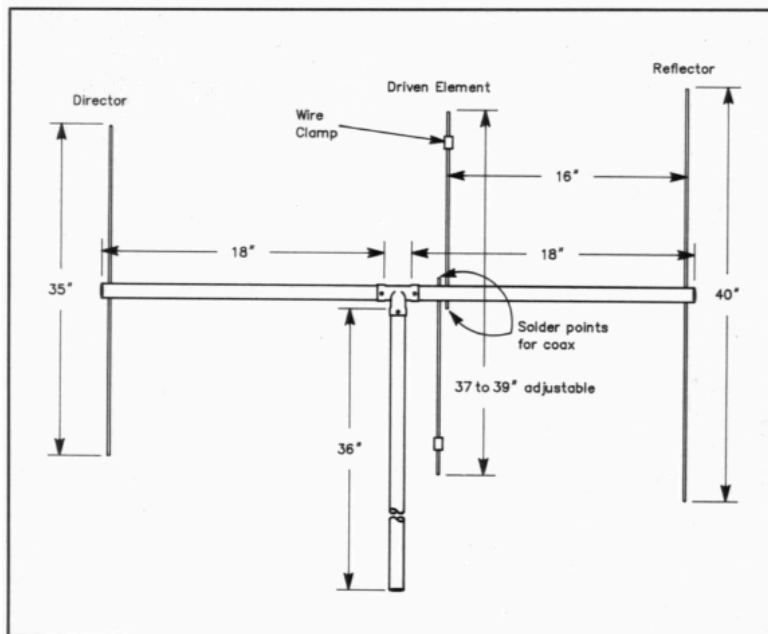


Fig 1—Construction diagram for the 2-meter beam antenna. A few sections of PVC pipe and a handful of welding rods are all you need.

## Yagi Design Center Frequency of 146.05 MHz

[http://k7mem.com/Ant\\_Yagi\\_VHF\\_Quick.html](http://k7mem.com/Ant_Yagi_VHF_Quick.html)

### Design Information

146.05 MHz, 4 Elements, 5.503 dBd Estimated Gain

69.2 Degrees Horizontal Beam Width

84.2 Degrees Vertical Beam Width

1.25" Diameter Metallic Boom, Bonded Elements.

Boom Correction of 0.3349 applied.

Electrical Boom Length of 36.0" (3' 0").

Allow for overhang when cutting boom to length.

Driven Element Diameter = 0.25" (0-1/4")

Parasitic Element Diameter = 0.25" (0-1/4")





Suggested Stacking Distance for 2 Yagis:

59.6" (4' 11-9/16") Horizontally

49.0" (4' 0-15/16") Vertically

Dimensional tolerance required = 0.242" (1/4")

### Antenna Dimensions

Cumulative Spacing	El. Name	Element	Element Length
Zero	REFL		39-15/16"
12-1/8"	D.E.		39-1/16"
17-3/8"	D1		36-1/2"
27-1/8"	D2		36-3/16"