A Rugged, Center Mounted 6m Halo



Background

- Originally Patented in 1930's
- Theory
 - Dipole Folded into a Circle, Square, or Triangle Etc.
 - Straight or Folded Dipole
- Patterns
 - Horizontal, Mostly Omni
 - 6 dB Dips

• Some Vertical Pol. Response

Halo Matching

- Single Loop Z about 12 Ohms
- Requires Gamma Match or Equivalent
- Folded Dipole Higher Z, Close to 50 Ohms with Tip Capac.

NecWindows Plots





Design

- NEC Modeling
- 15% Reduced Size
- Direct Feed with Inductive Load
- Tip Capacitance Tuning

Construction

- Tools
- Materials
- Horizontal Center Boom
- Radiator Half Loops

Tools



Tools (Really)



Materials

- 1/2 inch 3003 Aluminum Tubing
- 1x1 in Square Tube, 36 in
- Connector, Plastic, Hardware

Center Mount Boom



Half Loops



Assembly

- Attach Half-Loops to Boom (some more bending required)
- Attach Ground, Driver Wires, Resonating Coil
- Attach Loop Clips, Plastic Spacing Washers
- Verify Phasing if 2x Stack Pair

Tune-Up

- Check Halo VSWR Resonance
- Adjust Coil for SWR Depth
- Add Tip Washers to Move Up in Frequency
- Bandwidth more than 1.0 MHz

Performance

- Perfect Size for Mobile
- Used 2x Stack for 2017 Es Season with Excellent Results
- Adequate for Tropo, Depends on Height AGL
- Just Right for Es Monitoring; Greatly Reduces Rotator Use

2x Stack of Halos



Application Notes

Mounting

Metal or Non-conductive Mast

U-bolt – as required

2x Stacking



Standard Power Dividers

Nothing In Between !

Mounting with Other Bands

Not Recommended for Close 2m

on mobile masts

Truck Az Plot

