

## THE O A L FLAT HALO

The Flat Halo was created by the Olde Antenna Lab of Denver to be used as a mobile, horizontally polarized, omni-directional antenna for use in the lower portion (SSB/CW) of the two meter amateur band.

### Theory of Operation:

The radiating element is a circular, half wavelength at the lower end of the two meter amateur band. Since it is a flat inductor it has the property of less inductance than a round inductor of similar length. This allows less bandwidth and greater effect of the tuning surfaces at the radiator ends. The radiating element being only 1/8" thick is quite HI "Q" and therefore does not cover the entire two meter amateur band nor should it being a horizontally polarized omni antenna. It is directly fed the antenna employing no lossy capacitor allowing all of the power input to be applied directly to the radiating element. The somewhat restricted band width (3 MHz between the 2:1 VSWR points) radically reduces noise entering the receiver and contributes to considerably greater distance contacts with less interference, picket fencing and fading effects.

### Construction:

The Flat Halo consists of a 13.5" diameter ring of flat metal (1/8" thick aluminum) 1" wide, the radiating element. This radiating element is mounted on a 3.75" X 1.5" X 0.5" block of aluminum (mast head). A type "N"(f) connector is employed to attach a transmission line to the radiating element. A brass post is soldered to the solder pot of the connector and passes up through a 0.5" diameter Teflon sleeve which is connected to a Gamma arm of a Gamma Match, of sorts. The arm is pop riveted to the radiating element via a 1" aluminum spacer at the arm end. There is no series (or Gamma) capacitor which allows the arm and 1/8 wavelength of the radiating element to act as a, less than 1/4 wavelength stub or a metallic capacitor in and of itself. Mounted to the ends of the radiating element are two "L" brackets of one square inch surfaces each that are pop riveted to the radiating element. This provides a means of tuning the antenna to the frequency of interest in the lower portion of the two meter amateur band.

A 0.5" diameter aluminum post (12" long) is clamped to the mast head using a countersunk, Allen head, 1/4- 20 machine screw. This post is then secured to a killer, 5" magnet with a 1/4- 20 machine bolt. Two flat washers and one split ring lock washer secure the mast to the magnet.

Note: Use caution when removing the antenna from a car top or trunk. Grasp the mast down near the magnet and bend in a sideward motion to defeat the magnetic attraction. Grasping the mast at the top near the radiating element trying to break the magnetic attraction may bend the mast or turn the vehicle over on its side.