

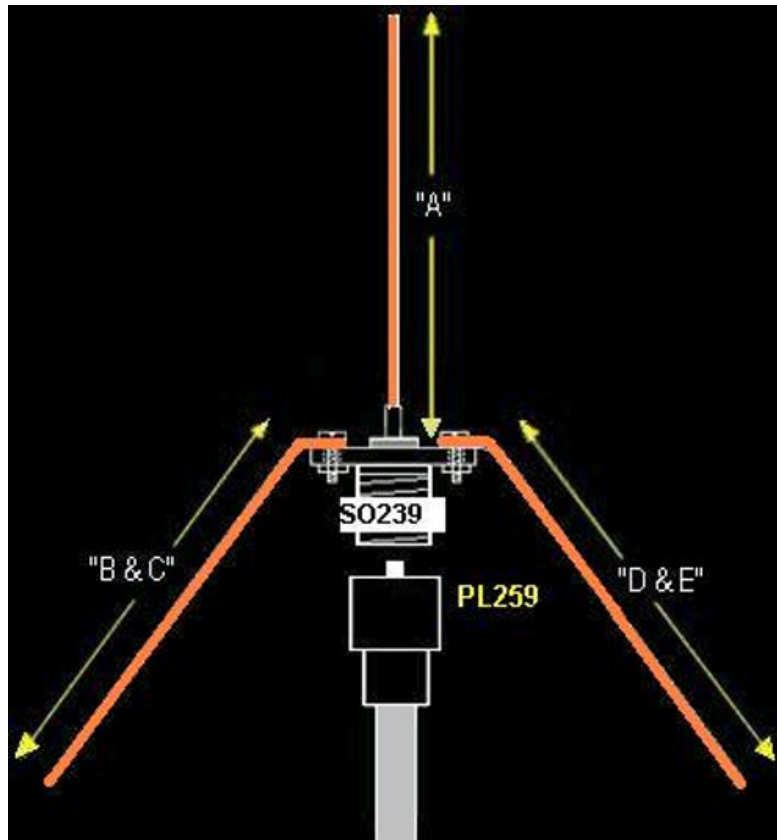
# Simple 2M Ground Plane Antenna

Simple 2 Meter Ground Plane Project!

If you are just getting experience in building antennas or you are an old pro, here is a simple and fun project! This antenna is perfect for those hams living in the primary coverage area of the repeater for 2 meter use. This antenna is nothing more than the old standby "Droopy Groundplane" and can be used on any band where its physical size does not pose a problem. Remember that the vertical radiator is  $1/4$  wavelength long at your operating frequency. It has no gain but makes an excellent small antenna that can be mounted just about anywhere and with a little planning, can be used mobile on a short mast from the bumper!! Adding a small attachment loop at the tip of the radiator will enable it to be suspended from above for inside use.

Build it! (See drawing below)

The vertical element and radials can be made of #12 copper wire or welding rods, coat hanger, etc. The vertical radiator (A) should be soldered to the center connector of the SO239. The four base radials (B & C) and (D & E) can be soldered or bolted to the SO239 mounting holes using 4-40 hardware. The four base radials then should be bent downward to a 45 degree angle. The antenna can be mounted by clamping the PL259 to a mast or even passing the coax through a 3/4 ID PVC pipe and compression clamping the PL259. Either way let your creativity work for you. If you plan on mounting it outside, apply RTV or sealant around the center pin and PL259, and tape well, to keep water out of the coax.



Make each radial a 1/4 wave of your desired transmitting frequency. Sometimes it helps to add a little extra length to the radials and radiator. This will give you some adjusting room when you adjust the SWR.

(If adjustment is needed, clip all radials equally about 1/8 inch at a time while checking SWR, USING LOW POWER). Center the lowest SWR on your transmit operating frequency.

**Example Calculation:**

**Freq (mhz) 146**

**A (inches) 19 5/16 (Note "A" length is to the SO-239 insulator but not critical)**

**B THRU E (INCHES) 20 3/16**

**LENGTHS FROM FORMULA ( 234/FREQ MHZ) + 5 % LONGER FOR RADIALS**

**TRY ONE ON 440 or other bands USING SAME FORMULA AND CONSTRUCTION TECHNIQUES!**

**ENJOY AND EXPERIMENT!**

**Thanks to :** <https://www.hamuniverse.com/2metergp.html>

