



SEE THE PAPER ON GROUNDING ON THE WEBSITE DOWNLOAD PAGE

## GROUND RADIALS

GOOD GROUNDING IS A LOW RESISTANCE CONNECTION TO THE EARTH. THE LOWER THE RESISTANCE, THE BETTER YOUR PERFORMANCE. LAYING OUT RADIALS AS SHOWN CAN HELP. GROUND RODS CAN BE VERY EFFECTIVE WHEN THE SOIL IS MOIST NEAR THE SURFACE. THE MORE METAL/DIRT CONTACT YOU HAVE, THE BETTER YOUR CONNECTION TO EARTH. WHEN THE DIRT IS MOIST, THE CONNECTION IS MUCH MORE EFFECTIVE. GROUND RODS CAN BE EFFECTIVE TO POKE DOWN INTO MOIST DIRT WHEN MOISTURE IS WITHIN REACH. SOME WILL WATER THEIR GROUND AREAS. LOOK FOR NATURALLY WET AREAS.

IF THERE IS NO MOISTURE NEAR THE SURFACE THEN THE MOST METAL/DIRT CONTACT POSSIBLE, ANYWHERE POSSIBLE THE WAY TO GO. RADIAL WIRES CAN BE BURIED JUST BELOW THE DIRT SURFACE.



FOR GOOD RANGE DONT INSTALL THE TRANSMITTER NEXT TO ANY MAN MADE OBSTRUCTIONS. IT IS BEST IF THE ANTENNA HAS A CLEAR "VIEW" OF SURROUNDING AREA.

ONE OF THE BEST WAYS TO GET MORE RANGE TO TO TAKE ADVANTAGE OF THE AM1000'S ABILITY TO BE MODULATED +130%. THERE ARE MANY AUDIO PROCESSORS ON THE MARKET THAT WILL DO THIS, THE CHEAPEST IS THE INNOVONICS 222. SEE INOVON.COM THE OPTIMOD IS ALSO AN EXCELLENT UNIT. ANOTHER TIP FOR GETTING GOOD RANGE IS TO OVER MODULATE A BIT.

Section 15.219 Operation in the band 510 – 1705 kHz.

- (a) The total input power to the final radio frequency stage (exclusive of filament or heater power) shall not exceed 100 milliwatts.
- (b) The total length of the transmission line, antenna and ground lead (if used) shall not exceed 3 meters.
- (c) All emissions below 510 kHz or above 1705 kHz shall be attenuated at least 20 dB below the level of the unmodulated carrier. Determination of compliance with the 20 dB attenuation specification may be based on measurements at the intentional radiator's antenna output terminal unless the intentional radiator uses a permanently attached antenna, in which case compliance shall be demonstrated by measuring the radiated emissions.

**Always cooperate with the FCC and follow FCC law.**

USUALLY THE AM1000C IS A BETTER CHOICE FOR THE SERIOUS. THE ACCURACY WILL HELP YOU, AND WILL PREVENT HETERODYNING TONES WITH DISTANT STATIONS ON THE SAME FREQUENCY.

ANOTHER TRICK IS TO KEEP IN MIND THAT ANY CONDUCTOR IN THE AIR THAT ISN'T GROUNDED WILL CARRY YOUR SIGNAL. HIGH TENSION POWER LINES CAN CARRY YOUR SIGNAL FAR IF YOU CAN INDUCE YOUR SIGNAL INTO THEM. EVEN YOUR BACKYARD CLOTHESLINE CAN ACT AS A RADIATOR IF IT IS METAL WIRE AND HAPPENS TO BE INSULATED AT THE ENDS. YOUR SIGNAL CAN BE PICKED UP AND RE-RADIATED. KEEP THIS IN MIND & LOOK FOR CONDUCTORS LIKE THIS WHEN LOOKING FOR A SITE FOR YOUR LOW POWER TRANSMITTER.

ANOTHER HINT IS WATER. YOUR SIGNAL WILL CARRY WELL OVER OPEN WATER.

ANOTHER THING YOU CAN DO IS TUNE THE UNIT USING FIELD STRENGTH INSTEAD OF THE USUAL METHOD THAT JUST MAXIMIZES THE TUNE VOLTAGE, THIS METHOD WILL GET A LITTLE MORE RANGE IF YOU CAN FIND SOME SORT OF FEILD STRENGTH INDICATOR. IT MAY BE POSSIBLE TO USE A GOOD QUALITY RADIO WITH A METER.



TO GET GOOD RANGE:

- 1- GOOD GROUND
- 2- LOW NOISE FLOOR ON BAND
- 3- USE AN AUDIO PROCESSOR.
- 3- GOOD TRANSMITTER PLACEMENT

*The 3-meter combined length specified in Section 15.219(b) refers to the length of all radiating elements. Attaching the ground lead to an unshielded radiating object, or the addition of a ground screen, will cause the effective length of radiating elements to exceed 3 meters, in violation of Section 15.219(b).*

NOISE FLOOR HAS A LOT TO DO WITH RANGE. YOU CAN TELL IF YOU HAVE A QUIET BAND BY DOING SOME LISTENING ON A GOOD QUALITY RADIO. YOU SHOULD HEAR A QUIET HISS, NO ELECTRICAL NOISES.