

## Ham 64 – Antenna, SPG, & Earth Diagram

Dr. Marc & Rosemary © 220912

1. Rule #1: Everyone has antenna issues and they are all different. Every installation is about optimizing for that location! There are no short-cuts. Optimization involves trying many different alternatives, and accepting the trade-offs. Simply moving the antenna element 2 feet has a dramatic effect.
2. This article shows the minimum installation diagram. If you do not have every one of these items installed, your installation is vulnerable and less than effective. Just saying.
3. Noise is the reason you cannot receive. The three sources of noise are atmospheric through antenna, power through supply, and electronic devices nearby like LED lamps and WiFi. Each noise source handles differently. Antenna ferrite will not fix electronics noise, but you still need both.
4. Several previous articles address not-line-of-sight, noise, and alternative installs. Each one of these has different info to address a specific problem. When you have challenges, you must go through the sometimes-tedious process to find the root reason. If you do not find the source of the noise, you cannot fix it. This is amateur radio, making communications work when nothing else does.
  - **Ham 40 – Grounding Intersystem NEC**
  - **Ham 44 – Not-Line-of-Sight**
  - **Ham 52 – Talking Through Dirt, How to**
  - **Ham 53 – Talking Through Noise & Squelch**
  - **Ham 55 – What Is That Noise?**
  - **Ham 63 – Making an Attic Antenna Perform**
5. Every component is specifically chosen to increase the signal (antenna), mitigate loss (coax), eliminate noise (ferrite), increase safety (protector), and provide a noise path out (ground).
6. Life is good. Enjoy!

