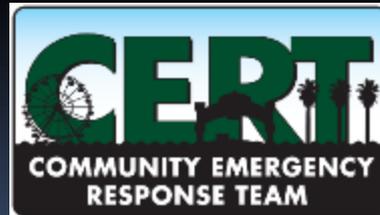


NEW HAM CLASS

OR EVERYTHING YOU WANTED TO KNOW BUT WERE AFRAID TO ASK



Antennas

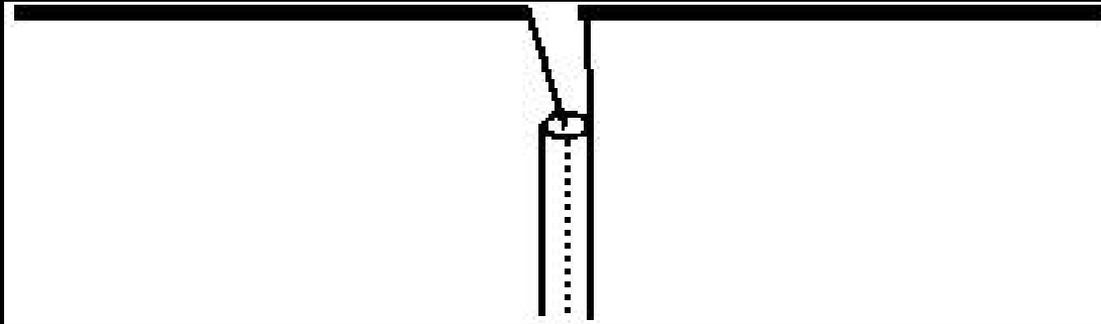
- Disclaimer – Don't take everything in this presentation as absolute fact; its how I understand it
- All antennas are some variation of a dipole
- Generally, the bigger, the better
- Antenna performance depends on lots of uncontrollable factors

Antenna Basics

- If it works, don't fix it
- If it works, check every now and then that it still works like it did
- If it works, make it work better
- But be sure that you can get back to where you started.

Antenna Basics

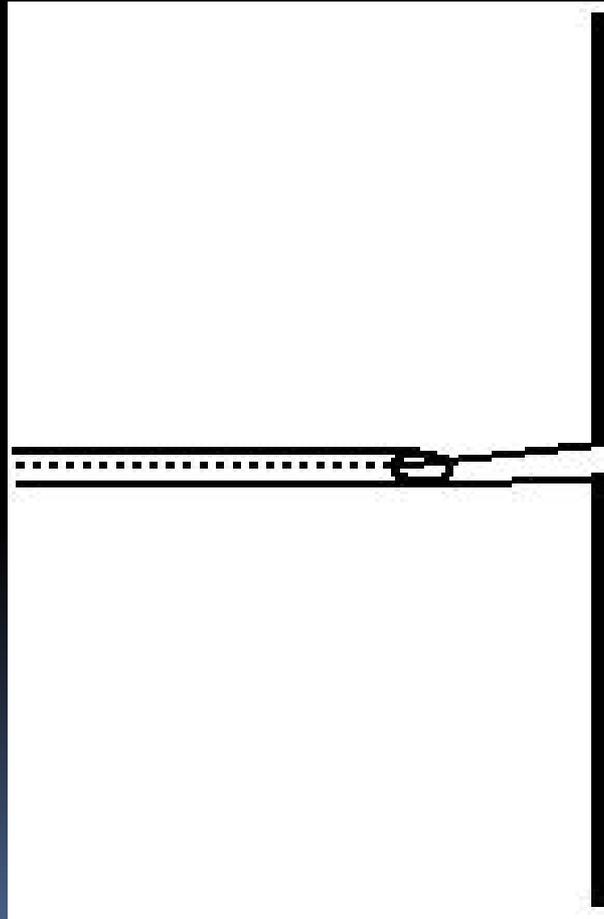
- Here is a simple horizontal dipole antenna



- $468 / \text{Freq.} = \frac{1}{2}$ wavelength
- $468 / 145.0 \text{ MHz} = 3.23 \text{ feet} = 0.9845 \text{ m}$
- $468 / 440.0 \text{ MHz} = 1.12 \text{ feet} = 0.3414 \text{ m}$

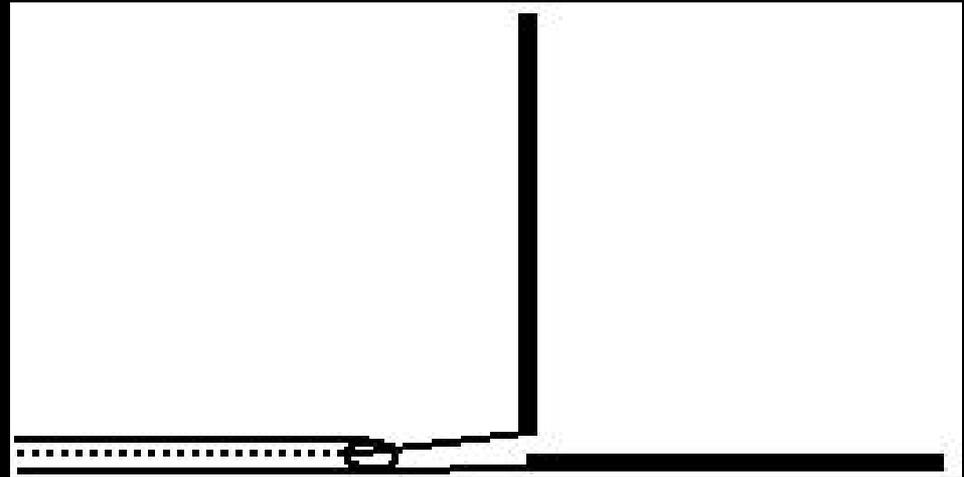
Antenna Basics

- Here it is again, rotated 90°



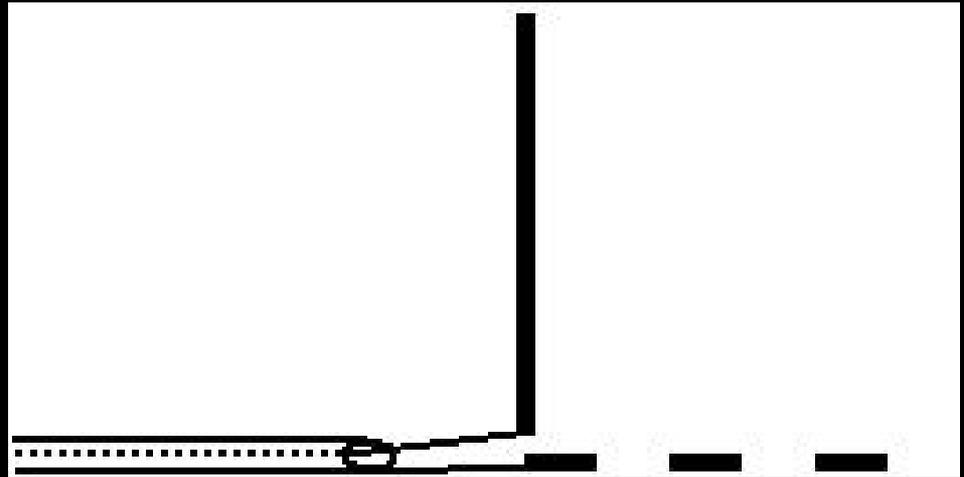
Antenna Basics

- And again,
but one leg is
parallel to the
ground



Antenna Basics

- Same as before, but now using the ground as one leg of the dipole



Antenna Basics

- The three “radials” at the bottom of the antenna provide the ground plane



HT Antennas

- Want to improve your HT?
- Add your own ground plane, or “counterpoise”



HT Antennas

- Rubber Duckies
 - Inexpensive
 - Inefficient
 - Indestructible
- Third-party antennas
 - Worth the extra cost
 - More efficient
 - Less sturdy, but not delicate



HT Antennas

- HT's have a male SMA connector, good for only a few dozen 'on-offs.'
- If you use several antennas, add a SMA to BNC adapter.



Wrap-up

- Questions
- Dennis – KJ6UVQ@arrl.net
- This presentation is available as a pdf at:
Laemcomm.org