

**Ham 103 – Philosophy**  
 Dr. Marc & Rosemary © 230427

1. *Philosophy* is the love of wisdom and the way we all approach life events.
  - a. *Persons* are our reason and community comes by association.
  - b. *Science* is our method to make rational, best decisions, and trade-offs.
  - c. *Serving* is our providing ham access to everyone, but not necessarily in the same way.
2. Our objective is to provide quality ham communications to anyone. We even help you get licensed.
  - a. We each live in different locations, conditions, and needs. One size does not fit all.
  - b. At least two methods from multiple choices are better than one. Pick and practice your preferences.
3. Elevation is the best way to get radio signal performance. However, that necessitates towers.
  - a. Because of climbing risk to a person, we opted against using tall towers.
  - b. Likewise, towers increase lightning exposure.
  - c. Similarly, the expense of construction is outside our goals.
  - d. The trade-off requires more power, better antennas and equipment, and installation discipline.
4. Equipment selection is science-based on best performance, utility, and cost.
  - a. The recommendations for equipment are re-evaluated periodically for new technology.
  - b. Costs are a secondary consideration. If it is not usable, that is false economics.
  - c. We recommend a mix of quality new and top-of-the-line classic systems, which meet current specs.
  - d. In most cases, older equipment is not technologically compatible with today's operations.
5. Emergency communications comes in many different forms, which are largely unpredictable.
  - a. The needs of home-bound are not the same as mobile requirements.
  - b. What is the hammer-down situation? History tells us it will be different than last time.
6. The methods we support follow. Any license can use these. Select two or more that work for you.
  - a. Traditional VHF repeater at Evergreen.
  - b. Digital nodes to link multiple radios. When you talk on one, you talk on all linked.
  - c. Digital node with mic and speaker. Each of us has one, so there is not radio interference.
  - d. Digital node with local wired-in handi and a portable handi for strolling up to a mile away.
  - e. Cellphone access to the repeater or any other node.
  - f. Cross-link VHF/UHF so a group of handi's can talk to a mobile which links to the repeater.
  - g. Simplex VHF or UHF direct communications between radios. Simplex does not tie together.
  - h. Very important: If you use any one method, you can speak to someone using the other technologies.
  - i. Your radio must be on for the system to work. The design is for 24/7. Mine turns down but not off.
7. Digital technology greatly broadens access and utility.
  - a. With *servicing* in mind, we have gone the AllStar node route.
  - b. It operates with any radio, any brand, analog or digital, and cellphones.
  - c. Our engineers evaluated the other options.
  - d. D-Star, Wires, and Fusion are brand specific and digital radio specific.
  - e. DMR is dedicated, restrictive, and is very difficult to use.
8. Our VHF repeater hardware is the best of the best, verified by two outside independent repeater gurus.
  - a. From their analysis, its receive sensitivity cannot be reasonably improved with available technology.
  - b. The recent transmit amplifier addition doubled the signal strength, giving a strong voice.
  - c. If you are having receive problems, we need to look at your radio receive or the other radio transmit.
9. A repeater system has three stations. Any of them can affect performance and quality.
  - a. Your radio has a transmit circuit, receive circuit, and antenna.
  - b. The repeater receives, then retransmits on a different frequency.
  - c. A complex system of duplexers, coax, and antennas does the work.
  - d. The other radio has a receive circuit, transmit circuit, and antenna.
  - e. That is a lot of components to reliably work together, but it does.
10. Exciting projects are in the wings to give really great options to more people.
  - a. Additional info will be available as the teams flesh out the directions.
  - b. We have very talented people who share their skills. They can use your skills, too.
  - c. Evergreen has been very generous in their support, but we are not a line item in the budget.
  - d. We have a few donors who have heavily funded projects. Get in on the rewards.
  - e. We have no committees. Come, do the part that interests you.

**UHF  
Antenna  
System**

↑  
>18"  
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