

Ham 78 – Yes, You a Maker Ham
Dr. Marc & Rosemary © 230131

1. What three things attracted you to ham? For most, one is emergency communications. One is to make things or learn new skills. One is you were intrigued by someone who was a ham or did something interesting with amateur radio. Does that about cover it?
2. Maker has been a tradition since the days of Marconi. Each era has used the technology of the time.
3. Enter a British gentleman, Eben Upton. By 2014 he had a working Raspberry Pi model 2, which changed the world of controls and computers. Built on the Linux operating system and Python language, it was an open-source system for education. But it was too good for just that. The small machine became the core of industry innovation. Hams were quick to see the potential and began making Ham things.
4. Traditional ham radio uses analog technology, just like AM and FM radio stations. These are subject to the same noise and interference. Manufacturers made efforts to use some digital communications, but it was proprietary with no standardization. Unfortunately, it is 'klunky' to use.
5. To get the digital technology in a more user-friendly package, we settled on the AllStarLink system using app_rpt wrapped around the Asterisk PBX phone system. That is a mouthful. As a Maker, you do not care.
6. We invested considerable time and resources to develop a Maker kit that is easy to build, flexible to use, and extremely powerful. The process is very much like the kits of the 1960s.
7. It is similar to building a computer. Do not be intimidated. By repurposing inexpensive devices available from the ubiquitous two-day delivery website, you can be a real Maker with little to no soldering. There is a smattering of Linux, but the instructions are well-defined.
8. Anyone, yes even you, can build this pocket-sized radio node with a little help from an Elmer. That is a ham tradition also.
9. What do you have when you finish? You have a digital radio which can access and control other digital or analog radios, anywhere! Let's talk about ones that ECG early-adopter folks are already using.
10. **Repeater:** The repeater is now controlled by an ASL node the team built. Every time you speak on the repeater, you are using the node. See, you did not even have to know. The unique feature is the cable running between the node box and the BridgeCom repeater.
11. **Simplex:** A simplex node connects a Baofeng radio to the node box. Another radio or handi-talkie can call the Baofeng simplex. This gives access around the house or around the neighborhood. The unique feature is the cable running from the node box to the Baofeng simplex.
12. **Local / RF-less:** A local node connects to a microphone with touch keys and a powered computer speaker. This is simply a digital radio which can talk on any connected repeater in the world. The unique feature is the cable running from the node box to the mic and speaker.
13. A cellphone or tablet with appropriate apps can access any of the nodes, gaining access to the entire ham network.
14. Ok. Now you are curious and want to know more, maybe even build one of these cute, powerful radios. It is this easy. Follow the detailed instructions at <https://www.evergreencg.org/>.
15. Design: Dr. Marc; Construction & Photos: Rosemary; Box: Brett.
16. Life is good. Enjoy!



Playful Pink Simplex



OSU Orange Local/RF-less