

# Tech Committee Report

## August 2014

### Repairs

08/28/2014: 549's receiver had another loss of sensitivity event. After 20-25 years in service on Lenfest, the "Trim Caps" in our old receivers change their settings in response to temperature variations. That de-tunes the receiver to the point where it can't hear even strong signals. If only a few Trim Caps did this, I could replace them. With 10 or so in each receiver changing at random, it's difficult to keep the receiver working. I re-aligned it again 08/30/14 (This is the fourth time in the last 12 months).

### Possible Grants

KB1DSW reports Knox EMA may have some Grant funding available. I submitted some items from the Tech Committee's "wish" list:

- 1- Replace 549's receiver (see above).
- 2- Backup/Replace 4.9GHz BHT-LMT Link. With design help from TESSCO, a Direct Microwave link from BHT to LMT may be possible, by-passing the existing Relay Station on Ragged Mountain. The existing link has had two "glitches" so far this year. Any serious hardware problems may be costly and slow to fix with antennas, radios, and cabling at 3 different sites maintained by two different groups.
- 3- EIA-222-F Inspection due for 706/RACES 190' tower and inspection of 150' tower.
- 4- Icom D-Star Voice/High-Speed Data Repeater system (If PBAY/RACES members want/have D-Star compatible radios). This is an "older" technology but that means there's been time to get the "bugs" out. Icom is eager to deploy D-Star and may offer incentives (price cuts, free engineering assistance, &c).
- 5- During the 2013 Vigilant Guard Exercise, WFD's Chief said loss of "Web-EOC" would be the most disruptive EMCOMM failure. Web-EOC is a proprietary Software messaging system that uses the Internet to share short text messages between Town EOCs. Reliance on DSL phone lines and other Internet connections means one or more EOCs could easily lose service during a storm.

We propose adding a small "Adapter Box" containing "off the shelf" Arduino hardware running a bit of custom software at each EOC. On sensing an Internet outage, it would automatically substitute a digital radio connection (NBEMS or Packet) to the other EOCs, reverting to the Internet when service returns. The Web-EOC software would continue to run normally: It won't notice the connection changes.

Based on several conversations with KB1TCE and EOC officials, I think the officials would prefer an Adapter Box to some "open source" software written by someone named "Dave" who lives "somewhere in the Midwest". Public Safety Officials would be Very Uncomfortable with that on their computers during an Emergency.