Communication & Electronics Session Minutes
2014 NSS Convention
July 14-18
Huntsville, AL
Brian Pease
Sec/Treas

The C&E Session started at 2PM in Room 145 of the Lee High School. The sign-in sheet was passed around.

The first talk was by Brian Pease on his experiments with Thru-the-Earth digital text messaging. He described the design of very small and simple interface that links a small ferrite rod antenna to the sound card of a small netbook computer to allow 2-way communications at. 4 digital FM text modes were tested at horizontal above-ground at ranges up to 150 mtrs on 3.5 and 15kHz using <1.5 Watts transmit power.

Sam Rowe and Gene Harrison next talked about the Ham radio special event station K4V which was set up at Sam's campsite. This was the first time this has been attempted at a convention.

Brian then described how he chose and set up a tablet computer with a DistoX for paperless cave surveying. The tablet chosen has a second touch interface that works only with an active pen to allow the sketcher to rest his hand on the screen while drawing.

After a break, the session was opened up to anyone for discussions and show-and-tell of cave related electronics.

Kevin Manley and Steve Reames described the design of the *Manley 20* LED headlamp. He talked about getting rid of LED heat, driver efficiency, optics, spot and flood light patterns, current drain, waterproofing, switch, and construction materials. He said it will run on a Sten Light battery.

Forrest Wilson showed a ferrite rod receive antenna and all-in-one underwater ferrite beacon. Brian built the antennas. Unlike most Radiolocation users, Forrest uses the peak signal while searching, switching to the sharp nulls only when very close.

Carroll Bassett showed a 50 Watt fan-cooled LED lamp that he put together with easily obtained parts.

Lidar-Lite is a (or will be) a small $72.00 laser rangefinder sensor sold by 3DRobotics.com.

Brian showed an article in the CREG Journal about the ZEB1 hand held laser imager that is capable of mapping a cave in 3 dimensions just by walking through it, without a base line survey.