

### HSMM-MESH application notes for the Palms West Amateur Radio Club Field Day 2011

#### *Darrell Null KK5IT*

For our field day location, we chose Okeeheelee Park in West Palm Beach, FL. We chose this location because it had ample space for us to setup a communications trailer owned by one of the club members, a camping trailer, and had a large public pavilion which we could use for food preparation, the public information table, the GOTA station, and the map showing all of the areas that we worked.

We started with 3 nodes, KK5IT-1, KK5IT-2, and KK5IT-3. I configured the IP addresses as follows:

KK5IT-1 LAN IP: 172.27.0.1/24, WiFi IP: 10.7.32.71/8

KK5IT-2 LAN IP: 172.27.1.1/24, WiFi IP: 10.57.204.17/8

KK5IT-3 LAN IP: 172.27.2.1/24, WiFi IP: 10.57.168.137/8

The node KK5IT-1 was located at the pavilion with 2 machines connected to the LAN ports via CAT5 cables. We replaced one of the stock antennas with a D-Link ANT24-0700 and configured

transmit and receive in the mesh firmware to use the external antenna. One of the machines was connected to a large screen LCD TV to display the N3FJP logging software. The other one was used for entering the log data. No ports had to be opened on KK5IT-1 for the logging to work since outbound communication is allowed by default.

The node KK5IT-2 was located in the camping trailer and was used to access the logging software. No ports had to be opened on KK5IT-2 for the logging again since outbound communication is allowed by default.

The node KK5IT-3 was located in the communications trailer along with the server that was sharing the database. This node was configured to make 172.27.2.200 the DMZ server. From the machines behind KK5IT-1 and KK5IT-2 we mapped network drives to the server using the WiFi address (10.57.168.137) of node KK5IT-3.

We used RP-TNC to N pigtails that we had made locally by a commercial radio shop that had the necessary test equipment. One of our members works for a local TV station and has experience with microwave transmission so he decided to make some home brew helix antennas similar to the ones found at this link.

<http://helix.remco.tk/>

