

# Report From The

## 3905 Century Club Eyeball Event

**The Fourth Annual 3905 Century Club Mobile Antenna Shoot Out** was held on 30 JULY, 2005 at Red Top Mountain State Park near Cartersville, Georgia. About fifty of the registered members and guests participated in the shoot out on Saturday morning. We had thirteen competing systems and five of these participants actually had time to re-test or try other configurations. The mixture of recorded scores were spread over quite a range, but the winning scores were interestingly close together.

**The Results** are posted in order of strongest to weakest signals. Type of antenna, type of vehicle, and mount location are also included in the chart for comparison of “systems“.

<b>CALL</b>	<b>Antenna Type</b>	<b>Vehicle Type</b>	<b>Mount Position</b>	<b>Recorded Signal</b>
<b>N3WD</b>	<b>Tarheel Screwdriver</b>	<b>F150 Pickup</b>	<b>Center Rear Box and high</b>	<b>42</b>
<b>K0WJ</b>	<b>3 inch Predator</b>	<b>Ram 1500 Pickup</b>	<b>Center Rear Hitch</b>	<b>40</b>
<b>K9TWV</b>	<b>2 inch Predator</b>	<b>Ford Escape</b>	<b>Driver's Low Rear</b>	<b>38</b>
<b>N2OCW</b>	<b>Ant A - Hamstick</b>	<b>Ford Explorer</b>	<b>Top Center Roof</b>	<b>36</b>
<b>WQ1H</b>	<b>Hustler</b>	<b>Mini Van</b>	<b>Center Rear Hitch</b>	<b>25</b>
<b>N5USH</b>	<b>Hi-Q</b>	<b>Ford Explorer</b>	<b>Driver's Low Rear</b>	<b>22</b>
<b>N2OCW</b>	<b>Ant B -HS1500 Screwdriver</b>	<b>Ford Explorer</b>	<b>Low Rear</b>	<b>22</b>
<b>KA8AXY</b> Second Test Third Test	<b>3 inch Predator</b> <b>Engine Off</b> <b>Eng On-Truck at</b>	<b>F-250 Pickup</b>  <b>Angle to Rxer</b>	<b>Left Rear Bumper</b>	<b>17</b> <b>18</b> <b>21</b>
<b>KS9WI</b>  Second Test	<b>TarHeel Screwdriver</b>  <b>Diagonal to Rxer</b>	<b>Ram 1500 Pickup</b>	<b>Left Rear</b>	<b>16</b>  <b>19 ( Allowed as Final Score per rules)</b>
<b>N5OHL</b> <b>NM3U rear to Rx</b> <b>2ndTest Frt to RX</b> <b>3rdTest Sideto RX</b> <b>AF4LD</b>	<b>Kenwood MA-5</b>  <b>Hustler</b>  <b>Hustler</b>	<b>Dodge Mini Van</b>  <b>Honda Sedan</b>  <b>Hyundai Sedan</b>	<b>Left Rear</b>  <b>Rear Low</b>  <b>Trunk Lid</b>	<b>16</b>  <b>12</b> <b>12</b> <b>10</b> <b>10</b>
<b>N9KNJ</b>	<b>Hustler Super</b>	<b>S-10 Pickup</b>	<b>Rear Bumper</b>	<b>9</b>
<b>KB8ESY</b>  Second Test	<b>Hamstick</b>  <b>Rex Had Some</b>	<b>PT Cruiser Sedan</b>  <b>Serious Problems</b>	<b>Rear Hatch</b>  <b>Ahhh Duck Tape !</b>	<b>0 ( OH OH )</b>  <b>3 ( Allowed as final score )</b>

**The Location of the “shooting range”** this year was certainly unique. We had asked for a location away from the crowds and traffic, and that is exactly what President Bill gave us! The test range was a large open parking area back in the woods, about a mile off the main road, and beside the lake (What a beautiful, peaceful spot) . I think a few of the shooters / observers who temporarily lost their way while trying to find the site hadn’t believed me when I told them to disregard and go around a couple of boulders that had rolled into and were partially blocking the sometimes one lane dirt road!! But eventually, all found their way and quite a nice crowd developed.

**At the Transmitting End** of the range, contestants were allowed to choose any vehicle position they desired. But, they were required to remain behind a log that had been designated as the transmit location. When both ends of the range were ready and a shooter was in position, an “arms up” or “transmit now” signal was given from the receiving end of the range. The average reading was recorded at the receiving end, and then transmission was ended by “arms down”. This transmit and record procedure was repeated and the readings compared to insure they would remain consistent (which all did).

**The Test Transmitter** was very similar to those used in prior shootouts. Everything including the dummy load, Bird wattmeter, transceiver and antenna switch was mounted on a felt covered board and used in each vehicle tested. We used an Alinco DX-70 transceiver with a cigar lighter power plug attached and set the transmitter on the low power setting of about 15 watts. We had the rig output fed into a two position antenna switch, and when we set up in each test vehicle, we keyed the rig into a dummy load to verify the power in each test vehicle was the same. We then changed the switch position so that the antenna under test was connected and waited for the signal to transmit.

**The Test Receiver** was the same loop antenna arrangement we have used each year. It was positioned downrange from the transmit location by about 130 feet (roughly a wavelength at our test frequency) . The loop antenna is attached to a metal “handy box” which sits atop a five foot mast supported by a tripod. Inside the box is a tuned LC circuit with a voltage picked off across the inductor. Also inside the box is a germanium diode bridge which converts the signal to a DC voltage. In order to remain out of the immediate vicinity of the loop , this voltage was fed down a 35 foot shielded wire (about a quarter wavelength on our test frequency) and was laid out away from the loop antenna in the same plane as the propagating transmitted signal. The wire terminated in a plastic box with connections for a millivoltmeter. Accuracy and repeatability was checked frequently as the contest progressed, and all were satisfied with the performance of the testing equipment.

**The Recording Equipment** has been used at prior shootouts and was a software controlled digital voltmeter. This inverter powered equipment was all set up on the tailgate of AA1NZ’s truck (as well as the fan keeping Tom cool as he sat in his easy chair and recorded the results --- It was HOT down there in Georgia at the end of July!). The 3 digit millivolt resolution was displayed in full screen on a laptop computer so many could simultaneously observe the results in real time.

**After The Shoot Out**, some of the contestants wanted to try other ideas and see what would result. Lon, K0WJ, added a 19 foot whip to his Predator (making it illegal in competition). His signal went from a 40 to a 67. John, K9TWV, wanted to see how much his cap hat helped. When he removed it, his signal dropped from a 38 to a 30 (hmmm.... would have lost his second place if he hadn’t have had it on). Several others tried different settings. We all had an excellent morning socializing, learning new things and making plans for our next contest gathering.

**It Was A Great** pleasure for me to organize this shoot out. A special thanks to President Bill Martin, WM4SG, and his family for hosting this memorable eyeball meeting.

**And No Report** is complete without thanking the troops in the background who really make it happen...

## **Thanks, Guys....**

W4BUR, Joe. Ran the show from the transmitting end. Did all the test rig in / out and transmitting. Also, kept on Tom's butt via radio to keep things moving on the receiving end.

KS9WI, Keith. Traffic control, Chief Honcho in the staging area. Forced to growl at a few who were anxious and tried to "cut in line".

NM3U's Harmonic, John (age 12). First Class "Arms Up / Arms Down" Signaller and just getting started in ham radio.

**Thanks, Folks.** I hope you had as much fun as I did. If you weren't able to attend this year, hopefully you will be able to join us next year in Minnesota. All the best, happy mobiling, and 73.

Respectfully,

Tom AA1NZ