

# Nacogdoches Amateur Radio Club

## 2012 CLUB OFFICERS

Pres: Rusty Sanders - KD5GEN

VP: Mike Brown - KF5KEY

Sec/Treas: Army Curtis - AE5P

## MISSION STATEMENT

The Mission of the Nacogdoches Amateur Radio Club is to support and promote Amateur Radio by public service, offering training to unlicensed interested parties and licensed Amateurs, mutual support of other Amateurs, engaging events that promote Amateur radio to the general public and other Amateur radio operators, and continuing fellowship by regularly scheduled organized meetings and events.



## FEBRUARY MINUTES

The February meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on February 1st. **President Rusty KD5GEN**, opened the meeting at 7:00 p.m. in the Meeting Room of the Nacogdoches Recreation Center. Sixteen members and four guests were present. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

Kay Simpson introduced her special guest for the

evening, Laurie Schull from NASA.

The Shuttle Columbia Special Event Station will be Saturday, February 4<sup>th</sup> at the Columbia Museum in Hemphill. Breakfast at IHOP is planned for 7:00 a.m. followed by a car pool to Hemphill.

Army AE5P presented certificates to all participants in The Great East Texas Adventure, otherwise known as the ARRL VHF Sweepstakes. Updated information on results appears later in this newsletter.

Meeting adjourned at 7:55.

## OSCILLATIONS FROM THE CHAIR

Hello to all NARC members and others reading this newsletter.

Did I ever tell anyone that I detest Molex connectors???? I can hear AE5P saying, "It's a poor mechanic that blames his tools!" Yes, that is correct but I am a long way from being a mechanic.

I decided that I really needed to have my ICOM 706 remounted in my vehicle with my little Tar Heel antenna. The reason I removed the unit was the antenna was dragging on the garage door and the rod was under such tension that it occasionally broke off.

I had been figuring a way to solve the problem and purchased an actuator from Firgelli Automations that would allow me to raise the entire antenna once I was out of the garage. I can lower the unit when backing into the

garage or if I am out of town and have to park in a parking garage, the unit can be easily lowered without having to get out of the vehicle.

With the help of my eldest son David, KF5BID, he was able to fabricate a mount with a hinged mast that would support the Tar Heel. A lot more work was involved than I originally planned but I have something a lazy man can be proud of. The device probably works as good as the one that Tar Heel sells but is a lot less expensive.

Did I ever tell you that I detest Molex connectors???? Yes, I have a bad batting average with those little devils. I had some to use on my actuator connections but resorted to another connector after destroying the little device on my first attempt to install it on the wire.

In another life, long, long ago, I worked part-time in a Motorola service shop where we took pride in mobile radio installations.

The radio was installed so it was user friendly; rugged enough that a fire fighter or cop could not destroy it plus the technician, John Jinkins (SK) W5MAW was a person who tuned the radio for maximum efficiency. No installation left the shop without being checked for modulation, deviation, power output and low SWR. I enjoy seeing a neat mobile radio installation that serves the user well.

At the time of this article, I understand four of our local hams went to the Orange Hamfest and some came back with items they just had to have. I understand that Belton is coming up shortly and after that will be the Neches River canoe event.

From emails that have been circulating, it appears that the Great East Texas Adventure vhf contest has put our club in a national spotlight. It will be interesting to see the official verdict from ARRL.

I contacted ARRL the other day with an inquiry if QST was offered on-line or available in a Kindle format. My reply came quickly and indicated that in June or July, subscribers can have a choice available to get an on-line version of the magazine and not have the hard copy come to the QTH.

I have nothing else of interest from this site and hope we have a good attendance at our next meeting.

Hope to see you at the meeting on February 1.

KD5GEN- Rusty

email:

[rusty.sanders@att.net](mailto:rusty.sanders@att.net)

### FROM THE VICE PRESIDENT

To get ready for the Columbia Special Event Station, we met early Saturday morning at IHOP for breakfast, and then made our way to Army's QTH to park cars and get

ready for the trip to Hemphill. After an uneventful trip, we arrived there at about 9:15 or so and entered the Columbia Remembrance Museum.

What a truly great time we had at the Columbia Memorial Museum. I was not at all prepared for the quality of the museum and the exhibits there were exceptional. Kay Simpson went out of her way to make everyone feel at home and then gave us an exceptional guided tour of the place. Top notch! Thanks, Kay. In addition, there were NASA representatives in attendance to round out the event.

The Special Event station was going full bore when we arrived. Two stations in a small auditorium with chairs, refreshments, hot coffee and some of the best donuts that I have ever eaten. Various people took turns on the air, and a great many contacts were made. I don't know the total number of contacts, but as fast as they were being made, the

overall total had to be in the high hundreds.

At lunch time, a lot of very good pizza was served and very rapidly consumed. More talking, visiting and more radio contacts, and Bill Simpson invited us to visit his contest radio shack. I have to say that "shack" in this case was truly a misnomer. Upon entering his land, we went past several pastures just filled with llamas...I thought I was back in Peru. I don't have any idea how many llamas they have, but I would guess at least 50+. We made our way past his house and barns, and then began to enter his antenna farm. And farm it truly was...many huge towers with antennas of all types and bands. Concrete embedded I-beams were everywhere being used as guy wire anchor posts. I saw more than 8 different antennas there...some on huge towers...some guyed verticals, and just on racks around one of his storage barns, more antennas than I had ever seen just lying there, waiting to be used!

And to think, I used to be proud of my G5RV....large sigh.

He then took us into his contest shack....individual complete stations for each band. I have never seen so much ham gear! He has kitchen facilities, restrooms, an 8 bunk sleeping quarter for tired hams and walls full of contest awards without end. If that wasn't impressive enough, walk through the back door into one of the most complete workshops I have ever seen outside of commercial facilities... metal lathes large and small, turret equipped vertical boring milling machines, every tool that you can imagine and endless boxes and bins of hardware. No need for trips to the hardware store for Bill...he has a larger inventory than most modern stores! After seeing all of the fantastic equipment and beautiful, functional setup he has there, I think that I am going home and give up amateur radio and take up knitting...another large

sigh....

Anyway, we truly had a great time both at the event station and Bill's QTH. Hats off to Bill and Kay for such a well prepared event and for their hospitality. I can't wait to return there again. If you've never been to the Columbia museum, do yourself a favor and make the trip to Hemphill. You won't regret it. And oh yeah, don't forget to get yourself one of those great donuts from the little shop right across the street....

KF5KEY - Mike

Email:

[michaelleebrown@hotmail.com](mailto:michaelleebrown@hotmail.com)

## VE TESTING

Our next VE testing is scheduled for Wednesday, March 21st at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Applicants should bring a picture ID, the original and a copy of their current Amateur license, the original of any CSCE's and

\$15 to cover the cost of the exam(s). Correct change is always very much appreciated. 73 de AE5P

email: [ae5p@arrl.net](mailto:ae5p@arrl.net)

## CLUB NETS

Remember to join us each week for the 2-meter nets sponsored by NARC. Each **MONDAY** is the **NARC ARES/RACES** net, at 8:00 p.m. on the club's 146.84 repeater (PL 141.3). Second, on **THURSDAY** evenings at 8:00 p.m. is the **Deep East Texas Skywarn Emergency Weather Net** on the 147.32 repeater (PL 141.3). Please join us for one or both. We are always looking for folks who would like to become net control operators. If you are interested, please contact any of the existing net controls. We will be pleased to help you in any way we can.

## NEXT MEETING

The next meeting will be on **Wednesday March 7th** at 7:00 p.m. in the

Bailey Library of Christ Episcopal Church. The church is at the corner of Starr and Mound Streets

in Nacogdoches. Because of Lent activities at the Church, we will be meeting in the Bailey

Library the next few weeks.

## THE GREAT EAST TEXAS ADVENTURE

### Update

Logs have now been submitted to the contest robot, and claimed scores have been posted on the ARRL web site. It appears at this point that The Great East Texas Adventure has been successful in meeting all of our goals.

1 <sup>st</sup> place Rover:	<b>K5ME/N6NB</b>	379,000 points
2 <sup>nd</sup> place Rover:	<b>W5FWR/N6HD</b>	356,829 points
3 <sup>rd</sup> place Rover:	<b>KF5KEY/N6VI</b>	350,760 points
4 <sup>th</sup> place Rover:	<b>AE5P/KE5KLW</b>	320,508 points
5 <sup>th</sup> place Rover:	<b>K5TRK/N6MU</b>	305,800 points
6 <sup>th</sup> place Rover:	<b>K5FAY/KJ6CNO</b>	292,930 points
7 <sup>th</sup> place Rover:	<b>W5TV/KD5GEN</b>	184,052 points

1<sup>st</sup> place Limited Rover: **WK5F** 22,750 points

1<sup>st</sup> place Multi-Multi: 815,311 points  
**K5QE/K5MQ/KN5O/W6XD/N5NU/K5AIH/WN2E/N5YA/K5YG/N5KDA**

1<sup>st</sup> place Club Competition: 3,030,320 points

### Nacogdoches Amateur Radio Club

In addition to the scores listed above, logs were also submitted towards the club completion by **KE5EXX/R**, **KE5GAQ/R**, **KE5VIM/R**, **KE5VIO/R**, **N5AIU/R**, and **KD5FEE**. My apologies if I have missed anyone. This was a major effort by many people and all are to be thanked and congratulated.

## BASIC ANTENNAS

### PART 40

by

Thomas Atchison W5TV

I plan to write several articles that involve cubical quad antennas designed for VHF/UHF work. The first of these articles is a three element cubical quad designed for the 2 meter band. A view of the antenna is shown in Fig. 1.

EZNEC

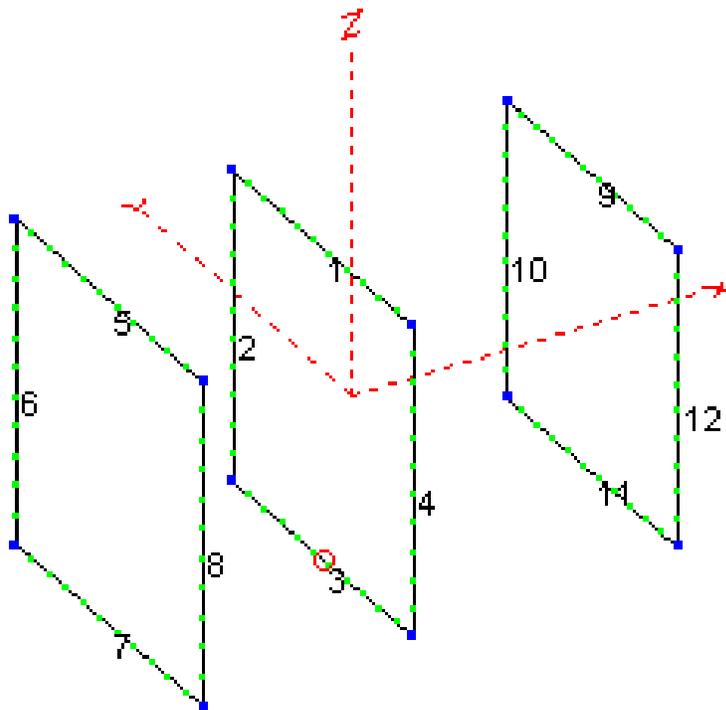


Fig. 1

The design frequency is at 146 MHz. The reflector is to the left, the driven element is in the center, and the director is to the right. The driven element is fed with 52 ohm coax at the middle of the bottom wire (red circle). This gives us horizontal

polarization. If we feed the antenna at the middle of one of the vertical wires we would have vertical polarization. In this simulation we assumed that the elements are made from #12 copper wire. You could certainly use #14 copper wire or some other size, however, you want the elements to hold their shape. I also assumed that the supporting structure consisted of wood or PVC that forms a '+' sign. This will allow the feed line to attach to the support piece in the middle of the bottom wire. If you devise a support for the wire that consists of diagonal cross pieces of wood or PVC, forming an 'X', then you may want to connect your feed line at one corner to get better support. In that case rotate the squares so that the feed point is a corner. If you feed the bottom corner you have horizontal polarization and if you feed a right or left corner you have vertical polarization. The simulation is still valid for such orientation.

Each element in my structure is square with the driven element measuring 1.7 feet on each side, the reflector measuring 1.8 feet on each side, and the director measuring 1.65 feet on each side. The spacing between the reflector and the driven element is 1.2 feet and the spacing between the driven element and the director is 1.5 feet. In this simulation, the bottom wire of the reflector (lowest point of the antenna) is approximately 6 feet. The resulting SWR sweep on the 2 meter band is shown below.

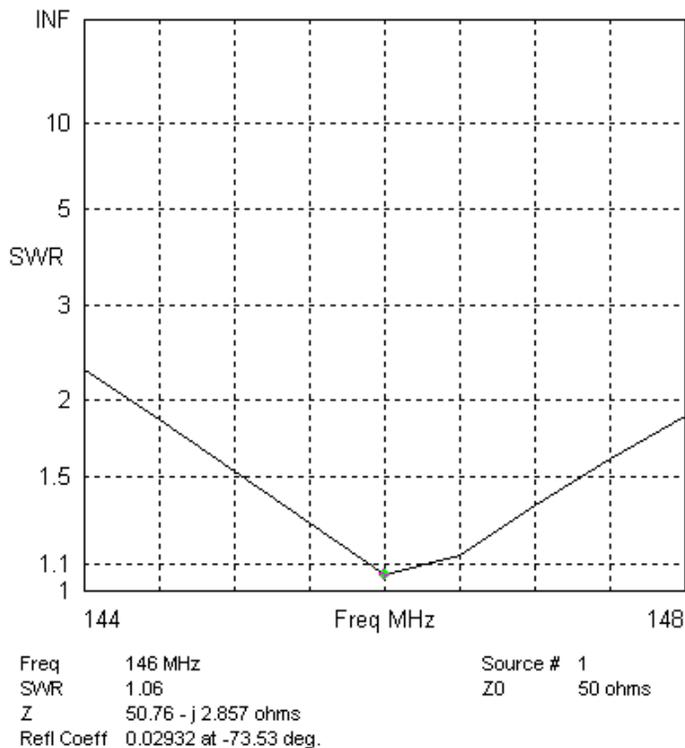


Fig. 2

The elevation radiation pattern is shown in Fig. 3.

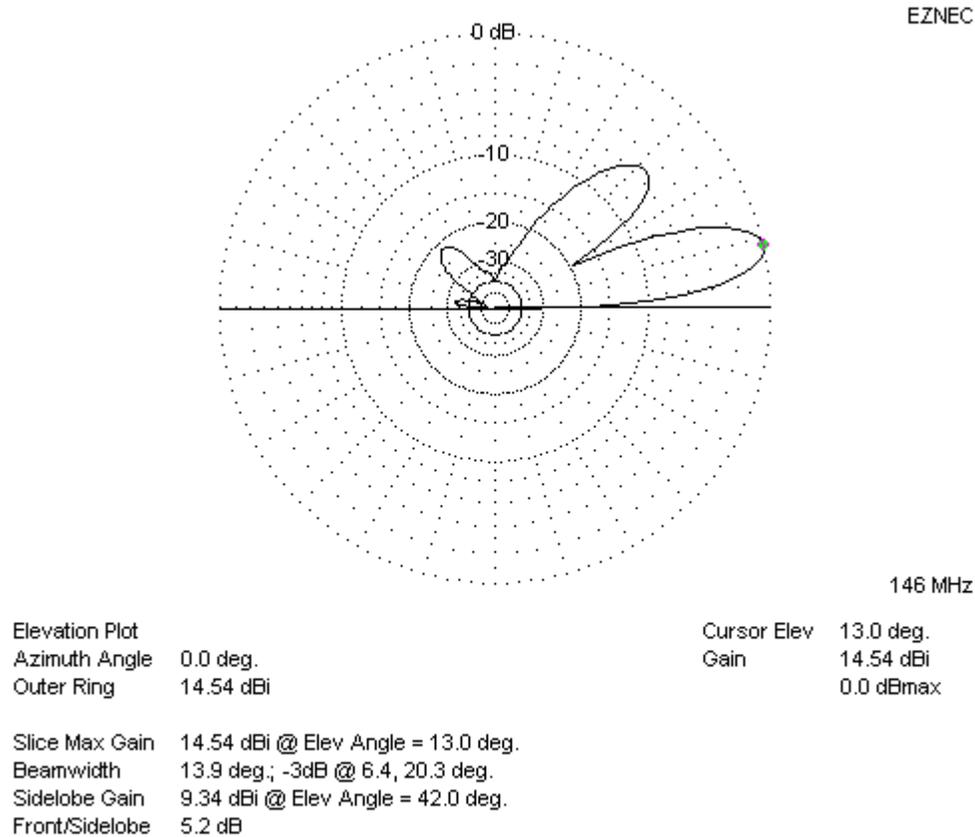
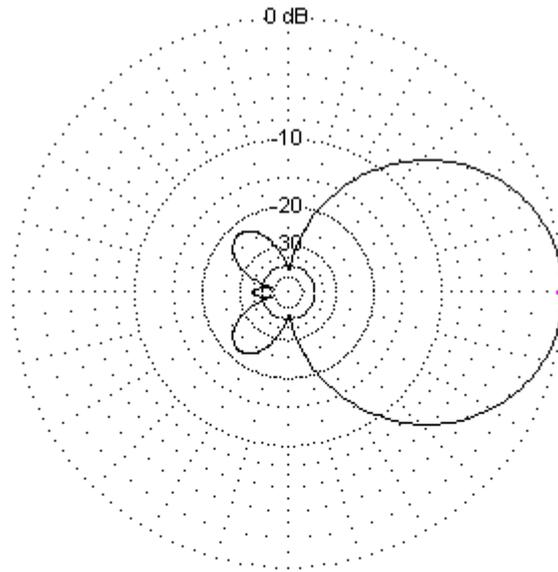


Fig. 3

The maximum gain is at 13 degrees and the simulation shows a gain of 14.54 dBi. The azimuth radiation pattern at 13 degrees is shown in Fig. 4.

EZNEC



146 MHz

Azimuth Plot  
 Elevation Angle 13.0 deg.  
 Outer Ring 14.54 dBi

Cursor Az 0.0 deg.  
 Gain 14.54 dBi  
 0.0 dBmax

Slice Max Gain 14.54 dBi @ Az Angle = 0.0 deg.  
 Front/Back 35.04 dB  
 Beamwidth 62.2 deg.; -3dB @ 328.9, 31.1 deg.  
 Sidelobe Gain -7.52 dBi @ Az Angle = 131.0 deg.  
 Front/Sidelobe 22.06 dB

Fig. 4