

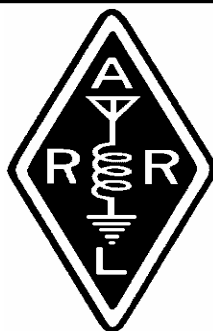
# Nacogdoches Amateur Radio Club

## 2010 CLUB OFFICERS

Pres: Rusty Sanders - KD5GEN

VP: John Jordan - N5AIU

Sec/Treas: Army Curtis - AE5P



## MARCH MINUTES

### 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.

The March meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on March 3rd. President Rusty, KD5GEN, opened the meeting at 7:00 p.m. in the Bailey Library of Christ Episcopal Church. Nineteen members and 3 guests were present. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

### Unfinished Business:

The Winlink Node needs rebuilding at the Fredonia Hotel.

### New Business:

President Rusty - KD5GEN, reported the club has been invited to provide communications for a fun run along the Lanana Creek trail on April 24 from 8:00 until noon.

Bert, AC5Z who recently had surgery for brain cancer, came to the meeting and gave a report on his situation.

### On the calendar:

Belton April 17

Meeting adjourned at 7:20.

### Program:

Marshall, K5QE presented a video by Ben Lowe, K4QF, on building a 2M loop antenna from copper tubing.

## Oscillations From The Chair

Another month is a wrap as 2010 speeds along. As I contemplate what to type, it is raining outside as one of the last cold fronts announces the appearance of Spring 2010. The past week has been great and many people have been out in the yards preparing small gardens, planting floral items, getting the yard ready for summer mowing and many other excuses to be outside.

Since the weather has been so good, it is a great time to review what the winter weather may have done to your antenna systems. Army, AE5P, recently had to lower an antenna for some tree work in his yard and made an interesting discovery which I will encourage him to relate during the next meeting. I was out in my yard wandering around and inspected one of the ropes maintaining tension on my double G5RV. From what I discovered, I need to

gather my sons around one afternoon, drop my antenna and replace the tension ropes. My neighborhood group of fox squirrels apparently thought they needed a diet of nylon rope. I saw evidence where one had chewed on the rope but discovered this was not something he/she really had a taste for. The rope is nicked but is still weakened in that one spot. I figure since the tension ropes have been up for 3 years, they probably need to be changed out. I plan to take one day to check the vertical, tower and all the ground clamps and various coax cables for damage.

The ARRL has a photo contest going on with the submission of photos to be turned in no later than May 31, 2010. The contest info is located in the April QST on page 20. Some of you may have made some interesting snow on the antenna pictures when we had the light snow and those might become a winning pix in the contest.

Army - AE5P, Robert KD5FEE, Mark Clark and I made a trip over to San Augustine to assist a new ham in getting on the air recently. His name is Chuck and the call sign is KF5ETJ. If you hear him on the hf bands, be sure to give him a shout.

A number of years ago, I spotted a real neat article in the QST magazine. I was really intrigued at the electronics breakthrough spoken of in the article. It was one of those neat inventions that could really make a difference with antennas. I was really excited and mentioned it to Army who immediately deflated my balloon. He asked if the article was from the April issue of QST for which I replied "yes". He said that QST has been known to insert an 'April Fools' article in the April issues. That was what the article was, just an 'April Fools' joke on a very gullible person. I scanned the April 2010 QST for such an article and I think I found it. It too is very funny but very unpractical. See if you can

find it and we will discuss it at the next meeting.

Army-AE5P and I recently attended a crawfish boil in Rayne, LA where a ham fest broke out. It was interesting and we got to see a number of people and find some items that we wanted and a lot that we had no use for. By the way, the crawfish were excellent.

Remember to make your plans for Belton which is April 17. Hope to see all of you at the next meeting.

73 until next month.  
KD5GEN- Rusty  
email: [rusty.sanders@att.net](mailto:rusty.sanders@att.net)

### VP's CORNER

I have unfortunately been away from the radio this past month. I missed participating in the ARRL DX contest that I usually never miss. However, I was able to get on the Mt. Vernon repeater that is located north of my farm. It is on

It is on the 147.320 frequency, the same as our skywarn repeater. It has great coverage as far north as Paris, Tx. If you are ever up that far north, you might give it a try.

We have a great program this coming meeting with Porter Stanaland dealing with emergency operations with an emphasis on communications. Try to make sure you are able to attend the meeting and program.

73 de John N5AIU

email:  
[jjordan@nacogdoches.k12.tx.us](mailto:jjordan@nacogdoches.k12.tx.us)

### VE TESTING

Our next VE testing is scheduled for Wednesday, April 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

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 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 April 7th at 7:00 p.m. in the Parish Hall of Christ Episcopal Church.

Church. The church is at the corner of Starr and Mound Streets in Nacogdoches. Please bring any show and tell items you might have received over the holidays.

## BASIC ANTENNAS

### PART 17

by

Thomas Atchison W5TV

Let's take a look at a general type of antenna that is called a broadside array or a curtain array. These arrays are formed by placing two or more broadside radiators in a plane that is at right angles to the direction of maximum radiation. We will consider connecting two horizontal half-wavelength dipoles in a plane that is perpendicular to the ground. These elements must be connected by transmission lines that supply power in the proper phase to each element. That is, we want the currents in the two dipoles to reach their maximum values, flowing in the same direction, at the same instant. In this case we say the currents in the elements are 'in phase'. In Fig. 1 we have an example of one method of connecting a transmission line to a two element array.

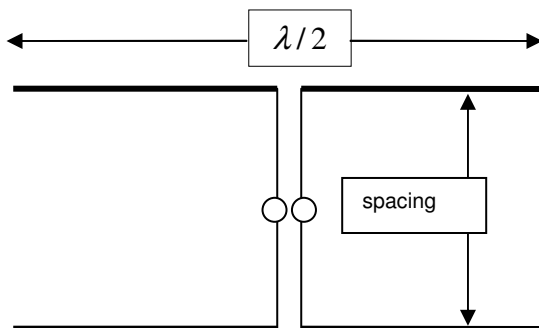


Fig. 1

The vertical wires are called phasing lines and the circles represent the point of connection for the main transmission line. The spacing between the two horizontal elements can be any value; however, if the spacing is one-half wavelength and the main transmission line is connected at the midpoint of the phasing lines, then the impedance at the point where the main transmission line is connected is resistive. Other spacing introduces a reactive component to the impedance.

This particular array with the elements mounted horizontally is called a Lazy H antenna. The radiation is horizontally polarized. The array can be mounted with the dipole elements vertical resulting in radiation that is vertically polarized.

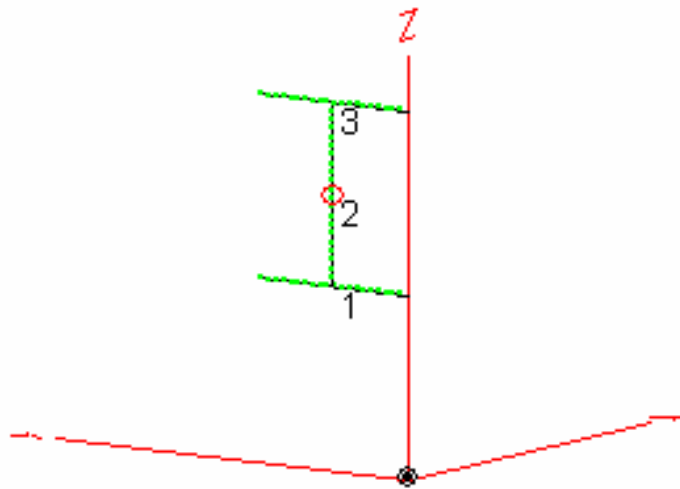
The height of the lowest element above ground will certainly affect the radiation pattern. We have already observed the changes that height has on the radiation pattern of a simple dipole in previous articles. The changes to the radiation pattern of the Lazy H antenna are similar, as we will see below.

If we construct a Lazy H antenna for 14.1 MHz we observe that each element length is

$$\frac{1}{2}\lambda(\text{in feet}) = \frac{468}{14.1\text{MHz}} = 33.2 \text{ feet.}$$

Using EZNEC to construct a simulation of the Lazy H antenna with the lower element at a height of 33.2 feet or a half-wavelength we have the following.

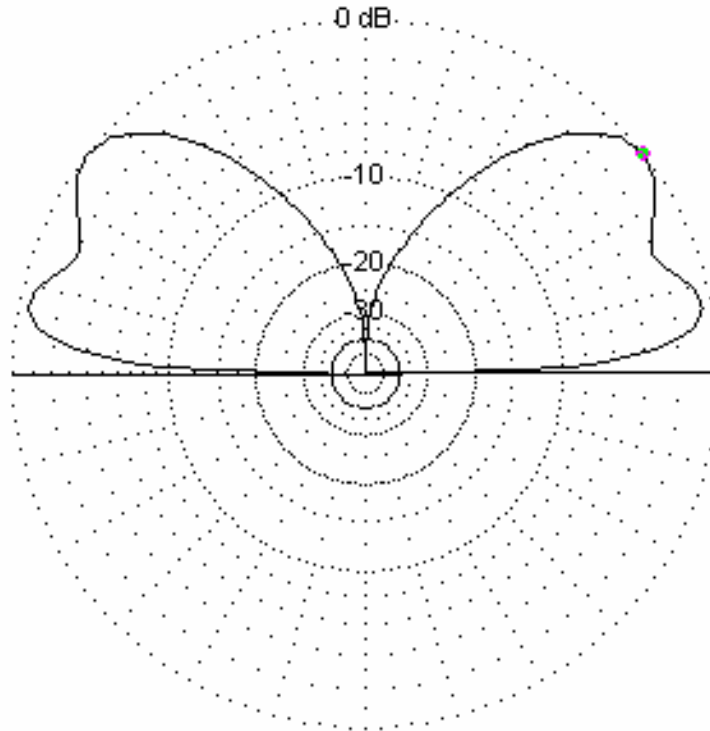
EZNEC



Note that the upper element of the array will be 66.4 feet above the ground.

The radiation pattern broadside to the array is as follows:

EZNEC

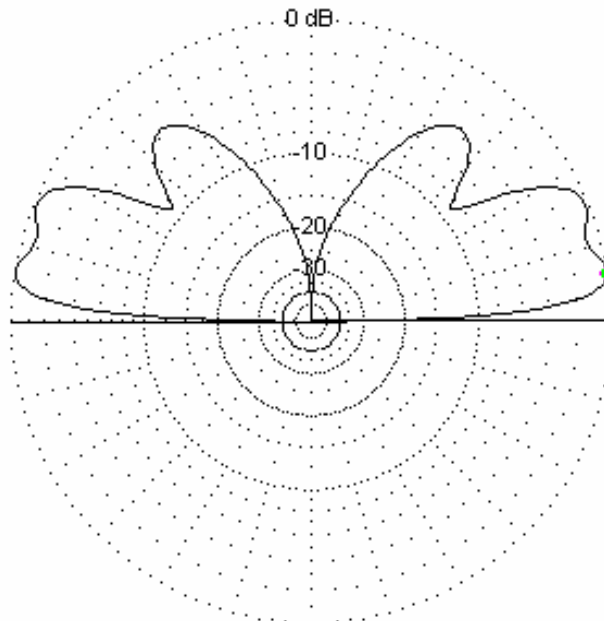


14.1 MHz

We are looking into the ends of the array elements. The maximum lobe is at an angle of about  $38^\circ$ . The smaller lobe is at an angle of about  $12^\circ$ .

If we raise the height of the lower element to one wavelength or about 66.4 feet we have a radiation pattern as follows:

EZNEC



14.1 MHz

Now the maximum lobe of the radiation pattern is at about  $9^\circ$ .

The gain of this broadside array with a spacing of one-half wavelength between array elements is about 4 dbi.