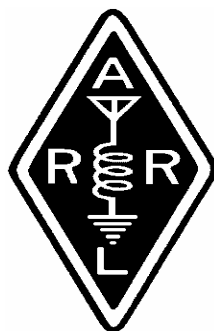


# Nacogdoches Amateur Radio Club

Pres: Lon Glaze - AE5BN

VP: Tom Atchison - W5TV

Sec/Treas: Army Curtis - AE5P



## AUGUST MINUTES

The August meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on August 5th. Twenty-seven members and two guests were present. **President Lon, AE5BN**, opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

**Marshall, K5QE**, gave a report on the CQ VHF and ARRL UHF contests.

**Andy - KE5EXX**, gave a report on the NAQP contest at the N5YA contest station.

**Kent - KD5SHM**, noted that the mutual aid agreement with the City of Nacogdoches needs to be updated. He will obtain a copy of the current agreement.

**Kent** also reminded everyone of the Hamlist and Wxalert e-mail reflectors, which can be joined via the club web site.

**Army - AE5P**, discussed the ARRL rules for club competition in contests.

**John Thomason - WB5SYT**, West Gulf Division Vice Director, addressed the club via telephone from Oklahoma.

## 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.

**Kent - KD5SHM**, suggested that we add an awards page to the club web site, with pictures of the various awards the club and members have won.

**Jonathan - KD5PQI**, has volunteered to get the club's winlink node back on the air. Thanks Jon.

Meeting was adjourned at 8:20 p.m.

#### Show and Tell:

**Stu - W5GSW**, showed his "Diamonds in the Sky" 2 meter omni antenna he made.

#### Program:

**Marshall - K5QE**, gave a program on a homemade 3 element 6 meter yagi.



## HAMMING IT UP

Hello all. My HF antenna ended up coming down again the other day during one of the storms we had.

I keep breaking the support line. Strange thing is it doesn't break up in the tree. It has always broken about two feet from the end insulator. I was going to just pull it back up in the tree but I believe I'm going to go ahead and make me a new one. This time I think I am going to put up a lighter one. I have a new center insulator that is much lighter in weight than the large PVC contraption I made when I first built this one. I am planning on using 14 gauge wire instead of 10 gauge this time. I am also going to use some of the nicer ceramic dog bone insulators that I got at Belton on the ends too.

I think I will stay at 135' across the top and of course I am still going to feed it with ladder line. Trampoline springs have been suggested for tension relief. I am going to either use those if I can find some or use a bucket of rocks as a counterweight to allow for some give. Hopefully, I will be able to get it to

stay up a little longer this time once I get it up in the air.

We have the ARRL VHF QSO Party coming up September 12-13th. I am sure there will be roving going on. I am sure it will be quite an experience as always.

See you all at the meeting on September 2nd.

73, this is AE5BN Lon.  
email: [ae5bn@arrl.net](mailto:ae5bn@arrl.net)

## VP's CORNER

The next meeting of the Nacogdoches Amateur Club is on Wednesday, September 2, at 7:00 p.m. at Christ's Episcopal Church. Dustin Williams, K5RNT, is rebuilding his VHF / UHF / Microwave rover for the September contest. He plans to bring is over to the club meeting to show us how it works. I think we will all enjoy getting a look at a very good rover station.

If you have 'Show and Tell' items, please bring them

to the meeting. Folks are always interested in what is new around the club.

See you at the meeting!

73, Tom W5TV

email: [w5tv@arrl.net](mailto:w5tv@arrl.net)

## VE TESTING

Our next VE testing is scheduled for Wednesday, September 16th 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 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 September 2nd at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. The church is at the corner of Starr and Mound Streets in Nacogdoches. If you have items for show and tell, please bring them. Hope to see y'all there.

## BASIC ANTENNAS

### PART 10

by

Thomas Atchison W5TV

Up to this point we have been considering self-resonant antennas i.e. antennas that are cut to operate on a specific frequency. That is because an antenna at resonant length is one that is easy to analyze. At other lengths the radiation patterns will be different, the radiation resistance will be different, and the impedance at the feed point of the antenna will contain reactance as well as resistance. In order to feed power into the antenna from our transmitter, we will want to minimize the reactance to the antenna so it will look (almost) like a resonant antenna. That is, we need to devise a method for 'tuning out' the reactance in the antenna so we can have an efficient antenna.

We may have limited space for an antenna therefore

we may have to put up an antenna that is too short for the frequency we want to operate. The directive pattern for a short antenna is not too different from the directive pattern for a half-wavelength antenna. The most important difference is the decrease in radiation resistance and its effect on antenna efficiency. As we pointed out in Basic Antennas, Part 3, if the antenna is shorter than required for a half-wave antenna, the reactance is capacitive reactance. This capacitive reactance can be tuned out by using a loading coil or loading coils.

A short antenna should not be made any shorter than needed to fit the area available because the efficiency decreases rapidly as the antenna is made shorter. For example, if we have a center fed antenna that is only  $\frac{1}{4}$  wave-length long instead of  $\frac{1}{2}$  wave-length, the radiation resistance will be about 15 ohms. For different length/diameter ratios of wire used to

construct the antenna, the capacitive reactance could vary from 500 to 1000 ohms. We would need a loading coil of similar inductive reactance to tune the capacitive reactance out. This coil would increase the antenna resistance to 5 to 10 ohms. To calculate the range of efficiency, use the formulas from Basic Antennas, Part 9,

$$Eff = \frac{R_0}{R_0 + R}$$

Here  $R_0$  denotes the radiation resistance and  $R$  denotes the ohmic resistance. In the case of 10 ohms of resistance we have an efficiency of 60 % and in the case of 5 ohms of resistance we have an efficiency of 75%. This would be a loss of around 1 to 1.5 db. That is not too bad; however, as the antenna gets shorter we decrease the radiation resistance and rapidly increase the capacitive reactance. The rapid increase in reactance requires a much larger coil to tune the antenna and

the efficiency decreases quickly.

Basically, if you can accommodate a resonate antenna on your antenna farm you should use one. If you do not have enough space for a full size antenna, don't be afraid to try a shorter antenna, either with loading coil(s) or with an antenna tuner. Later we will discuss the pros and cons of an antenna tuner.