

# Nacogdoches Amateur Radio Club

## 2014 CLUB OFFICERS

Pres: John Cechin - W5FWR

VP: John Chapman - KC5MIB

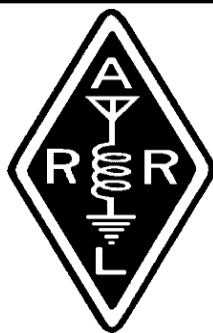
Sec/Treas: Army Curtis - AE5P

Visit our web site at

<http://w5nac.com/>

## 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.



## OCTOBER MINUTES

The October meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on October 1st. **President John W5FWR**, opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Ten members and one guest were present. Each person present introduced them self. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

## Old Business:

**John W5FWR** gave an update on the cat population at his QTH. It is never a dull moment around his house.

**Army AE5P** discussed the Texas QSO Party held the last weekend of September. Thanks to excellent participation from several club members, new records were set for the number of contacts made. A more complete report of results appeared in the last club newsletter.

## New Business:

**John W5FWR** appointed a nominating committee to present to the club at the November meeting a slate of candidates for club officers for 2015. Election will be held at the November meeting, and new officers will be

installed at the December meeting.

The club has been asked to assist the Timpson ISD high altitude balloon project with real time tracking. **Army AE5P** made a motion the club fund the purchase of an APRS transmitter and GPS for this purpose, with a cost not to exceed \$300. Motion passed.

Meeting closed at 8:15 p.m.

### Program:

**Army AE5P** presented a program on a mini Vector Network Analyzer (miniVNA) that connects to a computer and allows measurements of antennas, filters, and many other radio related components and systems. The resulting information is presented graphically on the computer screen, and can be saved to disk and/or printed.

## MY 2 CENTS FOX WILLY ROGER

### NOVEMBER:

That's right, it's November already, I don't know about your trees but mine are getting stripped of the leaves fast, it looks like about 50/50 to date. That includes my word tree, it looks like she is making herself ready for the winter, so now I will have to pick up the fallen word leaves and reuse them. No one donated to the "**SAVE THE WORD TREE**" fund so remember the old saying "don't slay the messenger" when you read the winter **NLS**.

November is the turkey month, remember to come to the meeting dressed as your favorite turkey, fried, roasted, baked, broiled, sliced or whole, it doesn't matter, just come and see/hear the latest. This is the month that the committee reports to the club on the next set of officers. I am wondering, did you standup and be counted?

**WOW AE5P** stepped up with a most interesting project for the club. Army got with Mr. Platt, you remember Mr. Platt, is doing balloon flights with the kids of Timpson school. The last launch didn't work as predicted and the payload was lost; it was decided to build an APRS to help with the location of the next downed payload. Army is heading up the assembly and testing of same. If you want to help contact AE5P, he may need someone to hold the device and sit on a block of dry ice for the cold test. Once more AE5P to the rescue, I just have one question, for now, does your cape ever get in the way? Thanks Army for leading the way. The next bit of magic that Army had to show the club was a piece of test equipment; this will replace the MFJ-259/260. This device does it all and displays the information on your computer; I can see a lot of MFJ being put up for sale, for more information e-mail Army. When a new piece of magic comes around be assured that

Army will have it or know about it, that's just the way caped heroes are. Thanks again Army for leading the way for us blind mice. What a program, thank you **GEN** for filling in at the last minute.

We had a few contests in September, the **VHF**, the **TQP** and many more fun times that I can't remember them all, but I am sure that our club members can and will inform us.

As I reported last month, and the month before, "the winds and rains that took its toll on my word tree are still evident". The word tree is still in a state of shock and in **ICU**. And so this NL will be all the worse for it. Remember to help return the word tree to its grandeur once more, thank you.

Are you thinking about being a club officer? That was the question presented to you last month, remember this is a great club, so please help keep it going.

### PHASE II.V.V:....

From time to time my outside cat(s) will present me with an offering. This offering is in the way of their latest kill, whether it be a bug or mouse or bird. This morning it was a mouse, the mouse was spread out on the front walk way a few feet from the front door. This location seems to be a special place for them, a sort of Stonehenge, a place of mystery known only to the cats. As I had mentioned before, this time it was a mouse, with out-stretched arms and holding a white flag, it must have been an Italian, we are lovers not fighters. All in all I can't believe it was **HM** or **GB**, I don't think they know how to handle any food that doesn't come from a can or bag, but I could be wrong, I often am.

As reported last month, **GB** seems to be happy living out doors, she still ventures forth on to the roof and other yards, so all is good with her. Another venture outside found a RAT this time, well half a rat, the two back

legs and a very long tail. One day **GB** came walking around the corner with a bird in her mouth, all the other cats gathered around to help but **GB** wisent having any part of them, with a few growls she managed to find an open spot to start her meal. As soon as **GB** opened her mouth to get a better grip, the bird flew off, **GB** got so mad that she started taking it out on the leaves on the tree. That bird should get an award for being dead, it had me fooled. I think I told you this already; **CU** watches **TB** and learns what can be done. The other day the routine chase/tag was well on its way when I needed to get something from the radio room. The cats did not stop with their chase/tag and **TB** was in the lead came running thru the TV room. **TB** knows how to travel between my feet but **CU** haven't mastered it yet. **CU** came running close behind **TB** and when **TB** flew between my feet this was too new for **CU** and stopped on a dime, front breaks on full, but I could

have sworn that I saw CU's back end come up off the floor just a bit. I bet next time even CU will keep up with TB.

Today between noon and 1:30 CU made a trip out a screened window, I open the window during the day in nice weather, the screen was pushed loose from its frame. CU was found huddled on the window sill and when I pushed the screen open CU entered the house faster than superman. Thinking about what had happened; I came up with two possibilities "what happened". First CU saw a bug on the screen and in her excitement the screen gave way, second, TB forced open the screen and pushed CU out and went in the other room? Sorry you missed HM, GB, & CU's birthday, but it's not too late to give them a gift.

**THOUSANDS OF YEARS AGO CATS WERE WORSHIPED AS GODS, THEY HAVE NEVER FORGOTTEN THIS**

The century plant is still standing but it's had it, as reported the last few months.

If anybody wants an offspring let me know.

Be sure and hug a cactus today, they need love too.

**WHY IS IT?**

Why it is the battery industry produces double AA and triple AAA batteries, what happened to the single A battery? Why is it that a 9V is smaller than a 6V battery? And when you purchase button battery's a lot of them start with a C, when we already have C cells, and now comes the question, where are the B batteries , no wonder our young people are running amuck.

**HMMMM**

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The word tree is finished for this trip and maybe for a long time to come, it thanks you all for enjoying its words.

Remember: keep your powder dry and your head below the horizon.

Happy Trails

73 Enjoy

What do you think, let me know?

73,

John Cechin W5FWR

[Carrots4ever2u@suddenlink.net](mailto:Carrots4ever2u@suddenlink.net)

**VEEPS CORNER**

*"The time has come," the Walrus said, "to talk of many things, of shoes--and ships--and sealing wax and cabbages and Kings..."* THE

## WALRUS AND THE CARPENTER" Lewis Carroll

This is my last Veep's Corner. When John calls the next meeting to order I hope to be somewhere close to or in Harlingen, Texas. A new job, a new start and some other changes. I have accepted a job at KGBT-TV in Harlingen as the Director of Engineering. I will have a staff again probably 2 sections. I'll know for sure when I check in, a pay raise and a wife. My girlfriend accepted my invitation to be my wife and is now my fiancé. Lee is not a ham, but accepts my hobby.

In December of 2004, I came to Nacogdoches to work at SFA in the Radio/TV department. The first ham I met was Robert Judy on the 84 machine. He invited me to the club meeting and as they say the rest is history.

We've seen some natural disasters, contested, helped in public service events-the Piney Woods Purgatory, the Neches

River Run and a couple of 5k events. We celebrated the efforts of many volunteers after the Columbia incident, Field Days, the Christmas pot luck and the Summer Ice Cream social and great camaraderie.

It's a great hobby, you meet some of the neatest people and well like any activity, some of the worst, (14,313 comes to mind). Remember you can always spin the dial.

In the almost 10 years I have been here, I've upgraded to General and to Extra (hint hint Andy) and still haven't used my HF privileges. We've seen some serious new radio technology—Software Defined Radio (SDR). I just saw a video on qrznow.com discussing a new small, small, did I mention small footprint SDR radio. The computer is on board the card. But it is SDR. Do take about 5 minutes and go to the website and look it up. Sounds pretty neat. If my crystal ball wasn't so cloudy... well you know

where that thought is going.

It's been a great almost 10 years here, but now time to change the QTH. I'll miss the group, the discussion, the "I almost got em then this JA came booming in and I couldn't hear Mongolia any more".

Good luck and best wishes to all. Good DX to each and every one of you

This is KC5 MIB, clear of the repeater.

73 and good DX

John

KC5MIB

[jlchapman2@juno.com](mailto:jlchapman2@juno.com)

## VE TESTING

Our next VE testing is scheduled for Wednesday, November 19th 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 November 5th** 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. Please come and bring a friend.

## UPCOMING EVENTS OF NOTE

Mark your calendars for the following events coming up in the next few months:

**ARRL SWEEPSTAKES**  
**CW** - November 1 - 3  
<http://www.arrl.org/sweepstakes>

**ARRL SWEEPSTAKES**  
**SSB** - November 15 - 17  
<http://www.arrl.org/sweepstakes>

**CQ WW DX CONTEST**  
**CW** - November 29 - 30  
<http://www.cqww.com/index.htm>

**ARRL 160M CONTEST**  
**CW** - December 5-7  
<http://www.arrl.org/160-meter>

**ARRL 10M CONTEST -**  
**CW, PHONE** - December 13-14  
<http://www.arrl.org/10-meter>

**ARRL ROOKIE**  
**ROUNDUP CW** -  
 December 21  
<http://www.arrl.org/rookie-roundup>

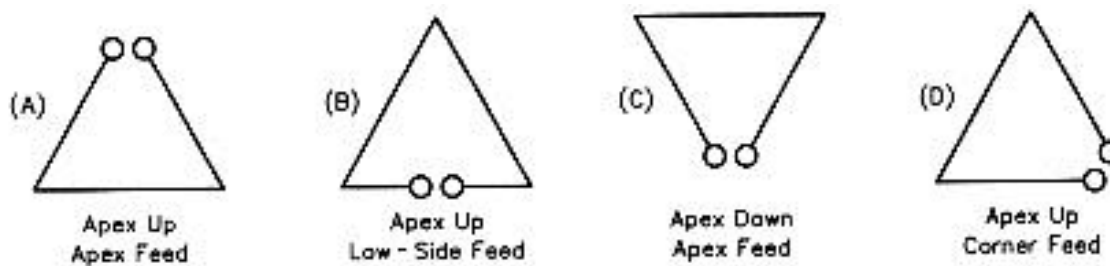
# Delta Loop Antennas

By

Thomas A. Atchison W5TV

A delta loop antenna usually refers to a full wave antenna that can take the shape of a triangle, a square, or a circle. I would like to consider a delta loop antenna that is shaped in a triangle configuration because such a configuration is easier to mount with either one or two trees or poles.

First, let's talk about the geometry in general. Here are some possible configurations:



	Polarization	Radiation Angle
A	Horizontal	Moderately High
B	Horizontal	High
C	Horizontal	Moderately High
D	Vertical	Low

Feed Impedance  $\approx 100 \Omega$

Fig. 1

These antennas are all considered in a plane that is perpendicular to the ground. Notice that using (A) we need a single pole and the bottom corners must be pulled out to maintain the triangular shape. The downside of this configuration is that the feed point is at the top. This is not too much of a problem as we will see later. In (B) we see the feed point is at the bottom, but the radiation angle is higher than in (A). If we choose (C) we need two top supports but the feed point is at the bottom and the radiation angle is lower. Finally, in (D) we get vertical polarization and the radiation angle is LOW. The result of this choice is a single pole for support, a bottom feed point, and the low angle of radiation will make for a better DX antenna. If you decide to build a delta loop you need to decide which configuration will be best for your location and what type of radiation you want i.e. horizontal or vertical.



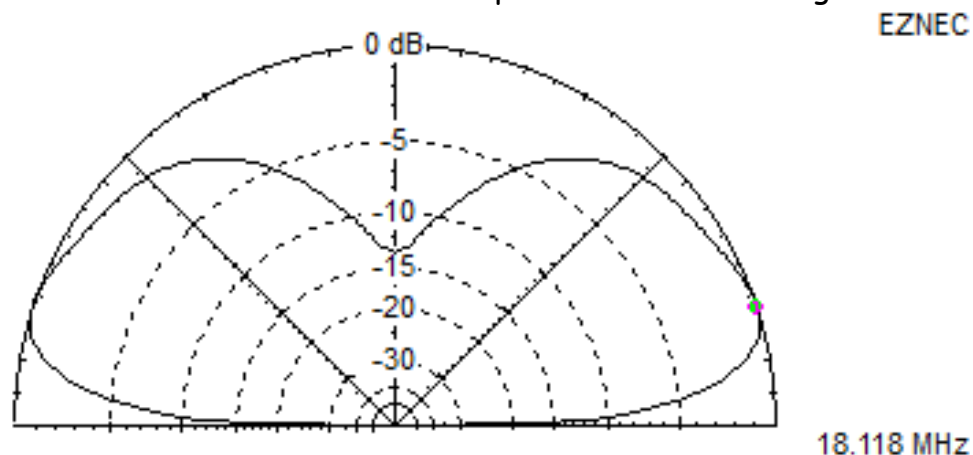
When you begin to think about building a delta loop antenna you need to realize that you will be working with a length of wire that is one wavelength long. Remember that

$$\text{one wavelength(feet)} = \frac{983.6}{\text{frequency(MHz)}}$$

If we consider an antenna for the center of the 17 meter band then we have a frequency of 18.118 and a length of 54.3 feet. Since the triangle has the same length on all three sides the length of each side is 18.1 feet. If we use (A), (B), or (D) above we need to have space at the bottom to spread the base to 18.1 feet with some clearance on each corner. If we use (C), then we will need to have two supports that are more than 18.1 feet apart. For this paper I'm going to talk about configuration (A) for our 17 meter delta loop.

We will simulate this antenna using #14 wire with the apex at 40 feet. The simulation was taken over real earth and each side of the triangle was approximately 20 feet. This differs from the theoretical figures stated above but I believe these numbers will work better in a real situation. The apex was set at 40 feet so the bottom was 22.7 feet. The elevation radiation pattern is shown in Fig. 2.

Total Field



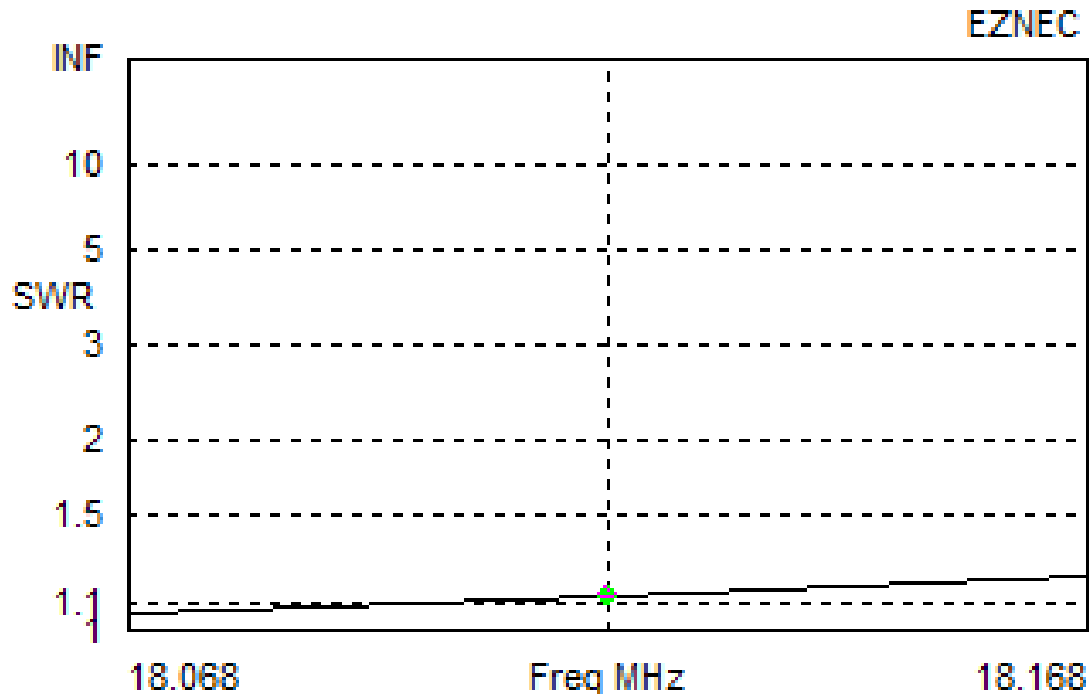
Elevation Plot		Cursor Elev	18.0 deg.
Azimuth Angle	0.0 deg.	Gain	3.43 dBi
Outer Ring	3.43 dBi		0.0 dBmax
Slice Max Gain	3.43 dBi @ Elev Angle = 18.0 deg.		
Beamwidth	49.3 deg.; -3dB @ 7.1, 56.4 deg.		
Sidelobe Gain	3.43 dBi @ Elev Angle = 161.0 deg.		
Front/Sidelobe	0.0 dB		

Fig. 2



Notice that maximum radiation occurs at 18.0 degrees. This maximum radiation is broadside to the antenna and it is horizontally polarized.

An SWR scan was run between 18.068 and 18.168 and the result is shown in Fig. 3.



Freq	18.118 MHz	Source #	1
SWR	1.13	Z0	200 ohms
Z	210.8 at 6.21 deg. = 209.6 + j 22.8 ohms		
Refl Coeff	0.06027 at 64.07 deg. = 0.02636 + j 0.0542		
Ret Loss	24.4 dB		

Fig. 3

The SWR at 18.118 is 1.13:1 and, as the plot shows, the impedance, Z0, is 200 ohms. A 4:1 balun should be used at the feed point and 50-ohm coax can be used to connect the antenna to the transmitter. This balun can also be used to hold the apex to the center pole (or tree) depending on how you mount the antenna.

This can be a very nice antenna for 17 meters, especially since 17 meters has been open all over the world during the past few weeks. Have fun!