

Nacogdoches Amateur Radio Club

2015 CLUB OFFICERS

Pres: John Cechin - W5FWR

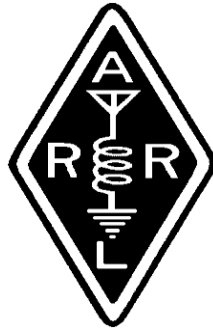
Sec/Treas: Army Curtis - AE5P

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.



DECEMBER MINUTES

The December meeting / Christmas Party of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on December 3rd.

Secretary/Treasurer

Army AE5P, opened the meeting at 6:00 p.m. in the Parish Hall of Christ Episcopal Church. Thirteen members and nine guests were present. Each person present introduced them self. Tom W5TV gave the invocation and the meeting was put on hold so all could eat. After eating the meeting resumed with minutes of the previous

meeting being approved as published. The Treasurer's report was read.

Old Business:

The **Shuttle Columbia Special Event Station** will be held the weekend of February 7, 2015 using the callsign K5C. More details later in this newsletter.

Timpson ISD balloon launch now scheduled for late January. The exact date will depend heavily on the weather, as clear skies are a requirement. All hams are invited to participate in tracking the balloon. We will have APRS equipment on board transmitting location data on 144.340 using W5NAC-11 as the callsign. Contact AE5P for more info on how you can help.

New Business:

Bob **K5ME** reported working 85 countries in the **CQWDX CW** contest.

Meeting closed at 6:50 p.m.

WHITE ELEPHANT AUCTION

Our annual Christmas Party White Elephant Auction was held with Army **AE5P** acting as the auctioneer. Twenty-four items were auctioned off raising \$437 for the club treasury. Many thanks to all who donated items and to all who bid on them.

2015 Dues Are Now Payable

Club dues for 2015 are now payable. Dues are just \$24 for the year, and cover all licensed Amateurs in a family. Have a large family? Just \$24 will cover all of them for a year. Dues can be paid at any club event or mailed to the club Secretary/Treasurer.

Checks should be made payable to NARC.

Congratulations

To Roy Blake **III (RM) KF5ZPV** on his upgrade to General.

To Bill Early **KA5OOZ** on his retirement December 31, 2015.

MY 2 CENTS FOX WILLY ROGER

JANUARY 2015:

That's right, it's January 2015, Xmas cheer, gifts, friends and family, **BA HUMBUG**, all behind us. For me it was a three week sickness starting about December first, great fun. My word tree was also feeling the sickness, so this **NL** will be lacking. What's even worse, I am almost out of fire wood; I know that a fire place fire isn't necessary, but it sure makes me feel better.

Now is the time to show off your Xmas gifts at the January meeting, so bring your sweaters, ties, hats, whatever for show & tell.

As of this writing I have not been in contact with our program director to gather information on the next program so it will be a surprise to all of us, ever feel like a mushroom? Hay what about the gas prices, some good stuff, at least for us at the pumps, but when I was working, I was in engineering and this low is very bad news for the oil patch, I am glad I am out of it.

PHASE II.V.V:....

As I said in the last **NL** the house is closed up until warmer weather. This does not sit well with both my inside and outside cats. The outside cats like to look inside and visit with the inside cats, that goes both ways. **TB** and **CU** have this routine, it's get me up, eat, run and chase each other, and then take a nap until late afternoon, rough life. The other day it was run and chase time and **CU** ran down the hall with **TB** holding in the living room, all of a sudden **TB** jumps up in what I can only describe as a kangaroo hop and preceded down the hall after **CU**, I wish I had

that one on film. It's like the cats have cabin fever, I don't know what else to call it. **TB** is still doing the cabinet door thing along with climbing to the highest point in a room and seems to get mad when I don't yell at her, then she is off to find something else to make me mad, the mind of a cat is a wonder.

HM has been taking to resting in the tree in the front yard, I think he is pretending he is a bird house and a bird will fly into his mouth, that way he doesn't have to waste his energy and enjoy a meal without anyone else taking his prize.

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

The century plant is still standing but I don't know how, I am waiting for it to fall onto the power lines and produce some fireworks.

If anybody wants an offspring let me know.

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

WHY IS IT?

Does anybody know what came before paperclips?

Why is it that in days past, playing cards had no numbers in the corners of the cards, is it that people were getting dumber as time progressed? In the old days people could count maybe?

HMMMM

GREAT INVENTIONS OF ALL TIME:

Long sleeve shirts, the first week of my sickness I used up six handkerchiefs, a roll of toilet paper and when that was all used up, let's just say, thank goodness for long sleeves.

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?

John Cechin W5FWR

Carrots4ever2u@suddenlink.net

SHUTTLE COLUMBIA SPECIAL EVENT STATION

The **Shuttle Columbia Special Event Station** will be held the weekend of February 7, 2015 using the callsign K5C. This year every club member is invited to operate the event from their home station if they so choose. The only requirement is that only one station is allowed to transmit on a band at one time. To facilitate this, please note the following:

1. Sign up with the club Secretary for the band(s), mode(s) and time slot(s) of your choice.
2. Keep an electronic log of all contacts made. ALog by

N3FJP is recommended as the logging program of choice. Send an electronic copy of your log to the Club Secretary immediately following the event.

3. A special QSL card is available through W5NAC. A SASE is appreciated.
4. The station at AE5P will be available for club members to operate during the event.
5. Have fun and make lots of contacts.

VE TESTING

Our next VE testing is scheduled for Wednesday, January 21 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

CLUB NETS

Remember to join us each week for the 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.

The actual operating frequency for each net is at the discretion of the net control operator. The Monday night nets have been meeting recently on the club 444.050 UHF repeater or the 147.32 VHF repeater. Stay alert to other possibilities such as a simplex frequency or even HF.

NEXT MEETING

The next meeting will be on **Wednesday January 7** 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 join us and bring a friend.

UPCOMING EVENTS OF NOTE

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

North American QSO Party - CW

1800Z Jan 10 to 0600Z Jan 11

<http://www.ncjweb.com/NAQP-Rules.pdf>

North American QSO Party - SSB

1800Z Jan 17 to 0600Z Jan 18

<http://www.ncjweb.com/NAQP-Rules.pdf>

CQ 160M Contest - CW

2200Z Jan 23 to 2159Z Jan 25

<http://www.cq160.com/rules.htm>

ARRL Jan VHF Contest

1900Z Jan 24 to 0359Z Jan 26

<http://www.arrl.org/january-vhf>

Shuttle Columbia Special Event Station K5C

1500Z Feb 7 to 2359Z Feb 8

<http://w5nac.com/>

CQ WW RTTY WPX Contest

0000Z Feb 14 to 2400Z Feb 15

<http://www.cqwxrtty.com/rules.htm>

ARRL International DX Contest, CW

0000Z, Feb 21 to 2400Z, Feb 22

<http://www.arrl.org/arrl-dx>

CQ 160-Meter Contest, SSB

2200Z, Feb 27 to 2159Z, Mar 1

<http://www.cq160.com/rules.htm>

North American QSO Party, RTTY

1800Z, Feb 28 to 0600Z, Mar 1

<http://www.ncjweb.com/NAQP-Rules.pdf>

ARRL Inter. DX Contest, SSB

0000Z, Mar 7 to 2400Z, Mar 8

<http://www.arrl.org/arrl-dx>

Houston Hamfest

Ft Bend County

Fairgrounds, Rosenberg, TX

1400Z-2130Z, Mar 28

<http://houstonhamfest.org/>

CQ WW WPX Contest, SSB

0000Z, Mar 28 to 2400Z, Mar 29

<http://www.cqwx.com/rules.htm>

ARRL Rookie Roundup, SSB

1800Z-2359Z, Apr 19

<http://www.arrl.org/rookie-roundup>

7th Call Area QSO Party

1300Z, May 2 to 0700Z, May 3

<http://ws7n.net/7QP/new/Page.asp?content=rules>

Dayton Hamvention

Dayton, Ohio

May 15 - 17

<http://hamvention.org/>

CQ WW WPX Contest, CW

0000Z, May 30 to 2400Z, May 31

<http://www.cqwx.com/rules.htm>

HAMCOM Hamfest

Irving TX Convention Center (New Location)

June 12 - 13

<http://www.hamcom.org/>

ARRL June VHF Contest

1800Z, Jun 13 to 0259Z, Jun 15

<http://www.arrl.org/june-vhf>

ARRL Field Day

1800Z, Jun 27 to 2100Z, Jun 28

<http://www.arrl.org/field-day>

The Half Square Antenna

By

Thomas A. Atchison W5TV

Several months ago I wrote an article entitled 'Basic Antennas Part 24'. In that article I discussed the half-square antenna which consists of two vertical antennas that are fed in phase with a horizontal element. That is, we have two vertical elements of length $\lambda/4$ that are spaced a distance $\lambda/2$ apart and joined at the top by a horizontal wire as shown in Fig. 1.

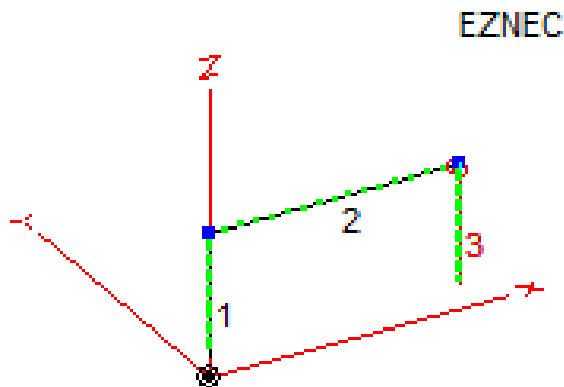


Fig. 1

Basically, the length of wire 1 and wire 3 are both $\lambda/4$ and the length of wire 2 is $\lambda/2$. The antenna can be fed at one corner. This is a low-impedance current feed. Another option is to feed the antenna at the lower end of one of the vertical elements. This is a high-impedance voltage feed. Of course there are other options for feed points.

As I mentioned in the previous article, we can think of this as two $\lambda/4$ length verticals, spaced $\lambda/2$ apart, and fed in-phase by the top wire. The current maximums are at the top corners. The theoretical gain over a single vertical is 3.8 dB. If we feed the antenna at an upper corner we do not need an extensive ground system or a complicated feed arrangement that would be required with a pair of quarter wave verticals.

I want to revisit this half square antenna and suggest some interesting variations. In the original article I simulated a half square antenna for 40 meters centered at 7.150 MHz. The total length of wire was 140 feet with the horizontal element 50 feet up and 70 feet long. The vertical elements were each 35 feet long and the feed point was at an upper corner. Using a 50Ω transmission line and EZNEC we get an SWR sweep from 7 MHz to 7.3 MHz that is shown in Fig. 2.

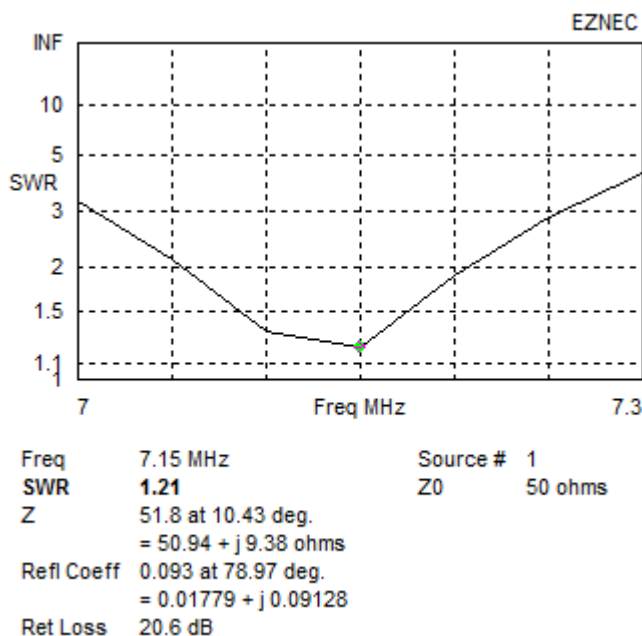


Fig. 2

Now suppose we maintain the total length of 140 feet, however; we alter the lengths of the vertical and horizontal pieces. If we make the horizontal piece 66 feet and the vertical pieces 37 feet we have the SWR scan shown in Fig. 3.

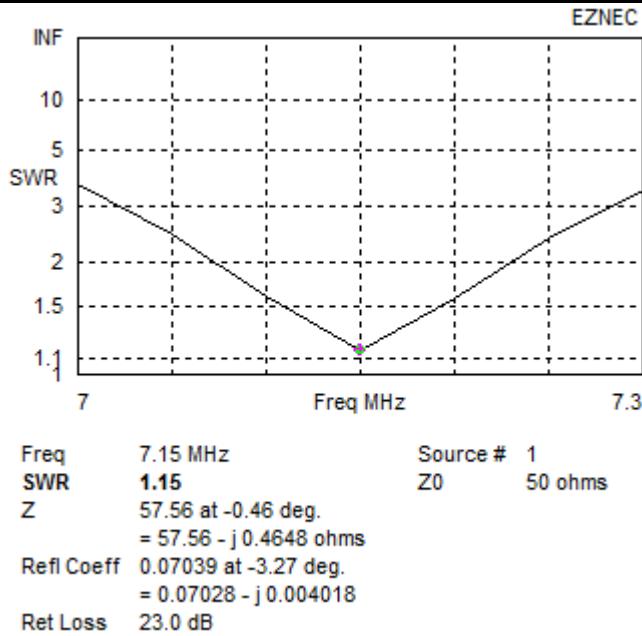


Fig. 3

If we make the horizontal piece 62 feet and the vertical pieces 39 feet we get the SWR scan shown in Fig. 4.

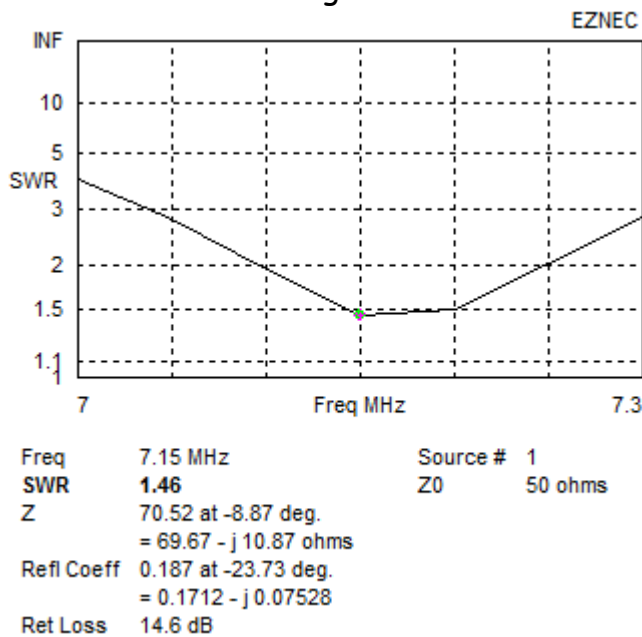
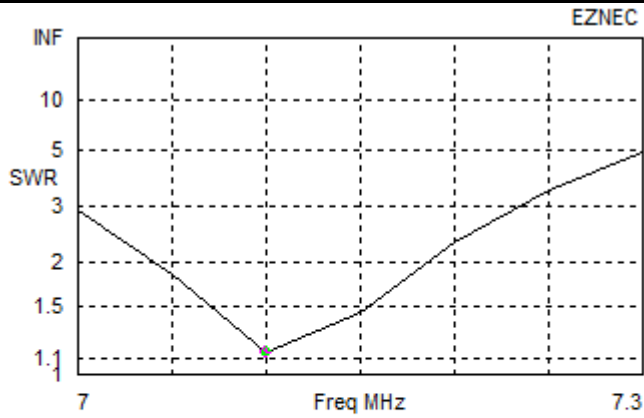


Fig. 4

Going the other way, let's make the horizontal piece 74 feet and each vertical piece 33 feet. This leads to the SWR scan shown in Fig. 5.



Freq 7.1 MHz Source # 1
SWR 1.13 Z0 50 ohms
Z 47.72 at -6.73 deg.
= 47.39 - j 5.589 ohms
Refl Coeff 0.06322 at -111.74 deg.
= -0.02342 - j 0.05873
Ret Loss 24.0 dB

Fig. 5

By the way, the 3D radiation pattern for this last case is shown in Fig. 6.

EZNEC

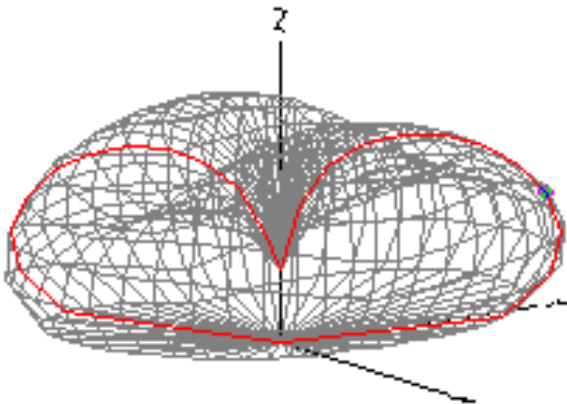


Fig. 6

The red curve is the elevation pattern perpendicular to the plane of the antenna. The maximum radiation occurs at 30 degrees.

From this study we see that the length of the vertical pieces can be altered quite a bit and the antenna will continue to perform well. If we continue to shorten the vertical legs, the point of lowest SWR moves lower in frequency and the minimum SWR increases.

I will examine other variations of this antenna in future articles.