

# 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.



## APRIL MINUTES

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

### Old Business:

Field Day: Discussion held on putting together a Field Day operation this year.

Field Day is scheduled for June 27 - 28. Possible locations mentioned included the new Emergency Operations Center, the Airport, and the Law Enforcement Center. If you are interested in participating in a traditional Field Day event, please make it known.

The now annual NARC Ice Cream Social will be held on our regular meeting night in July. Start planning now on what flavors of the cold stuff you want to bring. The club will furnish bowls, spoons, and napkins.

Neches River Rendezvous is scheduled for Saturday, June 6. This is the 18<sup>th</sup> year for the NRR and the 12<sup>th</sup> year for Ham Radio support. The event sees hundreds of people

floating down the Neches River from Anderson Crossing to SH7 at Loco Bayou. There is no cell phone coverage in this area, so Ham Radio plays a vital role in providing communications. The event begins early Saturday morning and is pretty well finished up in early afternoon. Volunteers are provided a Tee Shirt and everyone is fed a great lunch of hamburgers and peach cobbler. If you have not signed up already, please contact Steve Glass ([kb8qwn@hotmail.com](mailto:kb8qwn@hotmail.com)) or Army Curtis ([ae5p@arrl.net](mailto:ae5p@arrl.net)) to volunteer. You'll have a fun day and it's for a good cause.

### New Business:

Tom W5TV was successful in finding the April fools joke in the April issue of QST. Have you operated SSB FM yet?

Meeting closed at 7:50 p.m.

**Program: Army AE5P** presented a short video program on the Timpson

ISD high altitude balloon program. The next balloon flight is scheduled for late May.

## MY 2 CENTS FOX WILLY ROGER

### MAY 2015:

I'm sure that somewhere some place someone has something good to say about MAY, I just don't know what it is right now, but I am sure it will come to me, sooner or later. Well now did everybody have fun on April 15<sup>th</sup>? It seems to come around faster and faster these days.

The "TWT" is still a little weak and unsure if it should bring forth its harvest, uncertainty of the weather has the TWT holding back, and I can't blame her one bit, can you?

The fire place got another chance to shine the other day, I burnt almost every bit of wood I could find, the only logs left were the water soaked ones, and I guess I will have to wait

till next season to use them.

The SES has come and gone with good results as reported in last month's newsletter. The QSL mgr. had 188 confirmed QSO's and 1 SWL, that was about 20% of the logged contacts, I ran out of stamps and envelopes part way through and had to replenish supply's. As I said in last month's NL, some 939 QSO's and only a few doubles and a few no records, all in all, a fine SES it was, thanks to all.

It has been reported to me that we are going to have a program for May, the subject was to be "the care and cleaning of your frequency" the program is brought to you through special arrangements of a person to be named at a later date, so come one come all, don't be shy.

I have been chosen to go on a special secret mission by the gov. The mission starts on the 6<sup>th</sup> of May, so it's unclear if I will be at the meeting as yet.

I understand that Army has decided to keep his truck, for now, the dirt was removed by the storms that came through here a few days ago, Army was reported saying "I am going to give my truck one more chance" we will keep a close eye on this project and report any changes.

My good friend put up a Rohn 25 tower, as I reported last month, well the tower is still up and doing well, now all he has to do is get an computer better/faster than his win95, there is always something.

As you can see, as with last time I am using more spaces, this system seems to work well, so why not use it till it drops?

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

LG got on the bands again last week and used a made-up call, I warned her not to and that I would help her get her ticket, she's thinking it over, so don't be surprised if you get some QSL cards you didn't work, it will all come out in the wash.

The inside bunch as well as the outside bunch have their warm weather routine, eat sleep and sleep some more, sometimes it's hard to keep up with them.

#### **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 still waiting for it to fall onto the power lines and produce some fireworks. The birds seem to like it, I guess I will have to start a country now....

If anybody wants an offspring, I still have a few left, a cactus trade would be nice, let me know.

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

#### **WHY IS IT?**

Soft drinks come in lots of 6, why not 5. Wouldn't it be easier, 5-10-15-...instead of 6-12-18? Some things just seem to slip by

me. And has anybody noticed that items in the stores are changed? What happened to the one and three pound containers of ground coffee, and the five pound bag of sugar, gone forever?

And the metric system, does anybody remember when metric tools were introduced? Metric sockets with sq. inch drives, what's with that, couldn't the metrics get it straight? Is having the inch drive used to make me feel better about the metric system?  
HMMMM

#### **GREAT INVENTIONS OF ALL TIME:**

Self-sealing envelopes, both a boon to mankind and a curse. On one hand you don't have that nasty taste in your mouth forever, but on the other is all the adhesive protector strips that seem to never disappear when you try to dispose of them, what's your choice?

Has anyone come up with the answer to "Why one Beer Company does have

small controlled  
bubbles/foam and all the  
other Beer companies have  
wild uncontrolled  
bubbles/foam?

That's it for this trip; I  
will leave room for Army  
and the others to fill the  
empty spaces.

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](mailto:Carrots4ever2u@suddenlink.net)

## VE TESTING

Our next VE testing is  
scheduled for Wednesday,  
May 20 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 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 May 6th**  
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.  
A program is planned.

## UPCOMING EVENTS OF NOTE

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

**7th Call Area QSO Party**  
1300Z May 2 to 0700Z  
May 3

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

### HAMVENTION

Dayton, Ohio  
May 15 - 17

<http://hamvention.org/>

**CQ WW WPX Contest, CW**  
0000Z May 30 to 2400Z  
May 31

<http://www.cqwp.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>

**IARU HF World  
Championship**

1200Z, Jul 11 to 1200Z,  
Jul 12

<http://www.arrl.org/iaru-hf-championship>

**CQ Worldwide VHF  
Contest**

1800Z, Jul 18 to 2100Z,  
Jul 19

<http://www.cqww-vhf.com/2014VHFcontest%20rules.pdf>

**North American QSO  
Party, RTTY**

1800Z, Jul 18 to 0600Z,  
Jul 19

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

**North American QSO  
Party, CW**

1800Z, Aug 1 to 0600Z,  
Aug 2

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

**North American QSO  
Party, SSB**

1800Z, Aug 15 to 0600Z,  
Aug 16

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

**ARRL Rookie Roundup,  
RTTY**

1800Z-2359Z, Aug 16

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

**ARRL September VHF  
Contest**

1800Z, Sep 12 to 0300Z,  
Sep 14

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

### Texas QSO Party

1400Z, Sep 26 to 0200Z,  
Sep 27 and

1400Z-2000Z, Sep 27

<http://www.txqp.net/>

## Simple 2-Meter FM Yagi

By  
Thomas Atchison, W5TV

Since there is an increased interest in using an antenna on 2-meters that will have directivity and gain, this article will consider the construction of a 3-element yagi that can be mounted vertically and fed with 52-ohm coax. This should provide directivity and a gain of approximately 6 db.

First, we will model the yagi using EZNEC and then we will consider some points in the construction of such an antenna. The antenna is shown in Fig. 1.

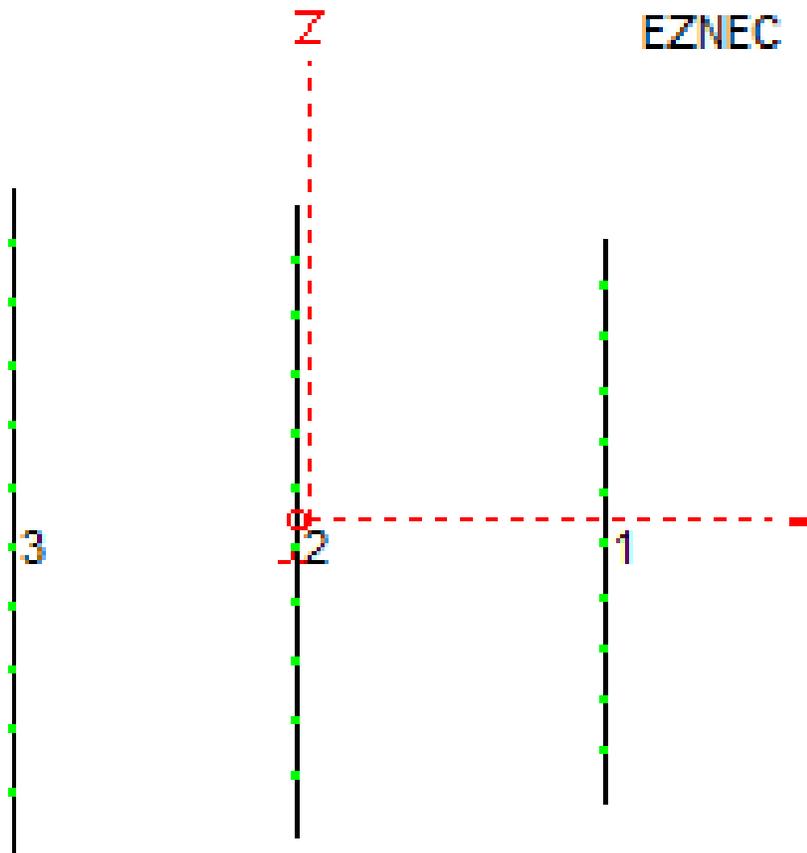
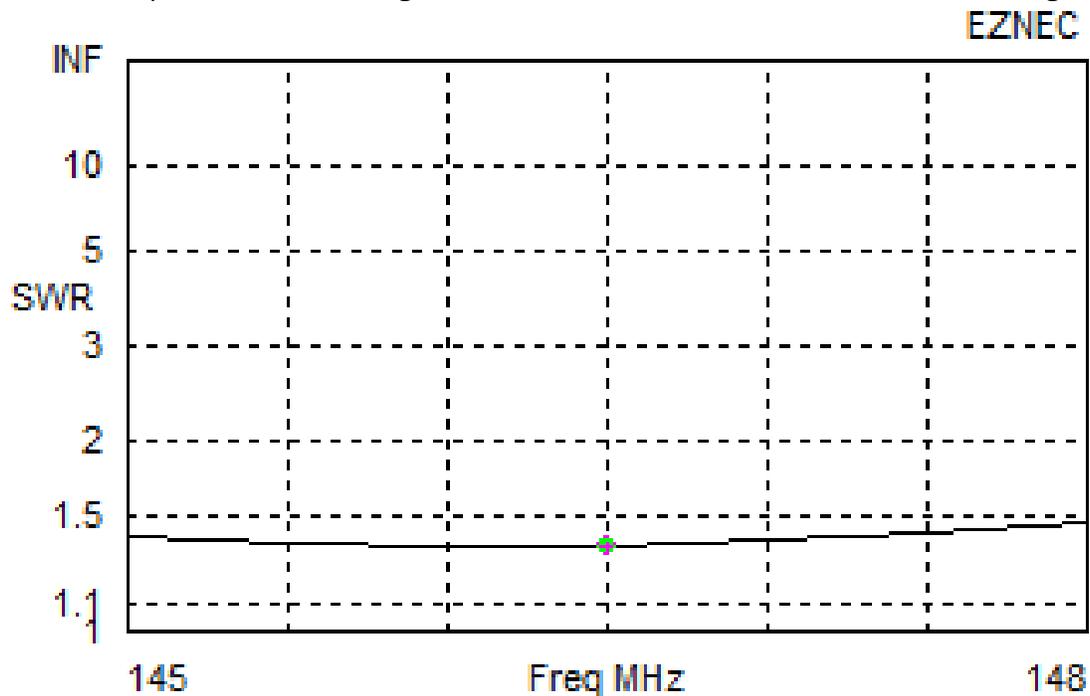


Fig. 1

The director is labeled 1 and it is 33 inches long. The driven element is labeled 2 and it is 36.5 inches long. The reflector is labeled 3 and it is 40 inches long. The spacing between 1 and 2 is 18.5 inches and the spacing between 2 and 3 is 17 inches. In this simulation the antenna boom is 10 feet above the ground.

The SWR plot over the range from 145 MHz to 148 MHz is shown in Fig. 2.



Freq	146.5 MHz	Source #	1
SWR	1.36	Z0	50 ohms
Z	37.2 at 4.29 deg. = 37.09 + j 2.781 ohms		
Refl Coeff	0.1515 at 168.01 deg. = -0.147 + j 0.03662		
Ret Loss	16.4 dB		

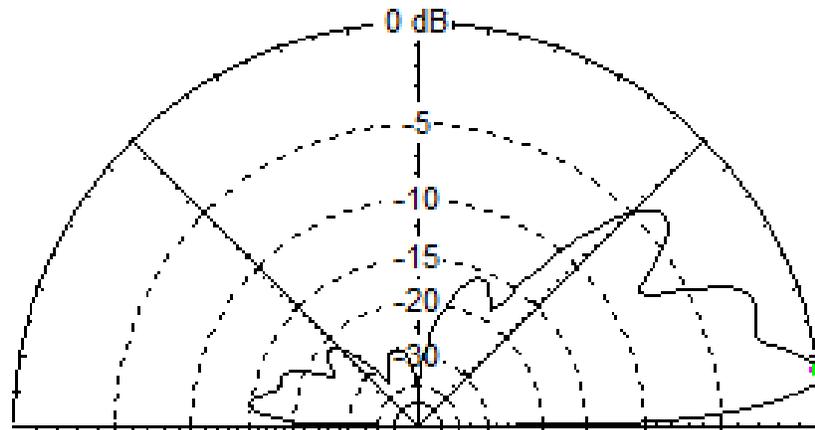
Fig. 2

Notice that the SWR is below 1.5 to 1 over this range.

The elevation radiation pattern is shown in Fig. 3

Total Field

EZNEC



146 MHz

Elevation Plot		Cursor Elev	8.0 deg.
Azimuth Angle	0.0 deg.	Gain	9.58 dBi
Outer Ring	9.58 dBi		0.0 dBmax
Slice Max Gain	9.58 dBi @ Elev Angle = 8.0 deg.		
Beamwidth	20.7 deg.; -3dB @ 3.3, 24.0 deg.		
Sidelobe Gain	7.54 dBi @ Elev Angle = 20.0 deg.		
Front/Sidelobe	2.04 dB		

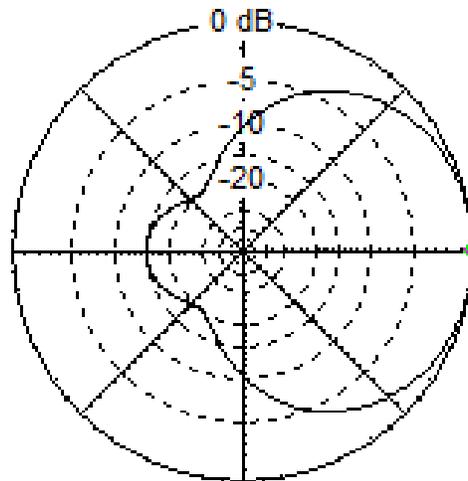
Fig. 3

The maximum radiation is at 8 degrees and the azimuth slice has a gain of 9.58 dBi.

This azimuth slice is shown in Fig. 4.

Total Field

EZNEC



146 MHz

Azimuth Plot

Elevation Angle 8.0 deg.

Outer Ring 9.58 dBi

Cursor Az

0.0 deg.

Gain

9.58 dBi

0.0 dBmax

Slice Max Gain 9.58 dBi @ Az Angle = 0.0 deg.

Front/Back 14.85 dB

Beamwidth 109.0 deg.; -3dB @ 305.5, 54.5 deg.

Sidelobe Gain -5.27 dBi @ Az Angle = 180.0 deg.

Front/Sidelobe 14.85 dB

Fig. 4

There is an excellent article in the April 1993 QST on pages 54-55 for the construction of such an antenna. I have modified it slightly so here are my suggestions. The boom can be made of  $\frac{3}{4}$  inch PVC. Cut two 18 inch pieces of PVC and insert them in a tee joint. A piece of PVC can be inserted in the bottom of the tee to serve as a mast. For the elements you can use welding rods or you can straighten out a metal coat hanger for each element. Coat hanger wire is stiff enough to serve as elements in the lengths we are using.

Drill holes in the boom about  $\frac{1}{4}$  inch from each end of the boom and insert the director and reflector. The size of the holes should be such that the elements will slide through but are still snug. Center these two elements on the boom and use epoxy on each side of the boom so the elements will not move. The director and the reflector should be 35.5 inches apart. For the 2 meter FM band you will want the elements to be vertical and in the same plane.

The driven element will be mounted about 17 inches from the reflector and it will consist of two pieces. At approximately 17 inches from the reflector drill two holes about  $\frac{1}{4}$  inches apart so you can mount two rods, each about 20 inches long, through these holes on opposite sides of the boom. Allow about  $\frac{1}{4}$  inch of each rod to protrude through the boom to the other side. Epoxy these two rods so they will not move. These make up the driven element.

Your feed line should be 52 ohm coax. You can solder the center conductor to one of the  $\frac{1}{4}$  inch protrusions and the shield of the coax to the other  $\frac{1}{4}$  inch protrusion. If you are going to have a very long run of coax, I suggest that you use RG-213.

Put your antenna on a mast, hook an SWR meter that will handle 2 meters in the line, and trim the driven element until your SWR is less than 1.5 to 1 on your operating frequency. The antenna should be good for the entire FM band.

## NEW REPEATERS

The club recently acquired two new Yaesu DR-1X repeaters, funded by NCEC, to replace the existing equipment at the City Communications site on Powers Street. This includes the 146.840 VHF repeater and the 440.050 UHF repeater.

The Yaesu DR-1X is a very versatile synthesized radio, able to operate on either 2M or 70CM, and is digital capable. We have both repeaters currently configured to accept either analog (FM) or digital input, and to transmit analog FM. Digital input is automatically converted to analog. As both repeaters are identical, this also provides backup if one unit should fail. The repeater controller logic is built into the radio so an external controller is not required.

As those using the new repeaters have already noticed, there is no courtesy tone, nor is there voice ID. All identification is in CW.

Unfortunately, the problems we have been experiencing with the 146.840 repeater continue to plague us. Several changes have already been made in an attempt to correct the problems, and additional changes will be made until the repeater is operating correctly.

The installation of the new equipment was made April 22 with a number of club members participating. Some pictures of that event are included below. Many thanks to Rusty KD5GEN, Tom W5TV, Mike KF5KEY, Robert KC4LUY, and special thanks to Tim KE5PQJ who brought with him a couple of strong young guys from Commercial Bank who took care of the heavy lifting.



