March 2013 **Volume 03-2013**

Nacogdoches Amateur Radio Club

2013 CLUB OFFICERS

Pres: Mike Brown – KF5KEY

VP: John Cechin – W5FWR

Sec/Treas: Army Curtis - AE5P

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.

MARCH MINUTES

The March meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on March 6th. **President Mike KF5KEY**, opened the meeting at 7:00 p.m. in the Bailey Library of Christ Episcopal Church. Twenty members and three guests were present. Each person present introduced themself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

President reported on **KF5GAQ's** appointment to the Naval Academy. Congratulations to **Andrew** on a job very well done.

We are sorry to report the passing of two former club members, **Larry Means WA5IXN** and **Jerry Simmons KE5KDE**.

Army AE5P passed out the new Columbia Special Event Station Certificates that we will be using this year to all present. The certificate features original art work by our own **W5FWR**.

Army AE5P gave a report on the situation with our 147.32 repeater. The repeater is back on the air using a temporary antenna. More work is planned.

Certificates have been received by the top scoring stations from the Great East Texas Adventure, also known as

the ARRL 2012 January VHF Sweepstakes. A picture of the winners is presented later in this newsletter.

Meeting adjourned at 7:33 p.m.

Show and Tell:
Bill N5YA showed off a high power 2 way splitter for 50MHz he built for K5QE.

Program:

Army AE5P presented a program on the IFR 1200S service monitor, and provided quick testing of frequency and deviation on 2 meter handhelds brought by club members.

FROM THE PRESIDENT

Greetings once again to all you folks in the club. There has been very little happening radio-wise around this QTH, so unfortunately (or fortunately!), this will be a very short one.

I had a very nice visit to the QTH of W5TV, Dr. Tom, and was very impressed with the layout and equipment of his shack, though it could hardly be called a shack. He showed me quite a few different methods of operation with various types of equipment, and I thoroughly enjoyed the experience. A great setup, Tom. And thanks a lot.

As I was browsing through the April issue of QST magazine, I ran across a brief article on page 20 involving Captain Ron Hall, WQ3W, a pilot for US Airways, who manages to fly a commercial airline and log contacts at the same time. According to Ron, after achieving all the necessary aspects of flying the plane and after he has reached cruising altitude and no longer in contact with air traffic control, he has time to call CQ and make contacts. I was extremely interested to think that his company would allow that, but I loved the idea of making an air mobile contact with a commercial jet. A few days later, on March 27, I was logging a few contacts on 20 meter phone, when I came across a real pileup at 14.240 mhz. After listening for a while, much to my surprise, I discovered that the cause of all this commotion was the pilot of a U. S. Airways (soon to be American Airlines) who was calling on 20 meters. He was piloting an Airbus 319 at 39,000 feet over the eastern US at the time and was giving continuous updates as to location with each of his new contacts.

I thought that I wouldn't stand a chance with my 100 watts and a wire, but I threw out my call sign, and after the second go-round, much to my surprise, I was QSOing with Captain Steven Black, K2STB from some 7+ miles high. If you are interested, you might like to check out his page on QRZ.com. It has both his home QTH setup as well as a picture of the Airbus 319 that he was piloting. Anyway, it's great contacts like this that really make the

day for us hams. I do have to admit, though, that he really has the advantage antenna-height-wise over us poor earthbound types. A really fun time....

Just a reminder to those of you who are fans of contesting, the CQ WPX SSB Contest is this weekend, the 30th and 31st. Army is going to be operating at his QTH and has opened up his shack to any who would like to operate from there. For you new guys, this is a perfect opportunity to learn the ins and outs of contesting at a first rate station. I have operated there a few times and learned a great deal from the experience. I plan to be there and hope to see some of you folks also. I'm bringing the donuts.

Happy Easter to you all....

73 to all....

KF5KEY – Mike
Email:
michaelleebrown@hotmail.com

MY 2 CENTS
FOX WILLY ROGER

April has crashed through our front doors with all that rain for May….
That's right, April is here and the club's SES has been here and gone along with January VHF contest, Field Day, June and September VHF contests, busy calendar, and I am still working on the QSL mail outs, as of this writing the count is just under 150 and that's not counting Canada, I will finish one day.

I went into the wilderness in search of program givers, the folks that volunteered to share there grey matter with the club, N5YA, W5TV. Although AE5P 6000 is only still a dream in the mist, he did step up and at the last minute give us two fine programs, thanks Army.
In my wondering in the wilderness for an Elmer a man above men came forth with information on his shack, sorry no photos, the shack is at a secret location. I am talking about Bob K5ME, #1 in the nation for Rover in the January 2012 VHF contest. Bob approached me with his information thanks Bob. Remember to give Bob some encouragement to better his last years contact number. Who will be next with his or her shack information, N5YA, AE5P, K5QE, W5TV or who, if you don't have a camera, I can do photos?

There will be a test at the April's meeting, the answer will appear in the May newsletter, so remember to purchase your copy as soon as it hits the stands, if you want, you can e-mail me your answers or call AE5P.

73,
John Cechin W5FWR
Carrots4ever2u@suddenlink.net

VE TESTING

Our next VE testing is scheduled for Wednesday,

April 17th 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 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 April 3rd** 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 join us and bring a friend.

NARC WEEKLY LUNCH

Please come join us for lunch each Wednesday beginning at 11:30 a.m. at Clear Springs Restaurant on Old Tyler Road.

CONGRATULATIONS TO:

Ted Morgan KF5PHG on his upgrade to General at our March VE session.

SHACK OF THE MONTH

K5ME

Transceiver: My radio is a Kenwood TS-850S/AT made in 1994. It is powered by an Astron RS-35A 12-volt, 35-amp power supply. The radio has an internal automatic antenna tuner and electronic keyer. Lacking a digital signal processor (DSP), I installed a 500-Hz filter for the lower intermediate frequency (455 kHz). One shortcoming of the radio is that one must flip a *rear-panel* switch to use a keyer other than a paddle (e.g., straight key, bug, or computer).

Antennas: I have two antennas, an 80-meter dipole and a Cushcraft R8 trap vertical for 40-10 meters. I switch between the antennas with a coax switch at my operating position. Jerry, K5JLW, was a great help in getting my dipole in the air. I have the dipole on 160 meters with fair success. The vertical is mounted on a mast to keep the bottom (which is "hot" with r.f.) above human reach. I installed a 3-wire counterpoise below the base

of the vertical, each wire being 33 feet long (1/4 wavelength on 40 meters). The vertical is guyed.

Computers: I use an Acer laptop running Windows 7. My logging software is LOGic 9. It is a general purpose logging program that does an adequate job in contesting, which is my favorite activity. I do not have it connected to my radio, so I have to enter band changes manually. It is also a bit weak in dupe checking. Having using LOGic since I began logging digitally, I'm very familiar with it, and just hate to change.

On another (older) laptop I run a propagation prediction program (ACE-HF Version 2.05) while contesting. At each hour I can view at map showing the coverage on each band. Although I am not an SO2R (single operator two radios) operator, I sometimes switch bands back and forth looking for new multipliers.

Another program I access on the Internet is the Reverse Beacon Network <reversebeacon.net/main.php>. I set a filter to show stations that are being reported by U.S. skimmers. I've picked up a few new countries this way. Don't use this during contests unless you enter in the "assisted" category.

Results:

Since I began operating here in Lufkin (August 2008) I have worked all states and 120 countries, all on cw. I have 45 states and 10 countries on 160m. Last year I got in to 38 contests and made nearly 6,000 contest QSOs. My goal is to do better each year than before.

BASIC ANTENNAS

PART 51

by

Thomas Atchison W5TV

An antenna that has evolved from the J-Pole that was described in the two previous articles is a vertical end-fed dipole called a Slim Jim. The name is derived from the type of feed called a **J**-**I**ntegrated **M**atching stub (JIM). From what I have read, the original design goes to F. C. Judd, G2BCX. This antenna has the advantage of a very low angle of radiation as will be seen below.

A diagram of the basic Slim Jim is shown in Fig. 1.

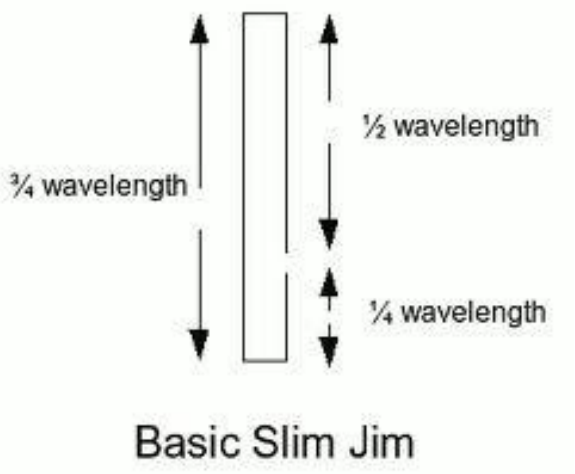


Fig. 1

This antenna can be constructed using 450-ohm ladder. A diagram of such a construction is shown in Fig. 2. Note that the feed point will need to be varied to get a good match to 50-ohm coax. The matching impedance will increase with distance from the bottom of the antenna.

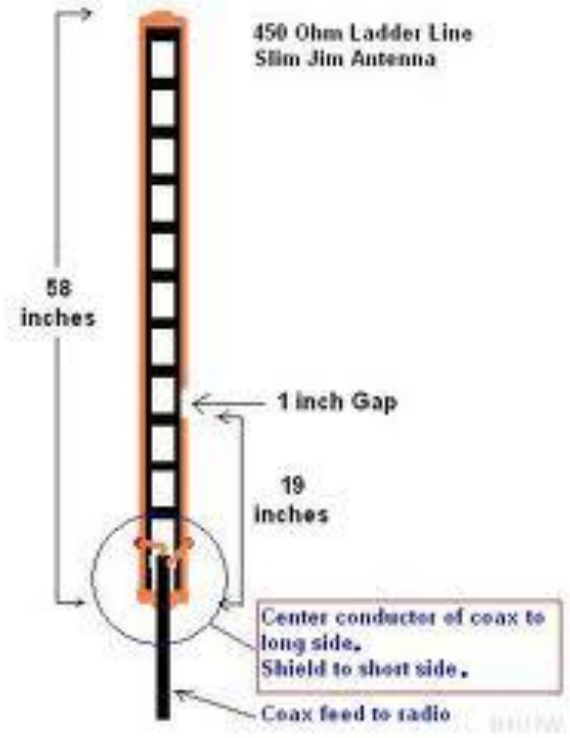
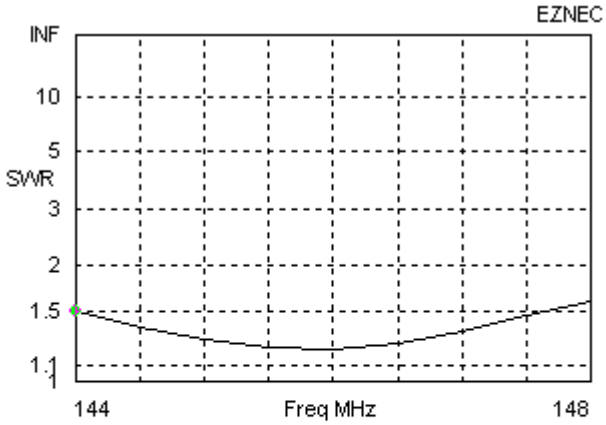


Fig. 2

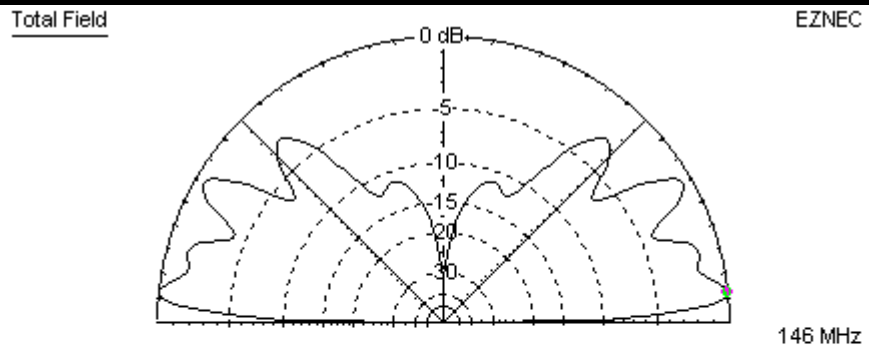
Using the dimensions listed in Fig. 2, the EZNEC simulation yields the SWR plot shown in Fig. 3.



Freq	144 MHz	Source #	1
SWR	**1.51**	Z0	50 ohms
Z	75.66 at -0.33 deg.		
	= 75.66 - j 0.4321 ohms		
Refl Coeff	0.2042 at -0.77 deg.		
	= 0.2042 - j 0.002736		
Ret Loss	13.8 dB		

Fig. 3

The elevation radiation pattern is shown in Fig. 4.



Elevation Plot		Cursor Elev	6.0 deg.
Azimuth Angle	0.0 deg.	Gain	4.13 dBi
Outer Ring	4.13 dBi		0.0 dBmax

Slice Max Gain	4.13 dBi @ Elev Angle = 6.0 deg.
Beamwidth	17.2 deg.; -3dB @ 2.7, 19.9 deg.
Sidelobe Gain	4.13 dBi @ Elev Angle = 174.0 deg.
Front/Sidelobe	0.0 dB

Fig. 4

Notice that the maximum radiation is at 6 degrees. In this simulation I used a feed point that was 2.5 inches above the bottom of the antenna.

For this antenna to be effective it needs to be mounted in free space as much as possible. One technique is to hang the antenna from a tree as shown in Fig. 5.

Fig. 5

It's Magic!

By Brooke Allen, N2BA

A few years ago, a co-worker and I decided to take our teenage sons to the American Association for the Advancement of Science annual conference. Our pre-trip planning conversation went something like this:

He: "Let's take my car. It's brand new. I have an iPod jack, a satellite radio, a GPS, a CD player with quadraphonic sound, and hands-free cellular."

Me: "Let's take my 10-year old beater. I've got a cassette tape player we won't use, an AM/FM radio that we won't use either, and I have paper maps from Triple A. *But* I have a rig in the car."

"What good is that?"

"We can talk to people all over the world."

"I can talk to people all over the world too."

"But we'll be talking for free."

"But I can talk for free too. I have a VoIP plan."

"Yes, but we'll be talking to complete strangers."

"Why would you want to talk to people you don't know, and what would you talk about?"

"Look, do you know how your mobile phone works?"

He did, and he explained the entire analog-to-digital path and back. After all, the guy heads our systems group.

"That's great," I said. "My ham radio uses FM."

"Do you mean frequency modulation? Because I know what that is too." He was getting bored.

"No. I mean frigging magic."

"Explain." He looked skeptical.

"My rig is a magic box that will take a light bulb's worth of energy from our car battery, modulate it with my voice, and direct it to a short metal stick on the roof of the car in such a way that magic, invisible wave-like particles will boil off it and spread out in every direction."

"Some of those particles will go out into space, but most of them will be absorbed by something – the ground, clouds, trees, and the like. A few will bounce off things, such as the upper atmosphere, the earth and the oceans, before they too are eventually absorbed. A few will bounce off things more than once."

"Another magician like me in Italy or Russia or Argentina or Japan will have a piece of metal hooked up to *his* magic box. An unfathomable number of particles will be hitting his piece of metal from all kinds of sources – manmade, natural, and extraterrestrial. Compare the cross-sectional areas of our two pieces of metal to that of the entire universe, and compare the power of things like lightning bolts, stars, and the big bang to my 100 Watts, and you will realize that only an infinitesimal fraction of the magic particles he captures will have come from us."

"But he will direct his magic box to select just those few magic particles from me and use them to reconstitute my voice, and he will answer me. It will be as if I flash my headlight and someone in Europe sees it and flashes back. That other magician and I probably won't have anything in common except that we are both magicians, and that will give us plenty to talk about. The thing is magic; there's no other word for it,"

He was slack-jawed, but when he recovered, he said, "Cool. Let's take your car."

We talked to people in Florence and Moscow and Buenos Aires. The drive to the conference was quite long, but it wasn't long enough, because 20 meters was still open when we arrived, and I really wanted to work Japan.

Most science teachers do it all wrong. Can you imagine a magician first teaching you how a trick is done, and then doing the trick for you? That would be no fun. Why bother leaning how to do magic, if you never get to experience it. Richard Feynman knew that if you want to hook someone on physics, then start with a magic trick, such as the dual-slit experiment. Shoot a single photon at a wall with two slits in it. The photon can only go through one of the slits, but it will interfere with the *probability* that it went through the other one. (Watch www.youtube.com/watch?v=hUJfjRoxCbk if you are the kind of person who *must* know how a trick is done. Then you will *feel* a need to learn physics.)

In like fashion, most hams explain their hobby all wrong. Instead, explain the magic, then shut up and see what happens.

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January 2012 VHF Contest Winners

The Nacogdoches Amateur Radio Club members were big winners in the ARRL 2012 January VHF Sweepstakes. Pictured above left to right are Bob Knibb K5ME, 1st place Rover, Bill Krause WK5F, 1st place Limited Rover, Marshall Williams K5QE, 1st place Multi-Multi, Army Curtis AE5P, 4th place Rover, Faye Helton K5FAY 6th place Rover, Tom Atchison W5TV, 7th place Rover, and John Cechin W5FWR, 2nd place Rover. In addition, NARC placed first in the Medium Club category for club competition. Indeed, the club had the highest score of any club in any category for this contest.

Not pictured above were Mike Brown KF5KEY, 3rd place Rover and Ken Jones, K5TRK, 5th place Rover.

None of this would have been possible without the assistance, leadership, and friendship of several fine hams from California. We especially want to recognize and thank Wayne Overbeck, N6NB for putting all this together.

Teams were as follows:

Rovers: K5ME + N6NB
W5FWR + N6HD
KF5KEY + N6VI
AE5P + KF5KLW
K5TRK + N6MU
K5FAY + KJ6CNO
W5TV + KD5GEN
WK5F solo

Multi-multi:
K5QE + K5MQ, KN5O, W6XD, N5NU, K5AIH, WN2E, N5YA, K5YG, N5KDA

It was an amazing experience for all, and took incredible team work to put it all together. Many thanks to all who participated.