

Nacogdoches Amateur Radio Club

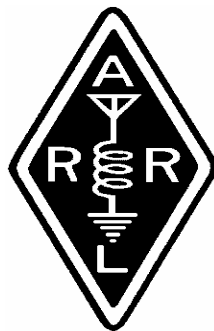
Pres: Andy Delgado - KE5EXX

VP: Lon Glaze - AE5BN

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.



APRIL MINUTES

The April meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on April 2nd. Thirty-two members and seven guests were present. **President Andy, KE5EXX**, 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. Treasurer's report was made.

Army, AE5P, was pleased to report that the 32 repeater is now all fixed and back to full operation,

thanks in large part to **Kent, KD5SHM**. Turned out there were three separate problems, all likely caused by a grounding issue at the repeater site which has also been corrected.

After due consideration of the many different possible sites for our Field Day operation in June, it was voted to use the Nacogdoches Expo Center. Many thanks to **Rusty, KD5GEN**, for his hard work in identifying the different sites.

After a short discussion, it was voted to adopt Mission Statement #1.

Reminder of the Lufkin Hamfest. Full details can be found at their website, <http://www.lufkinhamfest.com>

Kent, KD5SHM, reported on the new Saltgrass repeater in Lufkin.

Meeting was adjourned at 7:50 p.m.

Show and Tell

W5TXR: Prison made speakers

KE5EXX: 6 band Rover Rack.

Program

Jerry, K5JLW on backyard wire antennas.

PRESIDENTIAL POSTULATIONS

By now you have undoubtedly head of my RF Burn incident...

Let me tell you another funny story...

Since the weather has been just amazingly AWESOME, I have been more inclined to participate in some extracurricular antenna experiments in the back yard.

I assembled a stacked pair of 2m loops and a rejuvenated 6m loop onto a 6' piece of 1" steel tube.

To this I attached coax and a rope and voila, I now have 2m and 6m up at the house. (You did know I'm a VHFer didn't you?) But the antenna projects don't stop there....

I was over at N5YA's ranch the other day and he proudly showed off his Super NVIS 40m setup. I was impressed. So much so that I decided to do the research and build one for myself. Now, let me tell you that I can't put a 40m dipole sideways across my back yard. I have to string it up diagonally from the SW corner of the yard towards the SE corner of the house. So we have this wire dipole up 7 ft across our back yard. But it doesn't stop there. In order to make this Super NVIS contraption work you have to install 3 reflectors on the ground. That means in addition to the 60' of wire strung up on 7' PVC legs I have to install 3 runs of 70' - 80' wire on the ground, one directly under the dipole, the other two offset by 6' on either side of the first.

I've done all this without my wife knowing about it. She's been more interested in the NBA playoffs and what the Astros are up to. So we'll call this a covert operation.

It just so happens that at the same time I'm doing all my antenna experimentation, Andrew decides to tear down an old play fort and burn its pieces in the BBQ smoker. He's done a great job. He's learned safety. He's learned how to use some power tools. He's learned to ask for help when the job is too big.

The problem is, in order for the covert operation to remain covert, my wife can't go out into the back yard, she can't look out the back door, and she can't look at the fine job Andrew has done on disassembling the old fort.

Since you and I know that a mom is not going to ignore the efforts of the favored child we can agree that my covert operation is no longer covert. The

cat is out of the bag. The jig is up. I've been found out.

I lower my head and take down the Super NVIS. I change the hanging lines on the 2m/6m combo from the standard white nylon rope to a pleasant green nylon rope.

I offer to apply for a federal grant and declare our back yard as an antenna laboratory. She gave me one of those looks.

Do you think she'll notice the tower Andrew and I are dreaming about?

Don't forget about all the activities coming up! June will be busy. The ARRL VHF Contest and the Plano HamCom are on the 2nd weekend. The Lufkin Hamfest is 6/21. ARRL Field Day is 6/28 & 6/29.

Anyone looking to upgrade to Amateur Extra? The new question pool is out and will be used for testing beginning July 1, 2008.

73 de KE5EXX
email: ke5exx@arrl.net



HAMMING IT UP

Several of us made the trip to the Belton hamfest. Army, Dr. Tom, Kent, BB, Stuart, Jerry, Don, Patricia

Wesley and I were all in attendance. There weren't as many vendors there as there were in the fall. I was very surprised. I guess the high gas prices kept some at home. I drove the new to us Toyota Highlander about 70mph out there and got a little over 22 mpg. I wasn't in a big hurry to get back so I drove about 60 mph on the return trip and got a little over 28 mpg! That is a pretty significant difference just for 10 less mph. On a long trip it does add some to the drive time. On shorter trips it doesn't add a lot of time.

If you are interested in saving money on gas try driving a little slower. You might see a big difference. It doesn't look like the price is going to go down anytime soon.

I didn't make any big purchases. I got about five raffle tickets. I didn't manage to win anything. I guess my luck wasn't holding out. I did get some rain caps for NMO mounts and a ten foot coax jumper. I did look at some HF amplifiers while there. I didn't quite have enough money with me to get one though.

I met up with an old friend of mine while there. I ate dinner there with an HF group that I talk with. That was some of the best tasting brisket that I have ever had the pleasure of eating. These guys had people trying to buy plates from them and they were refusing to accept any payment. They sure are a bunch of nice guys. Making new friends and enjoying the fellowship. That is some of the things that make ham radio such a great hobby.

Don't forget that the VHF South BBQ is May the 25th . It is being held at N5YA Bill's place which is 8.2 miles north of Milam on Highway 87.

At this month's meeting Bill N5YA is going to do a program for us on Tower Grounding. You won't want to miss it.

If anyone has a topic that they would like to do a program on for a future meeting, an idea for a topic, or have something that you would like to know more about let me know and we will see what we can do.

73 de AE5BN Lon

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VE TESTING

Our next VE testing is scheduled for Wednesday, May 21st 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 \$14 to cover the cost of

the exam(s). Correct change is always very much appreciated.

73 de AE5P

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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.

NEXT MEETING

The next meeting will be on Wednesday May 7th 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 Electronics Part Twenty Six By Thomas Atchison

Since any circuit has some resistance in it we consider what happens if we have a series circuit with an alternating voltage source, an inductor, and a resistor. (Fig. 1)

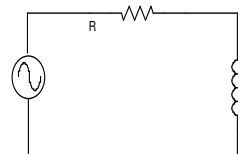


Fig. 1

The applied alternating voltage causes an alternating current to flow through the resistor, R, and the inductor, L. Since this is a series circuit, the same current flows through both components. In part 20 we discussed the fact that the current and the voltage are in phase through the resistor; however, the current and the voltage are not in phase through the inductor. In part 24 we discovered that the applied voltage leads the current by 90 degrees.

We can use a diagram like we used in part 25 to represent the voltage through the inductor as it relates to the voltage through the resistor (Fig 2).

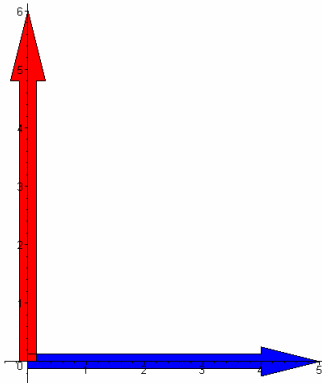


Fig. 2

Here the blue arrow represents the voltage through R and the red arrow represents the voltage through L. Notice that in this representation, the voltage through L leads the voltage through R by 90 degrees. If we calculated the voltage through the resistor to be 5 volts and the voltage through the inductor to be 6 volts, then the total voltage is **NOT** the sum of these two, but rather it would be 7.8 volts. Where does this come from? To see what is happening here consider Fig. 3.

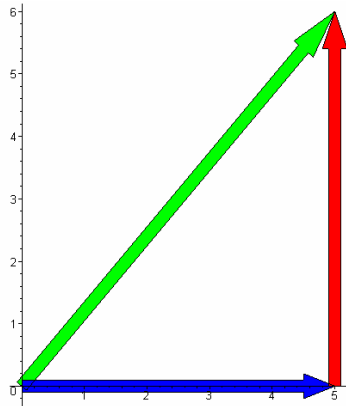


Fig. 3

The blue arrow still represents the voltage on R (5 volts) and the red arrow represents the voltage on L (6 volts). The total voltage is represented by the green arrow and it is the result of combining the two voltages based on their magnitude and direction (vectors). If the blue length is 5 volts and the red length is 6 volts, then we can use the Pythagorean Theorem to see that the length of the green arrow (the hypotenuse) is the square root of the sum of the squares of the two sides. Therefore,

$$\begin{aligned} \text{Total voltage} &= \sqrt{5^2 + 6^2} \\ &= \sqrt{61} \\ &= 7.8 \end{aligned}$$

The angle between the blue arrow and the green arrow is called the phase angle between the circuit current and the total voltage. We can calculate this phase angle using the tangent function from trigonometry. If we call the phase angle A, then we know that

$$\tan(A) = \frac{\text{opposite side}}{\text{adjacent side}}$$

In this case, the opposite side has length 6 and the adjacent side has length 5, so we have

$$\tan(A) = \frac{6}{5} = 1.2$$

Using the inverse tangent function on a calculator we find that $A = 50.2$ degrees.

From this we say that the applied voltage leads the circuit current by 50.2 degrees.

In part 27 we will continue to consider this circuit by measuring current, resistance, and inductive reactance.