October 2008 **Volume 10-2008**

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.

OCTOBER MINUTES

The October meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on October 1st. Twenty-four members and two 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 read.

Kent, KD5SHM, reported that a new KPC-3+ TNC has been purchased for the club.

Marshall, K5QE, reported that conditions for the September VHF contest were very poor. Of course, most of us were trying to survive Hurricane Ike that weekend.

The new antenna for the Nacogdoches Rec Center has been received, and installation is to be scheduled.

Many thanks to all who assisted with Hurricane Ike emcomm. Members reported on their experiences and damage.

A new deep cycle battery and radio were purchased for the Winlink node on the Fredonia Hotel. Motion made to approve the purchase: approved. Still need to make everything there weather proof.

Motion made to purchase another KPC-3+ TNC. Approved. AE5P to place order.

The Texas QSO Party was held the end of September. KD5VVI had 297 Q's. N5YA reported he was able to play only a little while.

Winlink/Airmail training is scheduled for this coming Saturday, October 4th, 9:00 a.m. at the church.

Show and Tell:
N5AIU – 1st place certificate for Rover in the West Gulf Division
KD5VVI: 1st place nationally in the Oct School Club Roundup (SCR)
KD5VVI: 3rd place nationally in the Feb SCR.
KD5VVI: 1st place in ARRL Sweepstakes for School Clubs.

President KE5EXX appointed a nominating committee for 2009 club officers consisting of: AE5P, W5FWR, and KA5OOZ. They will report back at the November meeting, when elections will be held.

Motion made to order new ham license training books for all classes of licenses. AE5P to order.

Columbia Special Event Station: Motion made and approved to hold the event again in Feb 2009. N5AIU to check on availability of McMichael School again.

Meeting was adjourned at 7:57 p.m.

PRESIDENTIAL POSTULATIONS

Have you ever wondered how you accumulate so much stuff?

We recently moved our office and I found myself seeing all that I had accumulated. By the end of the move, we filled a dumpster 3 times. You know how it goes, find an old piece of this or that and think I need to save this, I can use it later. The problem is, by the time you are ready to use whatever it was, you forget that you have it and go buy a new one.

To make a long story short, I'm in the disposing mode…and Andrew being the capitalist that he aspires to be is wanting to have a garage sale.

I don't know the weekend, but I'll let you know via email. We'll have old PC's, monitors, printers, and various other accessories. We'll also have office furniture and anything else I can find. I'm putting together scraps of RG-58 for anyone who wants it. I also came across a few Motorola UHF radios via eBay that I don't think I'll ever get the time to work on.

Now on to Amateur Radio stuff. I'm always in the recruiting mode and may have just found another future Tech. We have to nail down a class time and location. Once we do that, I'll see what we can do for publicity.

Did you work the CQ WW contest? We were loading and unloading the moving van for both weekends and missed it. I hear that some were able to work

the contests though. Maybe we'll hear the stories at the next NARC meeting.

We still have some lingering projects. Kent is reworking the station on top of the Fredonia. I'll need some help getting an antenna on the Rec Center. W5FWR will need some help repairing runs of heliax on his tower.

If you haven't voted yet, please make it to the polls Tuesday. If you don't know who to vote for, give me a call.

I hope you all are enjoying this amazing weather. See you Wednesday.

73 de KE5EXX
email: ke5exx@arrl.net

HAMMING IT UP

We sure have had some adventures over the past couple of months. I left for a wedding in North Carolina and ran into the remnants of Gustav in northern Tennessee. I got to North Carolina and received a glancing blow from Hannah. I returned to Texas just in time for Ike. I had Madelyn with me at the house for Ike since my wife had been called in to work at the hospital. Madelyn was sure worried about tornadoes. We were blessed when none occurred. I ended up losing one support string for my HF dipole. I later dropped the other side so that Tammy could get back in the driveway. I lost lots of limbs but no complete trees. I lost power several times during the storm with the longest time being about forty-five minutes. I hope everyone else faired well. I was looking at some of the pictures that have been posted on the internet. I was awed by what I have seen. Many places on the coast were decimated. I just can't even begin to imagine how they must feel. I think we should keep these folks in our thoughts and prayers.

I did manage to talk my wife into letting me carry my mobile radio on the trip to North Carolina. I only managed to make one contact on 2m FM simplex the whole trip. I was on I-40 just south of Harriman, TN and did make contact with a guy in Cleveland, TN. I thought that was pretty good contact considering the hilly terrain and the fifty-five or so miles of distance. He felt pretty impressed by the contact for the same reasons. Had a real nice QSO with him. He did invite me to stop by on the return trip but we ended up not having the time.

We had three cars in the convoy and we took Family Radio Service (FRS) radios to keep in touch with each other. With only .5W these were only good for less than a mile while in the cars, but were still handy to have since none of the others were hams. If I could just talk everyone into getting their ticket we could really set up communications for trips. Even low powered

ham radios with external antennas would have made a huge difference.

Don't forget the meeting. It is November 5th. John is going to talk to us again about the digital tv changeover. Hope to see you all there.

73 de AE5BN Lon

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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 $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 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. If you have items for show and tell, please bring them. Hope to see y'all there.

Basic Antennas Part One By Thomas Atchison

An antenna is a device that transfers radio-frequency electric currents into electromagnetic waves which are radiated into space. We will avoid an involved discussion of some rather complicated mathematical formulas that describe this phenomenon and just assume that this electromagnetic radiation occurs.

Referring back to Basic Electronics, Part 9, we recall that an alternating current travels through a conductor. If the length of the conductor is significant compared to the wavelength of the alternating current, then some of the energy will escape by radiation in the form of electromagnetic radiation. We refer to electromagnetic radiation as radio waves; however, visible light, ultraviolet radiation, X-rays, and many other types of radiation are also electromagnetic radiation.

AC currents can change direction at almost any rate. The frequency of a wave is the number of complete cycles the wave makes in one second. Frequency is measured in hertz, abbreviated Hz. For example, if the current completes 60 complete cycles in one second, then it has a frequency of 60 Hz. The power company supplies electricity to your house as 60 Hz AC. If you tune in to a two meter signal at 144.200 megahertz (MHz), this means that you are listening to a signal that is alternating at a rate of 144.2 million cycles per second.

Wavelength is another quality that we associate with every AC signal. Wavelength refers to the distance the wave travels through space in a single cycle. We use the symbol lambda (λ) to represent wavelength. All electromagnetic radiation travels through space at the speed of light, 299.7925×10^6 meters per second. The faster a signal alternates the less distance it can travel during one cycle. The equation that relates a signal's frequency and wavelength to the speed of light is

$$c = f\lambda$$

where c is the speed of light, 299.7925×10^6 meters/second

f is the frequency of the wave in hertz, and

λ is the wavelength of the wave in meters.

For example, if we have a radio signal with a frequency of 7.125 MHz, which is $7.125 \text{ X } 10^6$ Hz, then the wavelength is given by

$$\lambda = \frac{c}{f}$$

Therefore,

$$\lambda = \frac{299.7925 \times 10^6}{7.125 \times 10^6}$$

or

$$\lambda = 42.1 \; meters.$$

Most of the time we will be dealing with frequencies in megahertz (MHz), therefore, we modify the above formula. Returning to the example above

$$\lambda = \frac{299.7925 \; m/\sec}{7.125 \; MHz}$$

In general, the formula is

$$\lambda = \frac{299.7925}{f}$$

where f is the frequency in MHz and λ is the wavelength in meters.

We can convert this equation to the more familiar units of feet by expressing the speed of light in feet per second (783.5592 ft/sec). This leads to

$$\lambda = \frac{983.5592}{f} \approx \frac{983.6}{f}$$

where f is in MHz and λ is in feet.

We now consider what happens if we introduce an alternating voltage in the center of a wire having a length L. Suppose that we can vary the frequency of this alternating voltage and measure the current at the center of the wire. If the frequency of the alternating voltage is gradually raised, we find that the current will also rise, at first. After reaching a maximum at some frequency f, the current will go down as we continue to raise the frequency. The maximum current occurs when the

frequency of the alternating voltage has wavelength λ and is related to the length L by the formula

$L = \frac{\lambda}{2}$.

If we consider the distribution of current along our wire of length L when the frequency of alternating voltage has wavelength we find that we have maximum current at the center and minimum current at each end, Fig. 1.

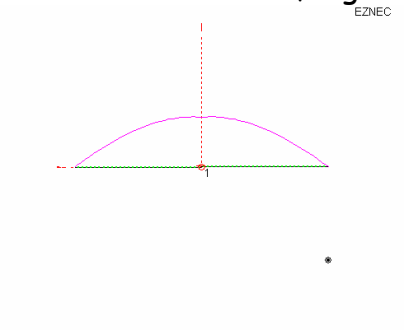

Fig 1.

Here the green line is the wire and the pink curve represents the current. The point labeled 1 is the point where the alternating voltage is fed to the wire.

This will be an important relationship for us in the future.