July 2010 Volume 07-2010

Nacogdoches Amateur Radio Club

2010 CLUB OFFICERS

Pres: Rusty Sanders – KD5GEN

VP: John Jordan – N5AIU

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.

JULY MINUTES

The July meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on July 7th. **President Rusty, KD5GEN**, opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Seventeen members and two guests were present. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

Old Business:

Winlink:
The Winlink Node has been completely rebuilt and reinstalled on the top of the Fredonia Hotel. It operates on 145.050 MHz and has full time connectivity to the internet. After a power failure put it out of service for a short time, KD5GEN and KD5PFQ installed a new dedicated branch circuit for it that should preclude a reoccurrence.

Field Day:
N5YA, W5FWR, KE5EXX, KE5GAQ and **K5QE** all operated from **N5YA**.

Health and Welfare:
Received a thank you card from the Bert Fisher family.

KJ, KK5BE, is under Hospice care at home.

June VHF Contest:
Very poor conditions reported except on 6 meters.

K5N Dxpedition:
The 6M Dxpedition to Grid DL88 could not be reached due to heavy rains in the area. Almost 400 Q's made from DL89 and DL79.

New Business:

Lufkin Hamfest:
Currently looking at 10/16 or 10/23 at Lufkin Church of the Nazarene. NARC to handle refreshments.

CQ VHF Contest:
Coming up July 17, 18 on 6 and 2 meters only.

Meeting adjourned at 7:23 p.m.

Show and Tell:
N5AIU/R showed the plaque for his 1st Place in West Gulf Division and 4th Place USA finish in the 2009 ARRL June VHF Contest. Congratulations to John and Lon.

Oscillations From The Chair

I am currently down at Crystal Beach fishing, and having a ball! I'll be back in Nacogdoches on Wednesday, so we'll see you on Wednesday night.

KD5GEN- Rusty

email:
rusty.sanders@att.net

VP's CORNER

Hey Gang, I guess that by now everyone knows that I have laid down the baton and retired to the farm. I thought that I might regret it at first but it did not take too long to find out I should have done it earlier.

I haven't been able to get a station set up yet. I haven't talked to anyone on the air except when passing through town on my way to Beaumont.

Right now I am keeping myself busy with my horses. I have started halter showing a young filly this past weekend. We took first place in two categories in our first show. I have to give the credit to my sister because she does the real work. I have a stud paint colt we plan to also put on the show circuit soon.

I will try to bring pictures to the meeting coming up next week. We hit the show circuit again the next weekend.

Hopefully soon I will be back on the air. I have truly been missing it. I am looking forward to seeing all of you at the next meeting. I have truly missed seeing all of my ham radio friends.

73 de John N5AIU

email: n5aiu@yahoo.com

VE TESTING

Our next VE testing is scheduled for Wednesday, August 18th 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 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 August 4th 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 bring any show and tell items you might have.

KK5BE – SK

Kenneth Jerry (KJ) Hughes – KK5BE passed away on July 29. Funeral and burial were on August 1st. Several hams were pall bearers for KJ.

KJ was an important part of NARC for many years, serving as our first Emergency Coordinator and acting as net control for the club net for almost 10 years on his own. KJ was a man of many stories, and could have been a successful stand up comedian. He loved operating on ham radio, both HF and VHF.

KJ was born and raised in Nacogdoches, but lived for many years in the Dallas area. He and his wife of 57 years, Nell, have two children and many grandchildren. KJ was a good friend to many and will be greatly missed.

BASIC ANTENNAS

PART 21

by

Thomas Atchison W5TV

One type of long-wire antenna that is discussed often is the Beverage antenna. This antenna was invented by Harold H. Beverage while he was experimenting with receiving antennas in 1919 at the Otter Cliffs Naval Radio Station. These antennas are normally used for receiving purposes only.

Usually a Beverage antenna consists of a wire that is connected to the receiver through a matching transformer. A terminating resistor is connected to the far end of the antenna and the resistor is connected to a ground system. See Fig. 1.

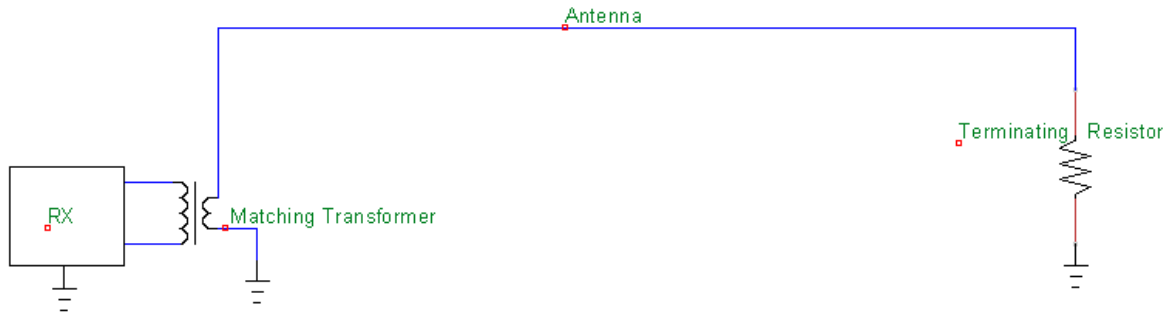

Fig. 1

The single wire antenna is terminated by a load, Z, that should be equal to the characteristic impedance of the antenna. The wire antenna and its image in the ground actually form a transmission line. The load Z can be a receiver matched to the antenna. The terminating resistor should also be equal to the characteristic impedance of the antenna. An electromagnetic wave striking the antenna will induce a voltage in the antenna and currents will flow both toward the receiver and toward the terminating resistor. The current flowing toward the receiver is useful output. The current flowing toward the terminating resistor will be absorbed by that resistor. Some designs use two wires in different directions with a switch to allow reception from two different directions. Some configurations place the midpoint of the antenna at a height of 7 or 8 feet with the wire sloping down to the terminating resistor and ground

point in one direction and sloping down to the matching transformer and receiver in the other direction.

This antenna shows directivity in the direction of the terminating resistor. That is, an electromagnetic wave moving toward the antenna and striking the end of the antenna with the terminating resistor at a right angle to the wire will cause an RF current along the wire. The signal will move with the current along the wire. The RF currents traveling along the wire add in phase and amplitude throughout the length of the wire, producing maximum signal strength at the receiver end of the wire. Signals arriving from the receiver end of the wire also increase in strength as they travel to the end of the antenna where the terminating resistor is located. The terminating resistor absorbs most of this energy. The directivity depends on the length of the antenna. Directivity becomes significant at a length of one wavelength and increases until the length is approximately two wavelengths. After that the directivity seems to level off.

The simple Beverage receiving antenna requires a lot of space. It is a long wire, one or more wavelengths long, mounted near to the ground and oriented in the direction of the desired reception. There are several different configurations that are commonly described at this point. One is to use a 600-ohm resistor as the terminating resistor, a 12 to 1 matching transformer at the near end of the wire, and a 52-Ohm coaxial feedline to connect the antenna to the receiver. Another configuration that is used involves a 470-ohm terminating resistor and a 9 to 1 matching transformer. These matching transformers are usually constructed by winding a toroidal form of appropriate size and number of turns.

One easy configuration is to use an unbalanced to unbalanced (UNUN) matching device and an antenna tuner. Such UNUN devices are available commercially for the construction of Beverage antennas matching 50-ohm to 450-ohm, 50-ohm to 612-ohm, and 50-ohm to 800-ohm loads. The terminating resistor can be wire-wound or composition. It is critical that the resistor be able to tolerate a surge from a lightning storm. Choose a resistor that is energy absorbing. For example, Digi-Key has a 600-ohm wire wound resistor that would serve the purpose.

As usual, the ground should be a stable ground. Depending on the soil it could range from a couple of grounding stakes to a small radial system.

The Beverage antenna is highly directional, it is responsive to low-angle signals, it has little noise pick-up, and it produces excellent signal to noise ratios.