

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.



JUNE MINUTES

The June meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on June 5th. **President Mike KF5KEY**, opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Sixteen members and two guests were present. Each person present introduced themselves. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

Robert KD5FEE and **Mike KF5KEY** reported on the Neches River Rendezvous held on June 1st.

Everything went very well in this annual event and everyone who wanted one got hamburgers.

Bob K5ME and **Army AE5P** reported on WPX CW. **Jason N5NU** entered from the **N5YA** station and achieved a 5 million plus score.

Andrew KE5GAQ will leave for the Naval Academy on June 26. We are all very proud of **Andrew** and wish him the best in his future endeavors.

Hamcom will be this coming weekend in Plano. **Army AE5P** and **Mike KE5KEY** plan to attend. Beginning Saturday of this same weekend will be the June ARRL VHF contest. **Army** and **Mike** plan to operate as a Limited Rover on their return trip to Nacogdoches from Plano.

Marshall K5QE is planning a 6 meter grid dxpedition to EL84 in July. Joining him will be **Bill N5YA**, **Jason N5NU** and several others. They will be operating from a chartered fishing boat off the coast of Key West Florida.

Field Day is planned at **AE5P** and **N5YA**. Everyone is invited to stop by one or both locations and operate or just visit.

Meeting adjourned at 7:40 p.m.

Show and Tell: Army AE5P showed off his certificate just received for winning 1st place Rover in the West Gulf Division for the 2012 June VHF contest.

Program: Jerry K5JLW presented a program on his homebrew 7 day battery maintenance charger.

FROM THE PRESIDENT

There was a lot of ham-related business going on in the month of June.

Let's begin with Ham-Com in Plano, the self-described "Biggest Ham-fest in Texas," which took place June 7th and 8th. Army and I began our quest rather early Friday morning, and we had a nice trip to Plano. Army had the truck rigged out as a rover for the June 8th and 9th ARRL VHF contest, and we planned to make as many contacts as possible on the trip home from Plano. But first....

We arrived at Plano about 10:45 AM on Friday, and the parking lots were full! As large as this place is, it takes quite a few people to pack it, but needless to say, the hams were out in droves! We contacted a good friend of mine, Dennis Totin, KF5OSL, just prior to our arrival, and he met us at the door. Dennis is a local lad who lives about

10 minutes from the site of Ham-Com, and he promised to take us to a great place he knew for lunch, but I digress. We paid our fee and entered the building, and it was controlled bedlam...it seems that this ham-fest gets larger ever year, and there was something there for everyone. After prowling the first two rows of goodies, we came upon a Flex-Radio 5000, which until just recently was the top of the Flex-Radio line. After having bought my Flex 3000 at Ham-Com 2012, I had been salivating at the thought of upgrading to the 5000, and there it sat in all its splendor...a fully equipped 5000 for \$2200, a savings of almost 50% off the original purchase price. Being the wily negotiator that I am, I discussed the rig with the seller and walked off, smug in the knowledge that I could come back later and get that radio for an even lower price...I didn't want to appear too anxious...I made him sweat. After waiting for the correct amount of

time to elapse (2 minutes and 18 seconds....can I bargain or what?!), I went back to his table to beat him into submission and walk away with my prize, only to learn that some other wily negotiator had walked off with MY Flex 5000! Heart broken and Flex-less, I let myself be healed of my grave disappointment as only we here in Texas can do, a huge chicken-fried steak, mashed potatoes and gravy, green beans, salad and hot yeast rolls...I'll teach him to sell MY radio. I noticed later that he was eating a cold sandwich at his table...serves him right....He was probably a danyankee (yeah, one word) anyway....

We continued our prowling after lunch and made several absolutely necessary purchases (you know that a ham never buys anything that he doesn't absolutely need). We visited the Flex-Radio booth and Army received the good news that his new Flex 6700 was on its way to his

house. He had purchased this new marvel only a year ago, and along with several thousand others, was promised that "the radio's in the mail" on a monthly basis. It seems that this was finally true, and as of this writing, Army is the proud owner of his new Flex. This is the electronic marvel which will do absolutely anything that can be done with a transceiver up to and including replacing the operator himself. It is strongly suspected that the new 6000 series is really a form of artificial intelligence, and that in the near future, they will overcome mankind, make jabbering slaves of us all and take over the world. Hey, you get what you pay for!!

If that wasn't enough, my friend Dennis fell under the Flex-spell (also one word) and bought a Flex 3000 on Saturday. As he was driving his motorcycle, he asked if Army would carry his radio to his house, and of course Army agreed, as it's rather difficult to drive a

motorcycle and hold a large cardboard box at the same time. As Dennis is a new ham, he was quite unaware that the Flex 3000 was perfectly capable of driving the motorcycle itself, but hey, we were all new hams once. He couldn't be expected to know everything!). We arrived at his large, two-story house and discovered that if you're single, you can absolutely FILL a large house, garage and workshop with all kinds of TOYS and nobody is there to tell you, NO! Funny how that works...Anyway, we had a great time. Ham-Com is highly recommended. We left Saturday about noon and tried to make several contacts in the rover, but the conditions conspired against us, and the contacts were rather sparse, but we had a truly great time....

Later in the month, we had the ARRL fieldday in the air-conditioned splendor of Army's hamshack. It was great fun and many contacts were made. If it

weren't for the Shiner Bock we probably could have made many more, but we had a great time talking, QSOing and solving the world's problems. I really LOVE amateur radio. I should have joined much earlier.

Once again, I have wasted a significant amount of my (and your) time. Thanks for stopping by, and I hope to see you at the next meeting on July 3rd.

73 to all....

KF5KEY - Mike

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MY 2 CENTS FOX WILLY ROGER

June, I don't know about you but June is the get ready month for one of my favorite months, July. This is when we get to shoot off **FIRE WORKS, EAT ICE CREAM, EAT WATERMELON AND SING PATRIOTIC SONGS.** That is if you

don't already sing them all year long.

A trip to the back yard and the word tree produced little fruit. I guess the birds got there first. I guess I will have to wing this month's article, so what else is new.

I heard that a Wells Fargo wagon made a stop at **AE5P's QTH** and dropped off a hobby box. I can't remember ever seeing a promise coming in a box that size before, If you don't know what I am talking about I am sure that AE5P will be more than happy to give a program on the BOX and its contents, say September? I'm sure he will have a few words to say at the JULY meeting.

I don't know if anybody reads the HAMLIST but I have been sending out news about the July meeting and the ice cream social being presented. I can't believe that all the people that didn't respond are going to be out of pocket. I guess that I will have more goodies, being

VP I must pick up the slack. This ICS just might be an annual event, if not in July then maybe August, What do you think, let me know.

Speaking of programs, K5QE is in the books for August, AE5P should have a handle on the mystery box contents and tell all in September, my other favorite month by the way, and that leaves two more programs, any volunteers?

Quoting from one of my past newsletter's:

"June is known for VHF contest, hamcom, Tyler Gun Show, and FIELD DAY." The VHF contest will be commented on at the July meeting as well as field day and Hamcom, not in that order. Field Day was held at AE5P's QTH and fun was had by all. A few of our hams went to Hamcom and on to the VHF contest picking up grids running south, that was the plan, we will find out all if my name isn't Jack Taldi.

September is the next VHF contest, are you going to be ready?

Tyler wasn't all that bad, the prices were still a bit high but the products are making a comeback, if you have the money.

It looks like my word tree is producing better now, better word count, not the assembly of them. I will stop here and let someone else have the soap box, I know that's what I said last time, but it still holds true.

Remember; keep your powder dry and your head below the horizon.

Happy Trails

73 Enjoy

What do you think, let me know?

73,
John Cechin W5FWR
Carrots4ever2u@suddenlink.net

CONGRATULATIONS

To our newest hams, **Tom** and **Charlotte Adams** of Lufkin, **KF5WFE** and **KF5WFD**.

And also congratulations to **Ralph WD5RAH**, on his upgrade to General.

VE TESTING

Our next VE testing is scheduled for Wednesday, July 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 July 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. This will be our first annual **ICE CREAM SOCIAL**, so bring your favorite flavor of ice cream. Please come join us and bring a friend.

BASIC SIGNAL PROPAGATION PART 2

by

Thomas Atchison W5TV

As we mentioned in the last article we now come to a discussion of tropospheric propagation.

Tropospheric propagation describes electromagnetic propagation in relation to the troposphere.. The **troposphere** is the lowest portion of Earth's atmosphere. It contains approximately 80% of the atmosphere's mass and 99% of its water vapor. The average depth of the troposphere is approximately 11 mi in the middle latitudes. It is deeper in the tropics, up to about 12 mi, and shallower near the polar regions, at about 4.3 mi in summer, and indistinct in winter. The lowest part of the troposphere is usually where friction with the Earth's surface influences air flows. This layer is typically a few hundred feet to 1.2 mi deep depending on the landform and time of day.

Tropospherically propagated signals travel in the part of the atmosphere adjacent to the surface and extending to some 25,000 feet. Such signals are thus directly affected by weather conditions extending over some hundreds of miles. During very settled, warm high-pressure weather, we may have weak signals from distant transmitters increasing in strength. During such conditions we may have interference due to multiple signals being received on the same frequency. A settled high-pressure system gives the characteristic conditions for enhanced tropospheric propagation, in particular favoring signals that travel along the prevailing isobar pattern (rather than across it). Such weather conditions can occur at any time, but generally the summer and autumn months are the best periods. In certain favorable locations, enhanced tropospheric propagation may enable reception of VHF/UHF signals up to 1,000 miles or more.

The observable characteristics of such high-pressure systems are usually clear, cloudless days with little or no wind. At sunset the upper air becomes cooler, as does the surface temperature, but at different rates. This produces a boundary or temperature gradient, which allows an inversion level to form. A similar effect occurs at sunrise. The inversion is capable of allowing VHF/ UHF signal propagation well beyond the normal radio horizon distance.

Normally VHF/ UHF signals travel on into space when they reach the horizon, the refractive index of the ionosphere preventing signal return. With temperature inversion, however, the signal is to a large extent refracted over the horizon rather than continuing along a direct path into outer space.

Fog also produces good tropospheric results, again due to inversion effects. Fog occurs during high-pressure weather, and if such conditions result in a large belt of fog with clear sky above, there will be heating of the upper fog level and thus an inversion. This situation often arises towards nightfall, continues overnight and clears with the sunrise over a period of around 4 or 5 hours.

Tropospheric ducting is a type of radio propagation that tends to happen during periods when the signal encounters a rise in temperature in the atmosphere instead of the normal decrease. This is also a temperature inversion. The higher refractive index of the atmosphere there will cause the signal to be bent. Signals refracted in this way tend to travel hundreds of miles. In effect, the signal is trapped between the inversion layer and the earth and therefore travels down this duct to the receiving antenna.

Tropospheric ducting of VHF/ UHF signals is relatively common during the summer and autumn months, and is the result of the change in the refractive index of the atmosphere at the boundary between air masses of different temperatures and different humidity. Using an analogy, it can be said that the denser air at ground level slows the wave front a little more than does the rare upper air, imparting a downward curve to the wave travel.

Ducting can occur on a very large scale when a large mass of cold air is overrun by warm air. This is also a temperature inversion, and the boundary between the two air masses may extend for 1,000 miles or more along a stationary weather front.

Temperature inversions occur most frequently along coastal areas bordering large bodies of water. This is the result of natural onshore movement of cool, humid air shortly after sunset when the ground air cools more quickly than the upper air layers. The same action may take place in the morning when the rising sun warms the upper layers.

Even though tropospheric ducting has been occasionally observed down to 40 MHz, the signal levels are usually very weak. Higher frequencies above 90 MHz are generally more favorably propagated.

High mountainous areas and undulating terrain between the transmitter and receiver can form an effective barrier to tropospheric signals. A relatively flat land path between the transmitter and receiver is ideal for tropospheric ducting. Sea paths also tend to produce superior results.

Tropospheric ducting over water, particularly between California and Hawaii has produced VHF/UHF reception ranging from 1,000 to 3,000 miles.