June 2007 Volume 6-2007

Nacogdoches Amateur Radio Club

Pres: John Chapman – KC5MIB

VP: Andy Delgado – KE5EXX

Sec/Treas: Army Curtis - AE5P

JUNE MINUTES

The June meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on June 6th. Twenty-nine members and nine guests were present. **President John, KC5MIB**, 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 skipped.

Jerry, K5JLW, reported that the Lufkin Swapfest will be held on Saturday, June 30 at the Denman Ave Baptist Church in Lufkin. Setup begins at 7:00 a.m. with doors open at 8:00 a.m. VE testing will begin at 9:00 a.m.

More net control stations are needed for the weekly nets. If you would like to help, please contact any of the present net controls.

The passing of long time member **KI5KR** was noted in sadness. Flowers were sent on behalf of the club.

The passing of former club member **N5ML** was also noted. Motion made to donate $50 to the ARRL Foundation in his memory. Passed.

The July NARC meeting will be a "Build-Fest" for 2M roll-up J-pole antennas.

Meeting was adjourned at 7:40 p.m.

Show and tell:

Larry, KC5JCK had a 30's vintage AM/SW table radio.

Andy, KE5EXX had an HF-6M magmount antenna and an HT Sling from PowerPartStore.com.

Stu, W5GSW, had a telescoping aluminum pole, just $8.00 delivered from SurplusCenter.com.

Robert, KD5FEE, had a hand crank battery / light / radio.

John, N5AIU, had a plaque for 1st place Multi-Op in the 2006 IARU contest for the NTX Section, for the NISD school station, **KD5VVI**.

Kent, KD5SHM had a tape measure yagi for fox hunting.
Rusty, KD5GEN, talked about a broken ground in a trailer park, and the danger it presented.
Robert, KD5FEE, showed off his GoBag.
Kent, KD5SHM, showed off his GoBag.

PRESIDENT'S PODIUM

Well I did it. I guess by the time we get to our next meeting, my new privileges will be in place. I passed the General test, finally! Now to get a new radio to exercise those privileges. We were talking after the test last night (20 Jun), gee you know we hams do talk. The next meeting of NARC would normally be on the 4th of July. We made an executive decision, let's move it back a week. We will have our next regular meeting 11 July.

I think most of us like to travel. See new places, get away for a bit (just ask Marshall's rovers). I took a road trip Sunday after Hamcom. I went to Havelock NC to visit with my son and his family. The trip wasn't bad, speeds were good, but ham activity was the absolute pits. I didn't try every repeater pair that was listed, just the one or two that would kerchunk—sorry Kent. I would throw out my call and no one answered. Well almost, had 2 contacts on 146.52, one on 20 close to Van and the other in Shreveport. Folks, that was it. I've read a number of letters about how much friendlier 11 meters tends to be. I will have to say that Nacogdoches has the best support for our repeaters. There always seems to be some one close to the repeater who can respond. Thank all of you for taking that time.

Thanks all for the support for Field Day. I haven't tallied our score just yet. We were just shy of 800 contact points. A messed up antenna didn't help matters any. I will say it seemed like everyone had a good time. Thanks to everyone who came out, everyone who provided equipment and Kent for the job at the grill.

73 to all,
John Chapman
e-mail: kc5mib@arrl.net

V.P.'s ELEMENT…

Wow what a weekend!

We started off with 10 people at IHOP for fellowship and breakfast. We migrated en masse to Pecan Park where we shook out extension cords, network cables, coax and antenna pieces and parts. The Daily Sentinel reporter was out by 10. The N5YA tower was up by 11. Antennas were all up by 11:15. The Daily Sentinel photographer was clicking away. KD5FEE was the first up the tower, just hanging out.

We operated 3 HF transceivers battery power. We operated one

VHF/UHF FM transceiver on battery power. We operated 753 fans on AC Power (Not really 753 but a bunch).

Thanks to everyone for sharing your equipment.

Thank you Tim, KD5HWO, for building us a new frame to hold the NARC Banner.

Go find the Sunday June 24th Edition of The Daily Sentinel for a story and pictures! http://www.dailysentinel.com/news/content/news/stories/2007/06/24/ham_radio.html

W5NAC is on the air!

We made it on the air for the start time at 13:00. One of our antennas, a G5RV Dipole, just wasn't tuning up like it should. We will have to rebuild it before it is used again.

Make notes now while it is fresh on your mind. Anything that you saw that we could have done differently or anything that you didn't see that we needed, please make a note of it. We can review at the next NARC Meeting.

As I understand everything, we scored points for the following:

- Battery power
- Media
- Youth operators
- Public location
- Public Info Table
- W1AW Bulletin

We had 210 CW Contacts, 356 Phone Contacts and a total of 776 QSO Points, not bad for being down one radio.

How do you do that?

N5YA taught us tower climbing safety! N5VOO did a great job with the FoxHunt! AE5P brought out the WhiteRover and demo'd VHF/UHF Rovering in style!

It's chow time!

Much thanks to Kay Simpson (N5YA's XYL and social director) for getting all the food and drinks together. Thank you Kent, KD5SHM, for being the best hot dog cook in East Texas.

I want to thank everyone who was there this weekend, whether you were there to help setup, operate, cook, take down, or just for moral support, your presence was appreciated!

On to other things….

We donated the remaining unopened food and drinks to the Deep East Texas Amateur Radio Club for use at the Lufkin Swapfest. The 'fest will begin with setup at 7 a.m. on Saturday June 30 at Denman Avenue Baptist Church in Lufkin. The event begins at 8 a.m. VE Testing at 9 a.m. This will be the last chance for you to take the General Exam with the current Question Pool (This shouldn't matter since you know the material, not the questions, right?). If I understand things correctly, there is no charge for the Swapfest (even for sellers). The normal $14 VE Testing Fee

will apply. Bring your goods!

A reminder. The next First Wednesday falls on July 4. We will postpone our regularly scheduled meeting of the NARC until July 11. See you then!

73 de KE5EXX
email: ke5exx@arrl.net

VE TESTING

Our next VE testing is scheduled for Wednesday, July 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 $14 to cover the cost of the exam(s). Correct change is always very much appreciated.

73 de AE5P

email: ae5p@arrl.net

TRAINING MATERIALS

The club has purchased several copies of the latest ARRL "Now You're Talking" books, which provides everything a person needs to be able to pass the Technician class Amateur Radio license exam. Anyone may "borrow" one of these books for a $20 deposit. When you return the book in good condition, you will get your deposit back. Interested? See **Army, AE5P**.

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 SPECIAL DATE!! PLEASE NOTE!!

The next meeting will be on Wednesday July 11th 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. Hope to see y'all there.

Basic Electronics Part Sixteen By Thomas Atchison

When real components are connected in a circuit, the circuit can exhibit different behavior than what we have described in the past. For example, wire is used to connect various components and wire has some resistance, some capacitance, and some inductance, therefore, these quantities are introduced into the circuit. The wire used to construct an inductor or a capacitor has resistance; therefore, an inductor or capacitor added to a circuit will introduce some additional resistance. These may be small but they need to be considered if we are to understand how a circuit operates. We usually want the resistance in such components to be much smaller than the reactance

of the capacitor or inductor.

We assign a number to a capacitor or an inductor to indicate that component's relative merits. The number represents a quality factor or Q for the component. The Q of a capacitor or an inductor is the ratio of the reactance to the resistance. The Q of a real capacitor, C, is equal to the capacitive reactance divided by the resistance. That is

$$Q = X_C / R.$$

The Q of a real inductor, L, is equal to the inductive reactance divided by the resistance. That is

$$Q = X_L / R.$$

Notice in both of these cases, the smaller the resistance, R, the larger the value of Q. Larger Q values indicate better quality components. We also recall that reactance varies with frequency. Capacitive reactance is largest at low frequencies and decreases as the frequency increases. Inductive reactance is smallest at low frequencies and increases as the frequency increases. To see how this will affect Q we consider several examples.

Consider the circuit in Fig. 1.

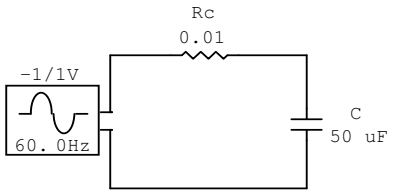

Fig. 1

If the signal generator applies an ac signal of 60 Hz into a 50 μF capacitor, C, that has 0.01 ohm of lead resistance, Rc, what is the capacitor's Q? Here

$X_C = 1 / 2 \pi f C$
$= 1 / (6.28)(60)(50)(10^{-6})$

$= 1 / (18.85)(10^{-3})$
$= 53$ ohms.

The Q is given by

$Q = 53 / 0.01$
$= 5300.$

If the signal generator is changed to a 600 Hz signal, then we have

$X_C = 1 / (6.28)(600)(50)(10^{-6})$

$X_C = 1 / (188.5)(10^{-3})$
$= 5.3$ ohms.

The Q is given by

$Q = 5.3 / 0.01 = 530.$

We see that the reactance at the higher frequency is 10 times smaller, so the Q at that frequency is also 10 times smaller. Thus, a higher frequency applied to a capacitor causes the reactance and the Q to become smaller.

Now look at the circuit in Fig. 2.

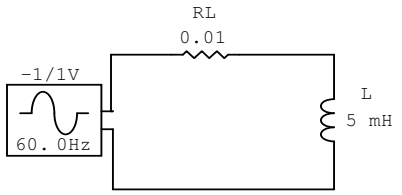

Fig. 2

If the signal generator applies an ac signal of 60 Hz into a 5 mH inductor, L, with a 0.01 ohm resistance in the wire, RL, we want to calculate the inductor's Q. Here

$X_L = 2 \pi f L$

= (6.28)(60)(5)(10^{-3})
= 1.885 ohms.

The Q is given by

Q = 1.885 / 0.01
= 188.5.

What is the inductor's Q at 600 Hz? To get this we calculate

X_L = (6.28)(600)(5)(10^{-3})
= 18.85 ohms.

The Q is given by

Q = 18.85 / 0.01
= 1885.

Here the reactance at the higher frequency is 10 times higher than the reactance at the lower frequency, so the Q at that frequency is also 10 times higher. The higher frequency applied to an inductor causes the reactance and the Q to become higher.

In the next part we will talk about the trade-offs to consider when selecting components. These deal with the circuit function, the purpose a component serves in the circuit, and the frequency of signals applied to the component.