February 2006 **Volume 02-2006**

Nacogdoches Amateur Radio Club

2006 CLUB OFFICERS

President: Tom Atchison – W5TV

VP: John Chapman – KC5MIB

Sec/Treas: Army Curtis - AE5P

FEBRUARY MINUTES

The February meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on February 1st. Twenty-one members and five guests were present. **President Tom, W5TV**, 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.

The Shuttle Columbia Recovery Special Event on February 4th will begin at 6:00 a.m. with breakfast at IHOP, followed by antenna raising at 7:00. Operation will be from 8:00 until 5:00 p.m. local time. Lunch will be home made chili complements of **Mike, KD5PFQ**.

Per **Mike, WD5EFY**, the TNC's have arrived for the area hospitals, and **Mike** is building interface cables for them.

Certificates were presented to **Andy, KE5EXX, Andrew, KE5GAQ,** and **Judith, KE5FUZ** for their first outings as rovers in the January VHF contest. Well done!

Speaking of the VHF contests, **Marshall, K5QE** placed 6th nationally in the June, 2005 contest. Congratulations to **Marshall** and everyone who assisted.

Army, AE5P, reported on recent activities by NCEC. Two new Icom 2720's were purchased for the club's use as portables, and NCEC will be purchasing new antennas and coax to equip a new ham station at McMichaels School. **Army** will be donating a tower to the school.

Meeting was adjourned at 7:45 p.m.

Program: John, KC5MIB showed an antenna adapter cable for HT's. **Jerry, K5JLW** showed a homebrew 12VDC LED voltmeter. **Tim, KD5HWO** showed a very slick GPS/TNC combo he has put together for APRS.

PRESIDENT'S CORNER

Thanks to everyone who made the Columbia Shuttle Event on February 4 a success. A special thanks goes to Mike, KD5PFQ, for his excellent chili with all the trimmings. If you were not able to make it you missed great food, a great operating opportunity and a great opportunity to socialize.

We will be having another opportunity in June when Field Day arrives. We need to begin a discussion of where we want to hold our Field Day. The general feeling at the Shuttle Event was that Pecan Park seemed to work very well last year so let's do it again. Think about it before our meeting on March 1 and we will discuss it. If we decide to go to Pecan Park, we will need to reserve it ASAP.

I want to urge everyone to check in to our ARES/RACES nets on Monday and the SKYWARN nets on Thursday, each week. This is a good way for us to keep in contact.

Bring any 'Show and Tell' items you have to our meeting on March 1. See you there.

73 de Tom, W5TV

V.P.'s CORNER…

Wow, what a great discussion we're having on the list about CW. It's a great mode and time consuming to learn if you don't sit down and devote the time to it, I can certainly attest to that. As all have noticed, a number of countries have deleted the CW requirement. Outmoded: well maybe; unnecessary, doubtful; different, well of course, and like many things in life, you either love it or you hate. Thanks to everyone who is participating and thanks for all the respect I've seen in this discussion.

How many other modes have you or do you participate with? A lot of us are FM, (yep I'm still in that crowd, for now) many of you work SSB, how many are still operating AM? How many are sending pictures via Slow Scan, or ATV for that matter? We have so many capabilities, some of which can used if we get into emergency situations.

Something new we'll try for the next meeting and Kent started it off at the last meeting. Didn't know you did that, did you Kent? Q and A. We have a huge talent of folks here, with a wealth of information. Do you have a burning question or even a small nagging question, well bring it on. Let's try it and see what happens, you never know we all might learn a little something.

73 to all,
John Chapman
e-mail:
jlchapman2@juno.com or
kc5mib@arrl.net

VE TESTING

Our next VE testing is scheduled for Wednesday, March 15th 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.

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 March 1st at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. This is at the corner of Starr and Mound Streets in Nacogdoches. Hope to see y'all there.

BASIC ELECTRONICS

Part Two

By Thomas Atchison, W5TV

In the first article we treated series circuits and parallel circuits containing only resistance. One of the things we observed in the series circuit was that the sum of the voltage drops across the resistors was equal to the voltage applied to the circuit. In our simple circuit we had one voltage source applied to the circuit (See Fig. 1).

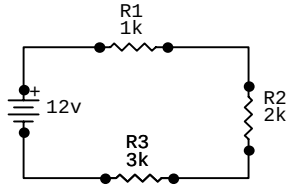
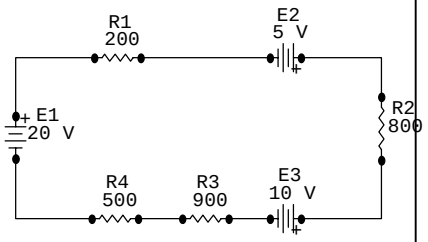


Fig. 1

Recall that we assumed the current through the circuit was 2 milliamps or 0.002 A. We then used Ohm's Law in the form E = I R to calculate the voltage drop across each resistor. Thus, E1 = I R1 = (0.002)(1000) = 2 volts. Similarly, E2 = 4 volts and E3 = 6 volts.

There could have been multiple voltage sources interspersed among multiple resistors.



(Fig 2)

Note that we can go around this loop in two possible directions, clockwise or counterclockwise.

Normally, go in a direction that takes you through the voltage sources from the negative to the positive terminal. If we start with voltage source E1 and go from negative to positive, we consider this a voltage increase of +20 volts. As we proceed across E2 we go from negative to positive so we have a voltage increase of +5 volts. When we cross E3, we go from positive to negative, therefore, we have a voltage drop and we indicate that by – 10 volts. Therefore, the total voltage sources result in a voltage of

E = E1 + E2 + E3

= +20 v + 5 v – 10 v = 15 v.

Each of the resistors has a voltage drop that is calculated by Ohm's law, E = I R. This means that the voltage drops across the resistors in this series circuit will add to be

I(R1) + I(R2) + I(R3) + I(R4)

= I(R1 + R2 + R3 + R4)

= I(200 + 800 + 900 + 500)

= I (2400).

One of the properties that a series circuit has is that the total of the voltage sources has to be the same as the total of the voltage drops. This means that

E = 15 v = I (2400).

Solving for the current, I, we get

I = 15 / 2400 = 0.00625 A = 6.25 mA.

The current flowing in the series circuit of Fig. 2 is therefore 6.25 mA.

The process we followed suggests that we might want to construct an equivalent circuit. An equivalent circuit has the same voltage and current as the original. Such an equivalent circuit uses one voltage source and one resistor. According to what we calculated above, the equivalent circuit would be as follows:

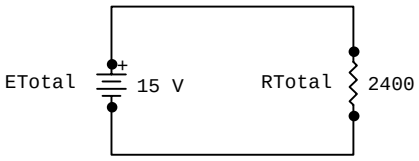


Fig. 3

Notice that the same current, I, must be flowing in both Fig. 2 and Fig. 3. This means that the one equivalent resistor must produce the same voltage drop as all the others combined. Therefore,

I (R Total) = I (R1+R2+R3+R4).

Since the current, I, is the same on both sides of this equation, we can divide it out to give a simple equation to calculate the total resistance of a string of resistor connected in series.

R Total = R1 + R2 + R3 + R4.

This formula will work for any number of resistors connected in series.

By the way, the statement that ***ALL VOLTAGE DROPS MUST EQUAL ALL VOLTAGE RISES AROUND A CLOSED LOOP,*** is called **Kirchhoff's Voltage Law**.

Editor's Corner

If you missed coming out for our third annual Shuttle Columbia Recovery Special Event Station, you missed a really good time. We had almost fifty people participate, including several from out of town, and our own Sheriff Thomas Kerss and his entire family. The chili that Mike, KD5PFQ made was outstanding, and I was still feeling its effects several days later.

One of the highlights of the entire operation was the new portable mast that John, KC5IIT made available for our use. It is a military surplus rig that can be easily field erected to almost 50 feet, and easily supported our 40 meter inverted vee antenna. Watching the crew put up the mast, and then later take it down, was worth the price of admission.

Two Icom 756's were kept busy on HF, with an original 756 on 40 and 15M, and a ProII on 20M.

By the way, we had a total of 140 contacts in the logs this year, well down from previous years. I have received several dozen QSL cards so far, and have answered all received. The quality of the QSL's this year is much improved over previous years. I wonder why?

Is NARC going in the direction you want to see it go in? It won't if you continue to stay at home and not participate in club activities. Support your club by being active in it. It definitely is the best ham radio club in Nacogdoches, and arguably the best in East Texas. Come, get involved. Check into the nets, volunteer to act as net control from time to time, come to the meetings, participate in the special activities. It's your club, come be an active part of it.

By the way, a special welcome back to Ken Lilly, WM5J. Ken was a very active member of NARC before moving to Woodville to accept a teaching position there. He has now retired from teaching and has moved back to Nacogdoches and rejoined NARC. Welcome Ken. It's good to have you back.

73 de AE5P