

Nacogdoches Amateur Radio Club

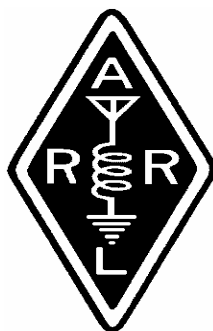
Pres: John Chapman - KC5MIB

VP: Andy Delgado - KE5EXX

Sec/Treas: Army Curtis - AE5P

JULY MINUTES

The July meeting of the Nacogdoches Amateur Radio Club (NARC) was held as re-scheduled on July 11th. Twenty-five members and seven 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. A special welcome back was made for **Johnny, KA5BQM**, who has just returned from a tour of duty in Afghanistan. Minutes of the previous meeting were approved as published. Treasurer's report was fudged. (Current balance is \$1030.57).



John, KC5MIB, spoke about 2M repeaters, and the lack of activity on them when he has traveled across the country. He thanked the folks in our club who are quick to answer the call from hams passing through our area, and put their call up on our local repeaters.

Field Day was declared a success. Good turnout, good activity, and a great time was had by all.

The **Lufkin Swapfest** was also declared a success. There is already talk about doing it again next year.

The **CQ VHF contest** is coming up this next weekend, July 21-22. This contest is only for 6 and 2 meters.

Andy, KE5EXX and **Andrew, KE5GAQ**, won 1st place for the West Gulf Division in the CQ UHF contest last year. The contest will be the weekend of August 4-5 this year, and is for all bands from 222 up.

The **Texas QSO Party** is coming up September 29-30.

Meeting was adjourned at 7:30 p.m.

Show and tell:

Many thanks to those who had show and tell. There were so many, your poor scribe could not keep up with them all.

Program: Building a roll-up 2M J-pole. Materials were provided for everyone who wanted to, to build a 2M roll-up J-pole antenna. Several were built during the evening, and many comments were received about how much this was enjoyed.

PRESIDENT'S PODIUM

Wow, can you believe it's August already, well in just a day? Time really flies quickly. I'm still working on getting my FT-857D really cranked up. I've run a net and made a 2m SSB contact with Marshall's station. AND I did that off a 2m J-pole AND it was vertically polarized. BUT, I did it. I have my antennas, working on all of my mountings. Yes, I will get it done, have to. I have to have it done by 17 Aug. I'm going to take a 3 day weekend and visit my family. We'll see how the repeaters do going up to Iowa Park. I travel up US 175 (Jacksonville doesn't answer all that often, Athens does) across Dallas (made more than one or

two on .52), across SH 114, (not a lot of contacts there), then up 287. US 287 seems a veritable wasteland of ham traffic even though much of it is part of Tornado Alley. I grew up in Wichita Falls, but in all the trips there I haven't gotten any answers there in a number of years. A big part of the trip is to make a few contacts at my brother's house and see what I can do to hook him, my nephews and my other brother. We'll see how all that goes, figure having the books sure won't hurt either.

And speaking of tornados, at least it's just been wet and not real stormy. That's a good thing. Not that we need the practice, just don't like having to put the skills to work.

Look forward to seeing everyone this Wednesday at Christ Episcopal Church. Do bring your goodies, I'll throw my new radio in the box and bring it.

73 to all,

John Chapman

e-mail: kc5mib@arrl.net



V.P.'s ELEMENT...

Hello World!

One of the first examples used in most computer programming languages is to be able to print "Hello World!" to the computer screen.

It just came to me that we are doing the same thing. One of the first tasks we train a new operator to do is use the repeater network. Instead of the "Hello World!" we say something like "KE5EXX monitoring", which could loosely be translated into "Hello World! This is KE5EXX, does anyone want to talk to me?"

We have some newly licensed Amateurs who have yet to get on the air probably more out of intimidation than anything else. Let's do some training - Repeaters 101 - if you will.

The first and most important rule is LISTEN FIRST. Nothing is more annoying than someone that "keys up" in the middle of another conversation without first checking to make sure the repeater is free. If the repeater is in use, wait for a pause in the conversation and simply announce your callsign and wait for one of the other stations to acknowledge your call.

When you are using the repeater leave a couple of seconds between exchanges to allow other stations to join in or make a quick call. Most repeaters have a "Courtesy Tone" that will help in determining how long to pause. The courtesy tone serves two purposes. Repeater have a time out function that will shut down the transmitter if the repeater is held on for a preset length of time (normally three or four minutes). This ensures that if someone's transmitter is stuck on for any reason, it won't hold

the repeater's transmitter on indefinitely.

When a ham is talking and releases the push-to-talk switch on their radio, the controller in the repeater detects the loss of carrier and resets the time-out timer. When the timer is reset, the repeater sends out the courtesy tone. If you wait until you hear this beep (normally a couple of seconds), before you respond, you can be sure that you are pausing a suitable length of time. After you hear the beep, the repeater's transmitter will stay on for a few more seconds before turning off. This is referred to as the "tail". The length of the tail will vary from repeater to repeater but the average is about 2 or 3 seconds. You don't have to wait for the "tail to drop" before keying up again, but you should make sure that you hear the courtesy tone before going ahead.

How do you call someone on an Amateur Repeater? First, listen to make sure

that the repeater is not already in use. When you are satisfied that the repeater is not in use, begin with the callsign of the station you are trying to contact followed by your callsign. e.g. "KE5GAQ this is KE5EXX". If you don't establish contact with the station you are looking for, wait a minute or two and repeat your call.

If you are just announcing your presence on the repeater it is helpful to others that may be listening if you identify the repeater you are using. e.g. "This is KE5EXX listening on 8-4". This allows people that are listening on radios that scan several repeaters to identify which repeater you are using.

If the repeater you are using is a busy repeater you may consider moving to a simplex frequency (transmit and receive on the same frequency), once you have made contact with the station you were calling. Repeaters are designed to facilitate

communications between stations that normally wouldn't be able to communicate because of terrain or power limitations. If you can maintain your conversation without using the repeater, going "simplex" will leave the repeater free for other stations to use.

One thing to remember! Your conversation is public! If you need to say something in private, you should make a phone call or meet face to face.

See you Wednesday August 1 at the next NARC Meeting!

73 de KE5EXX
email: ke5exx@arrl.net

VE TESTING

Our next VE testing is scheduled for Wednesday, August 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.

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

The next meeting will be on Wednesday August 1st 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 Seventeen By Thomas Atchison

In the last installment we talked about the quality of components and the Q of a circuit. This raises the question of why we don't use the highest quality components in every circuit we construct. We realize that the higher the quality of a component, the more expensive that component will be. Also, higher quality components may not be readily available. To decide what quality our components should be we consider

several trade-offs. What is the circuit function? What purpose does a component serve in the circuit? What will be the frequency of signals applied to the component? As we answer these questions we can decide how to select the proper components for our circuit.

For example, suppose we decide to construct a power supply that converts 120 volts ac to 12 volts dc. We use a transformer to reduce the voltage from 120 volts to 12 volts and we use a rectifier to convert the 12 volts ac to 12 volts dc. The output of the rectifier may have 60 Hz or 120 Hz ripple, therefore, we need to add a filter capacitor to smooth the ripples (we will talk more about this process later). We don't need to worry about the high frequency characteristics of the capacitor in this situation and we don't need to worry about a small energy loss either. This means that we can use a capacitor that is not a

high-Q capacitor. On the other hand, a capacitor that will be used in the RF portion of a VHF receiver must meet other requirements. Any signal loss in this circuit should be minimized; therefore, we need to have high-Q components in such a circuit.

Aluminum electrolytic capacitors are usually used as power supply filters. They have a large amount of capacitance in a small package. They do have higher losses, especially at high frequencies; therefore, they have a lower Q than some other types of capacitors. As we mentioned above, that is not a serious problem for a power supply. For higher frequency circuits we use mica or ceramic capacitors. These dielectric materials have lower loss therefore they make higher-Q capacitors.

To reduce an inductor's losses we use a larger diameter wire and we put more space between the turns. Unfortunately, in some cases we don't have

room in a circuit to insert a large coil. If the circuit doesn't require a high-Q coil, then we can use smaller wire and a small diameter coil form.

For example, suppose we consider the output network of a high-power RF amplifier. Since we have worked very hard to create the RF energy, we don't want to lose any of it in a low-Q output network. The output inductor must be able to carry several amperes of RF current for a large amplifier and it should have a high-Q. In this case we might use large diameter wire or copper tubing to minimize conductor resistance and to carry high RF current. The capacitors in the output network should also use low-loss dielectric materials.

On the other hand, if we place an inductor in series with the power-supply lead to an RF amplifier, this inductor will carry a small direct current from the power supply. At dc, the inductor has a small reactance, but it has a

large reactance at the amplifier's radio frequency. This means that it blocks any RF current from flowing back into the power supply. A coil of this type is called a choke. You don't need a high-Q inductor for a choke. You just use a power supply that can supply the current needed by the amplifier and the losses in the coil.

In the above discussion we talked about using a transformer to reduce the voltage from 120 volts to 12 volts. In the next installment we will talk about how such transformers are constructed. We will also discuss the construction of other transformers for other uses.