January 2022 Volume 01-2022

Nacogdoches Amateur Radio Club

2021 CLUB OFFICERS

Pres: Bill Rascher – KT5TE

Vice Pres: Aaron Baker – KI5FIQ

Sec/Treas: Army Curtis - AE5P

Visit our web site at

https://w5nac.com/

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 and having fun.

DECEMBER MINUTES

The December meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on December 1st. **President Bill KT5TE** opened the meeting at 6:00 p.m. in the Nacogdoches City/County Emergency Operations Center off FM 3314. Self-introductions were made by the 27 members and guests present. This being our annual Christmas Party and Pot Luck Supper, Tom W5TV asked the blessing and the meeting was adjourned at 6:15 to eat.

As expected, the food was outstanding and everyone ate their fill.

Continuing with our annual practice, we next held our White Elephant Auction, conducted by our Emergency Coordinator John KC5MIB. At least 23 items, most of great value, were auctioned with all proceeds going to the club. Including several generous donations, a total of $586 was deposited to the club's account.

December also marks the time for club dues. Ten members paid their dues at the meeting; more have sent a check to the treasurer.

Remember: Club dues are just $20 a year and cover all licensed Amateurs in one household.

FROM THE PRESIDENT

These months have been flying by faster and faster. Lauren (XYL) says that this is because we have more to do than time to do it. For me this is a good thing most of the time, but can be frustrating to not get projects started or finished. The biggest setbacks were things like rebuilding the baler, repairing other Ag equipment, fence repair and adding additional fencing. One ton horses don't have a lot of respect for a fence if there isn't a hot wire across the top of the fence. Which can really mess with the radio.

Goats are like smoke, if there is a hole they'll find it quickly. Of course it seems like every year I'll bump a fence somewhere with an implement and goats will go where they shouldn't be. More often than not it is a case of "ahh crud, how did they get there?" Not to mention parts for everything have been slow to arrive with all the shipping issues.

All my radio projects are still sitting in their boxes and the TH11 antenna on the tower is fixed pointing to the north. For the antenna I'm waiting for Universal Towers to ship a new rotator plate. They said that the plate up on the tower now will work for both Yaesu and Hygain rotators. Nope, won't happen. All the bolt holes, but one, are off by 1/16th of an inch. And auguring out that many holes won't keep the rotator from moving when starting and stopping. That Hygain TH11 has a 24' boom and 37' elements that add to the inertia getting it moving or stopped. The upside is all cables are routed down the center of the tower and are tied to the tower with insulated 12ga wire instead of zip ties. So that part of the tower work is finished. Also, all the coax strain reliefs were done using the same wire since zip ties were breaking. Kinda did the Chinese finger thing for strain relief. When climbing the tower the UV proof zip ties broke with the slightest pressure, so they weren't hare to remove.

If I wasn't stuffed with all the Christmas food I might have completed the additional heliax coax cable runs to the tower. The plan is to get rid of the antenna switch clamped to the tower. I'll use that switch as a present for our next Christmas meeting. As fast as these years are going by that should feel like tomorrow. :-)

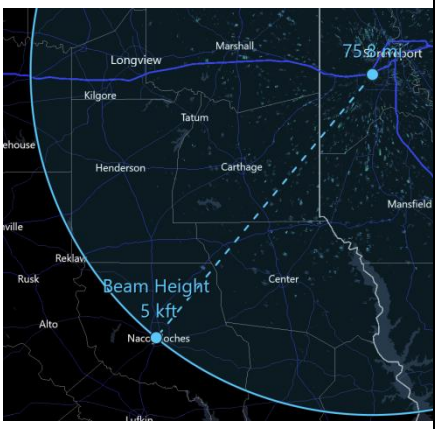
I hope your Christmas and New Year celebrations went well and we will see you at our January 5th meeting.

73, Bill KT5TE

bill@watershipfarm.com

FROM THE VP CHAIR

Well, it's that time of the month where I get to start coming up with something to write for the newsletter and this will probably be the only time that I'll have it done early (my apologies in advanced to the editor ;)) Currently I'm sitting in the lobby of the Edison Plaza in downtown Beaumont killing time as my mom is upstairs at a doctor's appointment. I had planned on writing about a new Winlink client that I recently discovered for Android devices, but the latest tornado outbreak in the Midwest two weeks ago from the time of writing this got me thinking about our role when it comes to storm spotting and relaying weather reports to the National Weather Service. As you may (or may not) know, Nacogdoches County is under the jurisdiction of the Shreveport office of the National weather service. What makes it difficult for them is that their radar is over 75 miles away and because of the curvature of the earth, by the time the beam makes it here, the radar beam is looking 5,000 feet in the air. Not quite at ground level.



What this means is that Shreveport heavily relies on storm spotters from East and Deep East Texas (Their boundary goes to the Neches River before they hand it off to the offices in Fort Worth, Houston, and Lake Charles) to give them accurate storm information, especially when tornadic and severe storms are involved. So, if you do have a report to give, there are multiple ways you can give it to your weather office. The main way is to send the report using the link on the NWS Shreveport's page https://weather.gov/shv

You can even submit your pictures on social media using Facebook (US National Weather Service Shreveport) and Twitter (@NWSShreveport), or even email (sr-shv.skywarn@noaa.gov). But as always, I'm (mostly) always monitoring 32 when I'm in town and my email. I have an account setup with NWS Chat, where I monitor the Shreveport, Ft. Worth, Houston, and Lake Charles chat rooms for the various reports and incoming watches/warnings so I can easily pass along the reports, especially if we have a net that is active.

Speaking of warnings, do you have a way to receive warnings when they are issued? If not, one weather radio I particularly recommend purchasing is one from Midland as they are a huge advocate for the NOAA Weather Radio system. We have multiple

NOAA Weather Radio broadcast stations WXK23 in Lufkin, WNG650 in Center, and WXK36 in Tyler (For our Rusk County folks) broadcasting on 162.550, 162.525, and 162.475 MHz, respectively. Okay that's enough rambling about weather and ham radio. I promise I won't write about it EVERY month :)

73 de Aaron Baker KI5FIQ

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NOTES FROM OUR EC

I'm typing this Christmas Day. Sadly, some of us have to work. The Winter Solstice has come and gone and 2021 is coming to an end with abnormally warm weather. Fingers crossed this isn't a warning that the winter may get uglier than usual. December has not been good for our friends in the central part of the United States. 10 -11 December saw 4 storm tracks, 1 started in NE Arkansas, 2 started in Tennessee and 1 EF0 in Mississippi. The storm system was devastating and deadly. I'm sure the final numbers have not been tallied. As of 21 Dec, the NWS had confirmed 66 tornadoes, several of which were classified as long track. Two of the long track were supercell and traveled over 100 miles as spawning tornadoes.

During this holiday season, please remember the people along the storm track and those that are helping.

I will provide a link to the NWS site with information 10 Dec and dissipating around 1:00 AM 11 Dec. This storm system occurred during the hours of twilight and darkness. As the above reminds us, tornadic activity has no season. Whenever you hear of changes in the weather, please listen to the radio or TV or one of your radios tuned to the NWS VHF radio station. If you haven't already done it, the NWS has on-line SKYWARN training, if you wish to get qualified or polish up it's a great place to do it.

Thanks to everyone who are checking in to our nets. AND we will be looking for some new net control operators. We've worked out current cadre pretty hard and need to get some new blood behind the mic. The script is available on our website, it's not hard. Print them off, stuff em in a document protector and practice. Make sure your radio and antenna are up

to the game. Let me know. Merry Christmas and a happy New Year to all

ARES 146.80, 141.3 PL Negative offset

SKYWARN 147.320 141.3 PL Positive offset

Net Control Scripts: https://w5nac.com/resources/ares-races/

NWS: https://www.weather.gov/srh/

73 de John Chapman KC5MIB
kc5mib@arrl.net

VE TESTING

The December 2021 VE session had no applicants.

Many thanks to VE's **Rusty KD5GEN, Ralph N6RH, Mike AA5HH, Mike W5NXK, Robert KD5FEE** and **Army AE5P.**

Remember that we give VE tests the third Wednesday of EVERY month. For the latest information always check the club website at:

https://w5nac.com/ve-testing/

73 de AE5P.

email: ae5p@arrl.net

TWO METER CLUB NETS

Please join us each week for the two meter nets sponsored by NARC. All stations are welcome to check into the nets.

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.

NEXT MEETING

Our next meeting will be Wednesday January 5th at the City/County Emergency Operations Center off FM3314. Meeting starts at 7:00; doors open at 6:30. Come early for a little socializing before the meeting.

UPCOMING EVENTS OF NOTE

Mark your calendars for the following events coming up in the next few months. Full information on these events and much more can be found at http://www.hornucopia.com/contestcal/contestcal.html

ARRL VHF CONTEST

Jan 15-16, 2022
http://www.arrl.org/january-vhf

SHUTTLE COLUMBIA SPECIAL EVENT

Feb 4-6, 2022
Sign up with AE5P

Check out the many contests listed on the Contest Calendar link shown here. There are many State QSO parties and 'Parks-On-The-Air' events that may be just right for you. Check 'em out.

Repeaters

by

Thomas Atchison W5TV

Looking at the internet I found an excellent discussion of amateur radio repeaters by WØSTU. The URL for that site is as follows:

https://hamradioschool.com/introduction-to-uhfvhf-fm-repeaters/

I don't want to completely reproduce that article; however, I would like to mention a few highlights. I urge you to go to this site and read the entire article if you have an interest in VHF-UHF FM amateur repeaters.

An FM repeater receives your FM signal and **simultaneously** retransmits (repeats) what you say on a different frequency. The repeater is usually located on a hill or tower so the range or coverage will be better than where you are transmitting/receiving. The repeater transmitter will normally have more power than you have, particularly if you are using a handheld transceiver. The basic idea is that operators who cannot contact one another directly for simplex operation can use a repeater and maintain contact over a larger area.

As mentioned above, an FM repeater receives your signal and it retransmits it on a different frequency. Obviously, it cannot retransmit on the same frequency because that would cause a feedback loop in which the repeater's receiver would 'hear itself' transmitting and try to retransmit itself. Instead, repeaters use frequency pairs. That is, one frequency is used to receive signals from the user and another frequency is used to retransmit the received signal. For example, our ARES/RACES repeater receives on 146.24 MHz and retransmits on 146.84 MHz. That is, your transceiver is tuned to 146.84 but when you push the microphone push-to-talk button the rig immediately switches to 146.24 to transmit. That transmission is received by the repeater and it retransmits what you say

on 146.84 so that it is heard by the person you are talking to. In this example the difference between the listen frequency of your transceiver (146.84) and the talk frequency of your transceiver (146.24) is 600 kHz. This is called the offset or shift. The standard offset on 2 meters for repeaters is 600 kHz.

A frequency pair offset may be positive (+) or negative (-). That is, the talk frequency may be higher (+) or lower (-) than the listen frequency. The shift is always determined by the direction of the talk frequency relative to the listen frequency on your transceiver. In our example above, the transceiver has a negative offset since the talk frequency is lower than the listen frequency. This pair is sometimes expressed with the notation 146.84-. With our Skywarn repeater the receiver of your transceiver is set to 147.32 MHz and your transceiver transmitter uses 147.94 MHz. This is a positive offset and is denoted 147.32+.

Notice that the repeater has the opposite arrangement. If your transceiver is using 146.84- then the repeater receiver is set to 146.24 and the repeater transmitter is set to 146.84. The table below shows the standard repeater input frequency offsets:

Standard 2-Meter Amateur Radio Repeater Input Frequency Offsets
Add the frequency offsets shown below to 2-meter repeater output frequencies to obtain standard repeater input frequencies.

2-Meter Repeater Output Frequency	Standard Input Frequency Offset
145.1 MHz - 145.5 MHz	-600 kHz
146.6 MHz - 147.0 MHz	-600 kHz
147.0 MHz - 147.4 MHz	+600 kHz

Many repeaters use a special method of squelch in the receiver. One of the most common methods of repeater squelch is a low frequency audio tone that is transmitted continuously along with your voice signal. If this continuous tone is not transmitted in your signal, the repeater's squelch will not be opened and the repeater will not receive your transmission. This squelch method is called the Continuous Tone Coded Squelch System (CTCSS). A repeater will use a single established tone from a set of 42 standard frequencies. When you program a channel into your radio for a specific repeater you must select the appropriate CTCSS tone used by that repeater. Repeaters usually filter out the CTCSS tone from retransmissions so that it is not heard as audio by receiving stations. The audio tone we use on the NARC repeaters is 141.3 Hz. This is the tone you must program in to your transceiver if you plan to use our repeaters.

Most communities in the United States are served by repeaters. While the majority of repeaters are on 2 meters, there are repeaters on 222 MHz, on 440 MHz, on 902 MHz and on 1270 MHz. Repeater frequencies are selected through consultation with frequency coordinators. These are individuals or groups that recommend repeater frequencies based on potential interference and other factors. There are several ways to find local repeater(s). Ask local amateurs or contact the nearest radio club. Each year, the ARRL publishes The ARRL Repeater Directory, a comprehensive listing of repeaters throughout the United States, Canada, Central and South America and the Caribbean. Another source of repeater locations can be found on the internet at https://www.repeaterbook.com/repeaters/. This site will tell you the input and output frequencies of a repeater as well as the audio tone used to access the repeater. It may also give you additional information concerning the repeater.

Many repeaters, such as ours, host regular nets at designated times. Operators need to be aware of net times and protocols and plan to avoid

using the repeater during those times or, better yet, check in to the net and be a part of the local operation.

If you want to make known your presence on an FM repeater, simply state your call sign on the air. This will let anyone listening on the repeater know that you are open for a call. Calling CQ on a repeater is not done.

You may also hear a courtesy tone on a repeater that indicates the end of a repeated transmission. These tones serve as a substitute for the use of terms like "over" at the end of a transmission. You will typically hear the repeater identify itself with either Morse code or a recorded voice ID at least every 10 minutes. You might use this to identify your station in keeping with the 10 minute identification rule of FCC Part 97. Courtesy is always expected when you are using a repeater. Get on the air and have fun!

IT'S TIME FOR CHANGE

by

Army Curtis – AE5P

For quite some time now, we have been conducting a book raffle each month, where every person who comes to the monthly meeting is given a raffle ticket. One ticket is picked out of the hat (or other convenient vessel) and the ticket holder is presented with a book that hopefully is of interest to a Radio Amateur.

New Year; New changes. Hams get on the air and make contacts. Do you want to win a book? Make contacts. Come to the meeting and tell us how many contacts you have made in the previous calendar month. You don't have to show us your log. We'll take your word for it. To qualify you must be a current dues paid member of the club. And you can only win once per year. We may extend this to members who cannot make the meetings because of inability to drive at night.

We have some members who have really been hitting the bands and making contacts like crazy. That's fantastic, but they can only win once per year. We hope that all members will have a shot at this. The contacts can be casual or contest. The main thing is that you got on the air and made contacts with other hams.

We have several excellent opportunities coming up that you might want to check out. The ARRL January VHF Contest will pretty well guarantee you several hundred contacts. Come rove with us. The Shuttle Columbia Special Event Station can also result in several hundred contacts. The higher bands are really starting to open up. Sign up and give it a shot.

There are many other opportunities to make contacts if you'll look for them. Get on the air!