

Nacogdoches Amateur Radio Club

2024 CLUB OFFICERS

Pres: Mark Phillips - KI5POH

Vice Pres: Darrell Thornton -
KI5PYQ

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 business meeting of the Nacogdoches Amateur Radio Club (NARC) was held November 29 on the club's 146.84 repeater. Two club officers checked in, as well as five additional check-ins.

President Aaron discussed the Christmas Party and White Elephant Auction planned for Wednesday December 6th at Clear Springs Café. Festivities will begin at 6:00 in the Party Room. Everyone is asked to come a little early. Dues for 2024 will be accepted at this event.

Net closed at 8:09 p.m.

The regular December meeting of the Nacogdoches Amateur Radio Club was held as scheduled on December 6th in the Party Room of Clear Springs Café with 11 members and 10 guests. **Vice-President Mark KI5POH** opened the meeting at 6:00 p.m. Introductions were made by all present. Mark introduced and then installed the officers for 2024.

A new member was added to our ranks. Brandon Cathey KF5QLM, who lives in the Martinsville area came to the meeting at the invitation of KT5TE and was an active participant. Welcome Brandon. We are happy to have you as a member.

A blessing was asked by Tony KE5ASM and food orders were taken by the Waite staff. As always, the food was excellent and no one in the club had to cook!

After the dinner, John KC5MIB began the White Elephant Auction. A total of 21 items were auctioned off with \$252 added to the club coffers. Participation in the auction was excellent with 10 members being the high bidder on auction items. Many thanks to all for making this a most enjoyable evening.

Meeting closed at 2000 hours.

2024 DUES ARE DUE

Dues are just \$20 a year and cover all licensed hams in a family. Please get your dues to AE5P either in person or mailed to his home address. Sooner is better than later. Make checks payable to NARC.

FROM THE PRESIDENT

It is hard to believe that it is 2024! Last year passed very quickly. We had a great time at the Christmas Party and White Elephant gift auction. We had some interesting items for the auction. I look forward to the new year and the possibilities it will bring. I hope each and every one of you have a Merry Christmas and the New Year is your best one yet!

Up coming Hamfests:

January 19th-20th -
Cowtown Hamfest, Forest Hill, TX (Fort Worth area)

March 1st-2nd - Greater Houston Hamfest, Rosenberg, TX

I am thankful for each of you for being a Ham and being part of our club!

73, Mark KI5POH

KI5POH21@gmail.com

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FROM THE VP CHAIR

I'm not sure about the rest of you guys, but 2023 went by like a whirlwind. I hope your 2024 year will be full of good times with the things that make you happy, like amateur radio.

With you guys voting me in the position of VP, I get to serve the club with monthly club programs. I'm open for ideas on what you guys would like to see. This month, I've asked Jim Edmondson N5JGE to lead a program on learning CW. Jim will show us many resources and strategies on learning CW.

I hope everyone had a great Christmas and New Year times. Did anyone get any awesome amateur radio gear? At the time of the writing of this article, Christmas has not happened yet. So I'm not sure what Santa Claus is going to bring.

Project for the 2024 year will be to relocate "the shack". With my kids

getting older and deciding to move out, I'm getting more room in the house. The plan is to get a tower up in a location that will be spouse friendly. I'll keep you guys posted on the status.

The next Fox Hunt will be on Jan 20th, 2024. Aaron Baker KI5FIQ will hide the fox and announce it on the 84 repeater (146.840/141.3 PL) at 10:00 AM. You will need to use your skills on locating the fox. Attached to the fox will be directions for your next steps.

Great resources for Fox Hunt equipment:

<https://www.instructable.com/The-Tape-Measure-Antenna/> (Yagi antenna for direction)

<https://byonics.com/attenuators> (Attenuators for dampening the signal for better direction)

<https://byonics.com/mf> (If you would like your own fox)

<https://www.arrl.org/direction-finding> (ARRL articles on finding the signal source)

73, Darrell KI5PYQ
dalbcthornton@gmail.com

NOTES FROM OUR EC

I started writing this 21 Dec 2023, the Winter Solstice and the first day of Winter. We had 10:05:17 of daylight, the shortest number of daylight hours for the year. It only gets better; the number of hours increase until the Summer Solstice. How many of you are hitting the airwaves in the dark of the night on 160 or 80 or 40 meters? You know tis the season for that long haul overnight stuff. Many traffic nets like the National Hurricane Net will use 80 m frequencies in the overnight due to the good propagation characteristics. Let's stretch this one a little. How many have tried

to use the 2200 m (135.7-137.8 khz) or the 630 m (472-479 khz) bands. I have caught a few non-directional beacons on one of my receivers. Let's press on to some EC things.

Hurricane Season 2023 has finally closed. It was the fourth most active Atlantic season with 20 named storms, 7 becoming hurricanes and of those, 3 becoming major hurricanes. September was the most active month. And again, we have had little impact from the previous season. As noted at the beginning of this article, we are now officially into winter. Winter has presented us with some pretty rough weather in past years. A few storms like Snowmegedon, a 100 degree day in January and some other storms come to mind. As Winter comes to a close, the threat of tornadoes increases. The winter checklist, we've gone over these before: dry cell batteries for flashlights and maybe a portable radio, hand held radios all charged up, generator(s) serviced and

ready to go, auto serviced with good tread on the tires, wood for the fire place if you have a fire place.

I haven't looked at the 2024 Farmers' Almanac (yet). I did go to the NOAA Climate Prediction Center to look at the 2024 weather outlook. These are my take aways:

-Temperatures near normal

-Precipitation slightly above normal

-Drought conditions expected to improve due to the above.

I'm not a forecaster, I'll just make an SWG (scientific wild guess) we may have a damp winter. Thank you to the net controllers and all who check in to our nets. Have a Merry Christmas and a great New Year,

73, John KC5MIB
jlchapman2@gmail.com

VE TESTING

We had four people for testing at our December 20 gathering. Bryan Whittiker KJ5CZZ upgraded to General, Justin Beasley KH5DHA upgraded to General, Westin Beasley age 11 passed his Tech and General and Charles Beasley age 12 passed his Tech. Yes, Westin and Charles are the sons of Justin. Congratulations to all.

We do want to remind everyone that we offer in-person testing for all classes of Amateur Radio licenses on the third Wednesday of every month.

Many thanks to VE's, Mike AA5HH, Mike W5NXX, Ralph N6RH, Robert KD5FEE, and Army AE5P.

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.

HAMLIST

Are you on Hamlist? Check it out and join at:

<https://w5nac.com/about/email-reflectors/>

NEXT MEETING

The monthly business meeting is held on the

Club's 146.84 repeater, 8:00 p.m. on the Wednesday before our normal scheduled meeting which is always the first Wednesday of the month.

For January, the business meeting will be on December 27th. All stations on frequency for the business meeting are asked to check-in, whether or not they plan to participate in the meeting.

The next regular NARC meeting will be Wednesday January 3rd at the Nacogdoches City/County EOC. Meeting begins at 7:00; doors open at 6:30. Come early for socializing before the meeting. After a very short business meeting, we will have what promises to be a most interesting program.

Hope to see ya'll there.

WHITE ELEPHANT AUCTION

Our intrepid auctioneer **John KC5MIB** did his usual excellent job with the

White Elephant Auction at our annual Christmas Party December 6th. We raised a total of \$252 in the Auction plus donations, and another \$220 from 2024 dues payments. One outstanding feature of this year's auction was that every ham present was the successful bidder on at least one item.

Many thanks to all for the support of your Nacogdoches Amateur Radio Club.

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 <https://www.contestcalendar.com/contestcalendar.html>

ARRL RTTY Roundup

Jan 6, 2024

<http://www.arrl.org/rtty-roundup>

NAQP - CW

Jan 13 - 14, 2024

<https://www.ncjweb.com/NAQP-Rules.pdf>

NAQP - SSB

Jan 20, 2024

<https://www.ncjweb.com/NAQP-Rules.pdf>

ARRL January VHF Contest

Jan 20 - 21, 2024

<http://www.arrl.org/january-vhf>

BARTG RTTY Sprint

Jan 27 - 28, 2024

<http://bartg.org.uk/wp/bartg-sprint-contest/>

SHUTTLE COLUMBIA SPECIAL EVENT STATION

K5C

Feb 2 - 4, 2024

<https://w5nac.com>

CQ WW WPX RTTY

Feb 10-11, 2024

<https://www.cqwxrtty.com/rules.htm>

ARRL INTL DX CW

Feb 18-19, 2024

<http://www.arrl.org/arrl-dx>

NAQP RTTY

Feb 24-25, 2024

<https://www.ncjweb.com/NAQP-Rules.pdf>

ARRL INTL DX SSB

Mar 2-3, 2024

<http://www.arrl.org/arrl-dx>

CQ WPX SSB

Mar 25-26, 2024

<http://www.cqwp.com/rules.htm>

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.

AI (Artificial Intelligence) Can Help!

Jim Edmondson, N5JGE

This month's article will highlight an application of AI (Artificial Intelligence) to ham radio. Most modern ham radio transceivers and receivers have built-in DSP (digital signal processing) capabilities. One of the most useful implementations of DSP is for noise reduction. The analog RF, IF (intermediate frequency) or AF (audio frequency) signals are converted to digital signals and various filters are applied in an attempt to identify and separate noise from the signal. This results in a better signal-to-noise ratio and "cleaner" sounding audio. In many cases, this is necessary to copy a weak signal especially during times of high atmospheric noise or on the lower HF bands.

Unfortunately, older rigs do not include DSP's or, if they do, the implementation is not particularly effective. For these rigs, several manufacturers (West Mountain Radio, bhi, etc) make physical audio DSPs that work quite well. Those, of course, cost money, take up desk space and unless firmware updates are offered, they are what they are when bought.

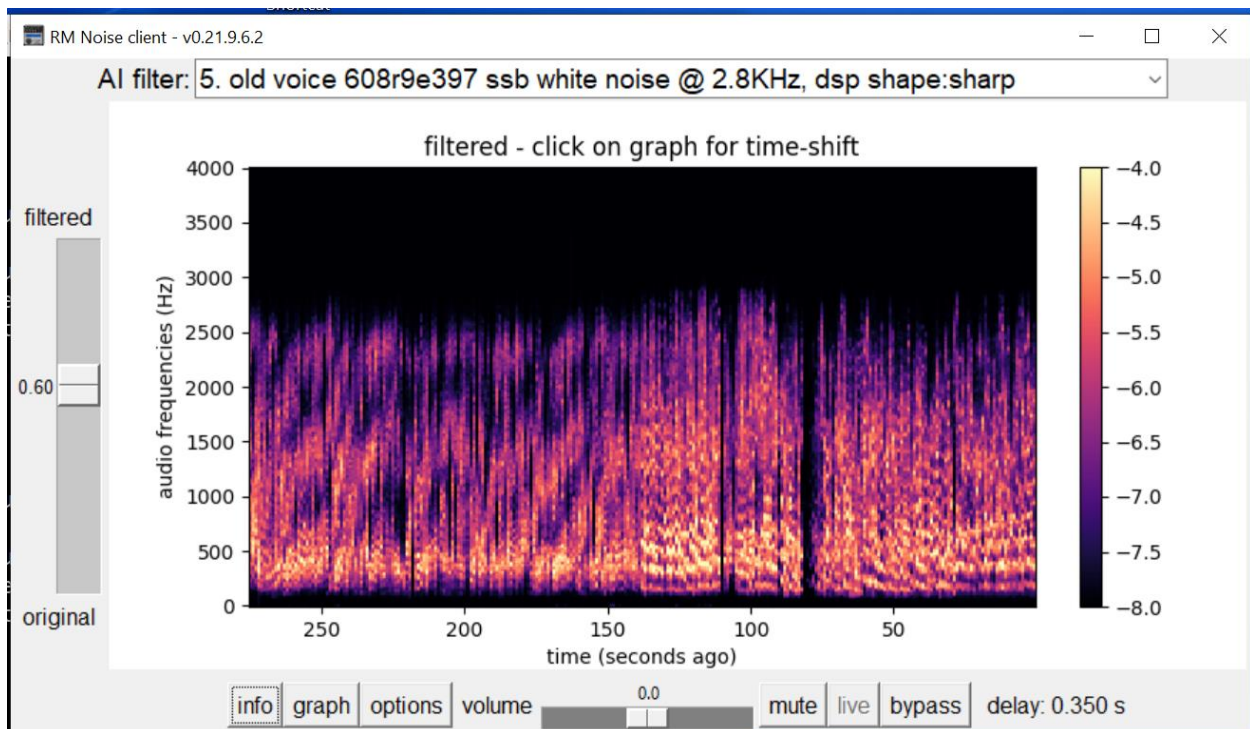
Another option that I recently discovered is a software application named "RM Noise". This application is not only software-based, but learns over time due to its artificial intelligence engine. One user claimed that RM Noise works better than the DNR (Dynamic Noise Reduction) of his FTdx101MP! I have the little brother of the 101 (FTdx10) and it has an awesome DNR function, so that is some high praise. It is important to note that RM Noise is strictly a filter to improve the signal-to-noise ratio. It does not improve selectivity or sensitivity to the received signals, these must be optimized using the radio controls before employing RM Noise.

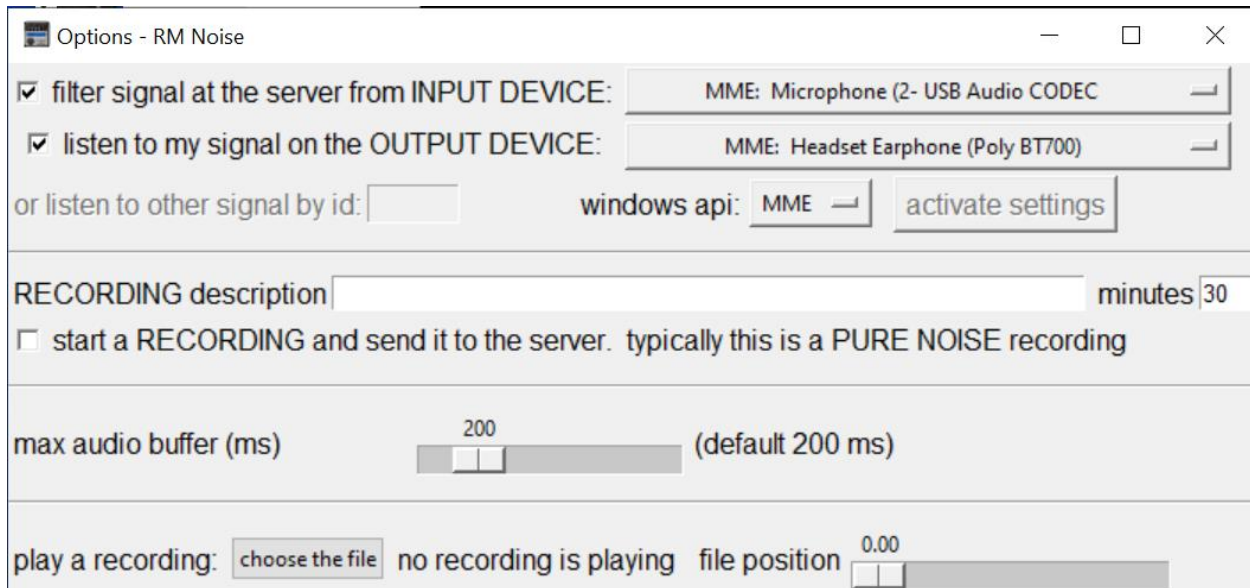
The details of getting audio from your radio into the PC is beyond the scope of this article. Briefly, if your radio does not have a built-in soundcard, you can use a line-level analog output if available or create an interface (attenuator) from an external speaker or headphone jack to input to the PC mic input.

At time of writing this article, the latest version of RM Noise is 0.21.9.6.2 and can be downloaded from ([RM Noise](#)). RM Noise has only been tested on Windows 10 and 11 (Windows 7 is no longer supported). You must register and activate an account with RM Noise (full name, email, callsign required). The installation is straightforward and automatically uninstalls any previous versions. When started,

the program opens a Windows Command window and then the user interface. The Command window identifies available audio devices so that you can select appropriate input and output devices for filtering and monitoring.

The user interface is shown below followed by the options window. The first thing to do is to open the options window (3rd button from left at bottom of user interface) and select the radio audio stream for raw audio input and the output device to monitor the filtered audio. In my options window below, those are "2-USB Audio CODEC" and "Poly BT700", respectively. Once the devices are selected, click on the "activate settings" button and you should hear the radio audio from your listening device and begin to see a signal trace on the main user interface graph. The trace on the graph should be between -5.0 and -5.5 (right-hand axis). If not, use the Windows sound device level control to adjust to that range as shown in my display below.





At the top of the user interface is a dropdown box. Various filters can be selected from the list. Currently, filters are available for SSB, CW and FM. At the left-hand edge of the user interface, is a slider that adjust the "% filtering". That is, RM Noise mixes the filtered and unfiltered signals at the selected percentage. With this control "0.00" is the "original" audio (completely unfiltered) and "1.00" is "filtered" (completely filtered). This control is useful to optimize noise reduction and fidelity of the signal.

At the bottom of the user interface, are a series of convenience controls. The "info" button opens a window which displays a graph of technical aspects of the signal processing (delay, latency, packet loss, etc.). I did not find a description of the "graph" button. It appears that the button averages out the signal level to aid in adjusting the radio audio level to -5.0 to -5.5. We discussed "options" above. "volume" and "mute" are self-explanatory. "live" is grayed-out on my display because there is a lag between the radio audio and output audio. You can see the "delay" at the far right of the row of controls. The graph opened with the info button shows a 90-second history of the delay. Finally, the "bypass" button provides a quick and dramatic way to determine filter effectiveness without changing the slider setting.

I have tested RM Noise on my IC-7300 which has a built-in DSP with noise reduction, noise blanking, etc. I find that RM Noise performs every bit as good as the hardware noise reduction of the rig. In several respects, it is more flexible than the rig controls to fine tune noise reduction with minimal impact on audio quality. The mute function is also nice if you have multiple audio streams that you may want to switch among on the PC. I have only used RM Noise for receive and have not made any

QSO's as yet. I think that the audio delay is short enough that it will not affect timing of the back and forth. I have never seen the above 2.5 seconds and it is usually much lower. RM Noise is great for older rigs and can even improve audio of newer DSP rigs.

Here are some additional links that provide more information on RM Noise:

[G5 STU Video](#)

[RM Noise Documentation](#)

[RM Noise Home](#)

[RM Noise Groups.io](#)