



W5NC

Houston, Texas

Northwest Amateur Radio Society

A 501(c)(3) Organization
An ARRL Affiliated Club

NARS NEWS

DECEMBER 2023

Northwest Amateur Radio Society

P.O. Box 11483

Spring, TX 77391

w5nc.club

Happy Holidays from NARS!

2m Ham Band

**President's
Message**
Page 3

**A Virtual
Radio Station
Tour**
Page 17

**Gift Guides
from YouTube**
Page 18

Contents

President’s Message	3
Exam Practice.....	4
The ARRL Letter	5
NARS Membership – Due Dates and More	14
NARS Monthly Club Meeting	15
NARS Club Documents and Minutes	15
NARS Name Badges: Get Yours Today!	16
NARS Announces a Dues Increase	16
Amateur Radio Activities	17
Gift Guides From YouTube.....	18
VE Sessions and Results	20
Renewing Club Members.....	21
Training and Education	22
Of Interest to the Club	24
Calendar	25
Club Activities and Events.....	25
Social Events	25
Hamfests and Conventions.....	26
Contests and Radiosport.....	26
NARS Club Officers and Information	27
Board Officers with Voting Privileges	27
Board Non-Voting Associate Members	27
Club Nets.....	27
Repeaters.....	27

NARS News is published monthly by the Northwest Amateur Radio Society (NARS). Northwest Amateur Radio Society is a Special Services Club affiliated with the American Radio Relay League, ARRL Club No. 2120.

If you would like to contribute to the newsletter by publishing an article, adding calendar events, or any other contribution, please send all submissions before the end of the month to the newsletter editor:

Brandon Rogers (K5BLR), Newsletter Editor
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President's Message

BY RON MATUSEK, WA6TQH

I would like to wish all NARS members and their families a very Merry Christmas and a prosperous New Year!

2023 has been a spectacular year for our club. We have achieved several goals this year through the dedicated efforts of our members. We have a beautiful facility for our meetings, a new dedicated tower for amateur radio use has been erected at the facility with a very large HF beam antenna which we will have use of especially during field day. We have completed the initial phase of updating our mobile trailer with a NARS wrap second to none. We have completed the process of becoming a 501 (c) (3) Non-Profit organization. We have expanded our repeater coverage – not without some hiccups – which includes a contracted location on top of one of the tallest buildings downtown for our repeater and plans are in testing phase for additional links and access capabilities. Look for more to come shortly on that subject in the W5NC website.

Our membership continues to grow with the addition of new technical expertise. Too many other projects are ongoing to mention here, but 2024 will be a very busy year so get involved and bring your expertise to help us in the various committees we have set up.

Our December 15th General Meeting this month is that time of year to dig into the project closet for those projects and to downsize the shack in anticipation of the coming flood of new Christmas toys. I am talking about the annual Show and Tell meeting and Silent Auction.

Bring those projects in, even if they are not quite finished, and let the rest of us “Ooo” and “Aaa” over them. Even trade off some ideas. Just a short presentation, 10 or 15 minutes, will work well. Please be sure to send me a short note to reserve your spot on the agenda.

There will be a silent auction - those items you want to move out of the shack and into someone else's shack. I suggest printing a short description of the item, operational status, and a starting bid. There will be a table set up to put the items on near the entrance to the meeting room.

Exam Practice

Are you new to the hobby and looking to pass your Technician exam? Are you preparing to level up your license by taking the next level exam? Check out the questions below to test your knowledge!

Technician (Element 2)

T4A06

What signals are used in a computer-radio interface for digital mode operation?

- A. Antenna and RF power
- B. Receive and transmit mode, status, and location
- C. NMEA GPS location and DC power
- D. Receive audio, transmit audio, and transmitter keying

General (Element 3)

G4E09

What is the approximate open-circuit voltage from a fully illuminated silicon photovoltaic cell?

- A. 0.2 VDC
- B. 0.02 VDC
- C. 1.38 VDC
- D. 0.5 VDC

Amateur Extra (Element 4)

E4B02

What is the significance of voltmeter sensitivity expressed in ohms per volt?

- A. When used as a galvanometer, the reading in volts multiplied by the ohms per volt rating will determine the power drawn by the device under test
- B. The full scale reading of the voltmeter multiplied by its ohms per volt rating will indicate the input impedance of the voltmeter
- C. When used as an ohmmeter, the reading in ohms divided by the ohms per volt rating will determine the voltage applied to the circuit
- D. When used as an ammeter, the full scale reading in amps divided by ohms per volt rating will determine the size of shunt needed

See the answers on [Page 25](#).

The ARRL Letter

An excerpt from the weekly ARRL Letter

ARRL RF Safety Committee Develops New Guidelines to Communicate RF Safety

Radio amateurs now have a new tool from ARRL to help answer questions about their stations. Neighbors of amateur radio operators are sometimes concerned about transmissions and radio frequency exposure from amateur stations.

The [ARRL RF Safety Committee](#), with their international counterparts at the Radio Society of Great Britain (RSGB), the Irish Radio Transmitters Society (IRTS), and the Swedish Society of Radio Amateurs (SSA), has developed a new set of guidelines to help amateurs interact with and talk to their neighbors about RF exposure.

Chairman of the ARRL RF Safety Committee Greg Lapin, N9GL, said the new informational PDF found on the ARRL RF Exposure page, [Helping Amateurs Interact with Neighbors](#)



Did you know...

that the ARRL sends a weekly letter describing some of the current events, activities, and policies that are taking shape in the Amateur Radio world? The following is an excerpt from these letters in January. View all the ARRL letters at <http://www.arrl.org/arrlletter>

[Asking About Radio Transmissions](#), was developed after a year of discussions about RF safety.

"Neighbors may be alarmed by some of the misinformation about RF safety that is available from a variety of sources. By following the exposure regulations from the Federal Communications Commission, we can be confident that our families and neighbors are safe," Lapin said.

Lapin added that RF exposure regulations are based on decades of trustworthy research. He also encouraged all amateur radio operators to perform exposure assessments for their stations to make sure they meet those regulations.

ARRL Advocacy Win: FCC Approves Request for Pearl Harbor Day Crossband Operations

ARRL sought a waiver on behalf of the activators, and the Federal Communications Commission (FCC) has granted it. The [waiver](#) allows amateur radio operators to participate in a special event commemorating the 82nd annual National Pearl Harbor Remembrance Day.

[The Battleship Iowa Amateur Radio Association \(BIARA\)](#), with authority from the US Navy and Southwest Marine Corps Spectrum Office, will honor the sailors and ships previously homeported in San Pedro, California, who were attacked on December 7, 1941. There will be special crossband activations of NEPM, Battleship Iowa's original call sign, on December 6, 7, 8, and 9, 2023.

Using the call sign NEPM, the club will transmit on assigned military frequencies and listen for calls from the amateur radio community on their adjacent bands. NEPM will transmit on 14.375, 18.170, and/or 21.856 MHz on J3E/USB and/or A1A/CW. The club operator will tell



The Battleship Iowa at home port in San Pedro, California. [Photo courtesy of Battleship USS IOWA Museum]

participating hams where BIARA will be listening, which will be 10 KHz below the top of each adjacent band when working J3E/USB, or 10 KHz above the bottom of each adjacent band when working A1A/CW. Amateur participants are reminded not to transmit on the NEPM military frequencies. Operations on all 4 days are expected to be from 0700 to 1600 PST (1500 to 2400 UTC).

The FCC stated the grant of the waiver meets the second prong of the waiver standard in section 1.925(b)(3)(ii) in that the event presents a unique opportunity for the amateur and military communities to practice communication skills under the guidance of military officials, which may be useful in the future and serves the public interest.

In addition to the skills gained by amateur operators participating in the test, National Pearl Harbor Remembrance Day has historical significance. It emphasizes the importance of reliable communications and the need to be vigilant in national defense.

If amateur radio operators who wish to participate are licensed in a country outside the US, BIARA advises to check the terms and conditions that govern their respective licenses.

QSL procedures can be found at <https://biara.org>. For specific questions before the operation, email w6hb@biara.org.

Florida Hams Make Contact 100 Miles Apart via 10-Meter Repeater... in Switzerland.

When 10 meters is open, amazing things can happen. Lu Romero, W4LT, knows that well. He said, "When 10 is open, I often venture up into the top of the band to see if there is any FM activity. I've always liked to use 10 FM, especially when conditions are marginal to observe the Faraday phase distortion on signals. Before FT8, 10 FM was always a good way to discover where the band was propagating to in addition to the beacons. If you hear FM (especially repeaters) operating, then the propagation is really good!"

At around 1500z on October 23, 2023, the band was open. Romero stated that he went to the top of the band and "found multiple signals in both simplex and via repeaters."

"Usually, I receive a repeater in New York City, KQ2H, one of the strongest signals I can get down here in Florida when 10 is open, but today there was another strong signal [of] 10 kHz above it," he said.



Tower 1 of the Tampa Amateur Radio Club, with the Force 12 C31XR antenna, second from the top. [Lu Romero, W4LT, photo.]

Using a FLEX-6400 at 75 W and the C32XR beam at 108 feet that he maintains for the [Tampa Amateur Radio Club](#), he heard an ID through the splatter from the KQ2H repeater. "It was [HB9HD in Switzerland](#)! I set up for split and reduced power to 75 W on the Flex and gave the repeater a kerchunk." Romero was able to contact a Swiss ham, Rene, HB3XVR, on the repeater's 70-centimeter link.

Then, on October 31, again around 1500z, Romero tried the repeater once more. "I found the repeater

full quieting, even stronger than it was on October 23, and with no QRM from KQ2H, so it was clean and easy to copy!

For the heck of it, I called CQ several times on the repeater. I received no callers, but finally, I received a signal that was fading up and down. I called again and that signal stopped fading for a while, and I was able to work David, WA3LXD, over the HB9HD repeater. After a little while, his signal settled down, and David asked me what my QTH was, and I told him I was in Tampa. He laughed and said we worked each other 'the hard way,' because he was in Ocala, about 100 miles to my north," said Romero.



A Google Maps display of the nearly 5,000-mile distance each leg of the QSO traveled.

As Solar Cycle 25 continues to rise toward its peak, amateurs can expect to encounter more exciting propagation, especially on the 10- and 6-meter bands. In this case, the signals traveled roughly 9,800 miles round trip. Your mileage may vary.

2023 ARRL Board of Directors Election Results

ARRL Great Lakes Division Vice Director Scott Yonally, N8SY (2,175 votes), of Lexington, Ohio, defeated candidate Michael Kalter, W8CI (2,023 votes), for the position of Division Director.

Yonally will assume the role when Director Dale Williams, WA8EFK, who has held the seat since 2014, completes his current term at the end of the year.



Scott Yonally, N8SY, has been elected Director of the ARRL Great Lakes Division.

In the Atlantic Division, Vice Director Martin Pittinger, KB3MXM (2,801 votes), of Owings Mills, Maryland, defeated candidate Robert Weinstock, W3RQ (1,044 votes) for the seat.

In the Dakota Division, Vice Director Lynn Nelson, W0ND (656 votes), of Minot, North Dakota, defeated candidate Matthew Holden, K0BBC (519 votes).



Marty Pittinger, KB3MXM, has been re-elected as Vice Director of the ARRL Atlantic Division.

Winners will assume their roles for terms beginning January 1, 2024.

Members had the option to vote using paper or electronic ballots. The election was conducted by third party Election Services Co., of Melville, New York -- the same company that conducted ARRL elections in 2022. The tabulation was observed by Director of the ARRL Pacific Division Kristen McIntyre, K6WX, who chairs the ARRL Ethics and Elections Committee.

Those were the only contested races in this year's election cycle for Director and Vice Director. In August, the following incumbents, running unopposed in this election cycle, were declared winners: Atlantic Division Director Robert Famiglio, K3RF; Dakota Division Director Bill Lippert, AC0W; Delta Division Director David Norris, K5UZ, and Vice Director Ed Hudgens, WB4RHQ; Midwest Division Director Arthur Zygielbaum, KOAIZ, and Vice Director David Propper, K2DP.



Lynn Nelson, W0ND, has been re-elected Vice Director of the ARRL Dakota Division.

In the Great Lakes Division, Roy Hook, W8REH, will be the next Vice Director. Hook ran unopposed for the seat vacated by Director-elect Yonally.

ARRL is governed by an all-volunteer Board of Directors. Elections are held for five of the 15 ARRL Divisions each year, for terms of 3 years.

Elections were also held for Section Managers

Two balloted Section Manager elections were conducted this fall. Ballots were counted on Tuesday, November 21, at ARRL Headquarters. All two-year terms of office will begin on January 1, 2024.

For Section Manager of the ARRL Alaska Section, David Stevens, KL7EB, of Anchorage, Alaska, has been declared re-elected. Stevens has been the Section Manager of the ARRL Alaska Section since 2020. Stevens' first term as Section Manager in Alaska was from 1984 through 1985. He also served as Section Manager from 1998 through 1999, as well as 2002 through 2007.

For Section Manager of the ARRL Delaware Section, Steven Keller, KC3DSO, of Milford,

Delaware, has been declared the winner, and his two-year term of office starts on January 1, 2024.

The ARRL Alabama Section will also have a new Section Manager starting on January 1. Dennis Littleton, K4DL, of West Blocton, was the only nominee to run for the new term of office.

The following incumbent Section Managers ran unopposed during the nomination period, and they will begin new, two-year terms of office starting January 1, 2024: Mike Patterson, N6JGA (East Bay); Larry Camp, WB8R (Michigan); David Thomas, KM4NYI (Tennessee); John Kitchens, NS6X (Santa Barbara), and Ray Lajoie, AA1SE (Western Massachusetts).

There were no Section Manager nominating petitions received from Kansas or New Mexico by the receipt deadline of September 8, 2023. Nominations for new 18-month terms starting on July 1, 2024, will be resolicited in the January and February issues of QST.

See the [full Section Manager election results](#) on ARRL News.

ARRL Hails FCC Action to Remove Symbol Rate Restrictions

ARRL reports that Monday, November 13, 2023, the FCC Commissioners unanimously voted to amend the Amateur Radio Service rules to replace the baud rate limit on the amateur HF bands with a 2.8 kHz bandwidth limit to permit greater flexibility in data communications.

"The Federal Communications Commission today adopted to incentivize innovation and experimentation in the amateur radio bands by removing outdated restrictions and providing licensees with the flexibility to use modern digital emissions," announced the FCC.



"Specifically, we remove limitations on the symbol rate (also known as baud rate) -- the rate at which the carrier waveform amplitude, frequency, and/or phase is varied to transmit information -- applicable to data emissions in certain amateur bands," concluded the FCC [Report and Order and Further Notice of Proposed Rulemaking](#) (DA/FCC # FCC-23-93; WT Docket No. 16-239) adopted November 13, 2023. "The amateur radio community can play a vital role in emergency response communications, but is often unnecessarily hindered by the baud rate limitations in the rules."

Consistent with ARRL's request, the amended rules will replace the current HF restrictions with a 2.8 kHz bandwidth limit. "We agree with ARRL that a 2.8 kilohertz bandwidth limitation will allow for additional emissions currently prohibited under the baud rate limitations while providing sufficient protections in the shared RTTY/data subbands," concluded the FCC Report and Order.

ARRL President Rick Roderick, K5UR, hailed the FCC's action to remove the symbol rate restrictions. Roderick stated that "this action will measurably facilitate the public service communications that amateurs step up to provide, especially at times of natural disasters and other emergencies such as during the hurricane season. Digital technology continues to evolve, and removing the outmoded data restrictions restores the incentive for radio amateurs to continue to experiment and develop more spectrum-efficient protocols and methods while the 2.8 kHz bandwidth limit will help protect the shared nature of our bands. We thank Congresswoman [Debbie] Lesko (AZ-08) for her efforts on behalf of all amateurs to get these restrictions removed."



In a Further Notice of Proposed Rulemaking (FNPRM), the FCC proposes to eliminate similar

restrictions where they apply in other bands. "We propose to remove the baud rate limitation in the 2200-meter band and 630-meter band... and in the very-high frequency (VHF) bands and the ultra-high frequency (UHF) bands. Additionally, we seek comment on the appropriate bandwidth limitation for the 2200-meter band, the 630-meter band, and the VHF/UHF bands." ARRL has previously expressed its support for eliminating the symbol rate limits in favor of bandwidth limits where they apply on the VHF and UHF bands but suggested that the bandwidth limits themselves be reviewed in light of today's technology and tomorrow's possibilities. Similarly, when eliminating the baud limits on the 2200- and 630-meter bands, consideration should be given to what, if any, bandwidth limits are appropriate.

The new rules will become effective 30 days after being published in the [Federal Register](#). The FCC will announce a period for public comment on the additional proposed changes based upon publication of the FNPRM in the Federal Register. No date has been set for publication.

The University of Scranton Amateur Radio Club, W3USR, Got a Facelift

With a grant from [Amateur Radio Digital Communications \(ARDC\)](#) for almost \$200,000 and private donations of more than \$20,000, the University of Scranton Amateur Radio Club in Scranton, Pennsylvania, has installed new amateur radio equipment and antennas for its station, W3USR.

The station is now located on the fifth floor of the university's Loyola Science Center and features state-of-the-art operating positions with heavy-duty controllers, all-mode transceivers, speakers, desktop microphones, and other components that allow students to operate on amateur radio

frequencies. A 40-foot tower with a high-frequency antenna for 14, 21, and 28 MHz has been installed, as well as VHF/UHF satellite and microwave antennas -- some with rotating mounts.

The ARDC grant was awarded to the university's Physics and Engineering Department Assistant Professor Nathaniel Frissell, W2NAF, and the private donations were made by Dr. Mary Lou West, KC2NMC; Ed Hayes, N6XEM, and Jeff DePolo, WN3A.

Dr. Frissell said the impact of the new station means everything to the club. "When you can bring a group of students into a new facility like this one, the impact makes a lasting impression that will allow them to fully experience amateur radio," he said.

Dr. Frissell added that the first radio contacts have been made, and the station is working on 10, 15, and 20 meters with additional installation work remaining. An additional room on the same floor holds equipment and antenna connections and, will be used as a lab for controlled [HamSCI](#) space research projects. The new capabilities of W3USR will also allow for ongoing and future HamSCI research projects to be undertaken by Dr. Frissell and university students.

W3USR was founded in the spring of 2020 with a mission to educate students on the ionosphere and the importance of radio communication. The club



A crane lifts an antenna into place for W3USR's new location. [Photo courtesy of Byron Maldonado, University of Scranton]

regularly participates in the [ARRL Collegiate Amateur Radio Program](#).

The First Worked All States Certificate Awarded for the 33-Centimeter Band

On November 4, 2023, Al Ward's, W5LUA, 38-year quest to contact all 50 states on the 33-centimeter band ended when he received the first-ever Worked All States (WAS) certificate for (902 - 928 MHz). Ward started collecting states on the band shortly after it was opened in 1985.

"I am extremely grateful to Peter Van Horne, KA6U, for his EME [Earth-moon-Earth] efforts. I was able to work Wisconsin for my last state [on] the 33-centimeter band on October 21. At the end of September, I was sitting at 32 states confirmed with cards and/or the Logbook of The World (LoTW), when Van Horne went on a 25-state expedition providing my last 18 states," said Ward. In recent expeditions, Brian McCarthy, NX9O, and Jason Baack, N1AV, also provided several states that were needed.

Ward's station consists of a 5-meter dish with 400 W of power obtained from two 300 W Motorola amplifiers in parallel. His feed is a dual polarity patch feed.



Al Ward, W5LUA, holds his WAS certificate in front of his 5-meter dish. [Photo courtesy of W5LUA]

ARRL Radiosport and Regulatory Information Manager Bart Jahnke, W9JJ, was one of the first people to congratulate Ward on his accomplishment.

Jahnke stated, "Hearty congratulations! It's my privilege to confirm the ARRL Awards Department has received your WAS application, plus Card Checker document, and we have issued the 33-centimeter (902 - 928 MHz) Worked All States

Award number 1 to you in culmination of your 38-year quest to contact all 50 states on the 33-centimeter band."

Other stations on the hunt for the 33-centimeter WAS certificate that are nearing completion include ACORA, KODAS, and N1AV.

In 1985, the Federal Communications Commission allocated the frequency band between 902 and 928 MHz to Part 18 industrial, scientific, and medical (ISM) equipment. In that proceeding, the band was also allocated to the Amateur Radio Service on a secondary basis, meaning amateurs could use the band if they accepted interference from and did not cause interference to primary users.

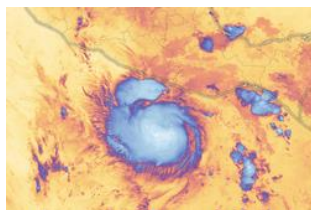
Amateur Radio Operators Provide Post-Hurricane Communications in Mexico

Radio Amateurs are providing communication services to and from the affected areas in and around Acapulco, Mexico.

On the morning of Wednesday, October 25, 165 mile-per-hour winds from Hurricane Otis knocked out all communications and unleashed a nightmare scenario in Acapulco.

The area is home to roughly 800,000 people.

Radio Club Queretaro member Ruben Navarrete Galvan, XE1EC, told ARRL News that amateur radio operators are still active with multiple operations, and they are receiving citizen requests to obtain information on the whereabouts of their relatives.



Prior to landfall, the Visible Infrared Imaging Radiometer Suite (VIIRS) sensor on the [NOAA-20](#) satellite captured this false-color image of the storm at about 08:30 Universal Time (2:30 AM in Acapulco) on October 24, 2023.

"We keep an online database with these requests that we share with the different hams participating in the operation. Read-only access to this database is provided to the authorities who might need it, too. We also transmit this information to hams deployed in the Acapulco area via HF," Galvan said.

Additionally, hams in the Acapulco area are trying to locate civilians using their own resources. Some of these hams are operating their equipment on battery power, while others have access to generators. Accessing many areas in the region has been a challenge due to the amount of debris blocking travel

Amateur radio operators have also been receiving requests from Acapulco residents to call their relatives and let them know they are fine. Those requests are transmitted via HF to the Emergency Net Operator, and then the call is made to the family members.

Galvan also reported that hams have been providing communication between state agencies and their field personnel deployed in the Acapulco area. "At least three state agencies have hams on their teams. This is the case for the state of Durango, Morelos, and Santiago de Quer taro. We have been communicating their messages to their central coordination via HF relays. Requests for specific requirements have been escalated to the support teams. Air medical services have been directed to areas that were not being attended," he said.

Hams are also helping in other areas, including:

Repairing a damaged repeater on Altzomoni at the Iztapa-Popo Zoquiapan National Park to support communication efforts in certain areas of Guerrero

Deploying donations from a ham in Arizona, including a UHF repeater, solar panels, and 50 handhelds, to the affected areas.

Getting the state agency's mobile stations back on the air and reinstalling the HF antennas that were damaged

Emergency Communications Coordinator
International Amateur Radio Union Region 2
Emergency Communications Coordinator Carlos Alberto Santamaría González, CO2JC, said frequency protection has been requested for the following bands and frequencies:

- 80-meter band: 3690 kHz
- 40-meter band: 7060 and 7095 kHz
- 20-meter band: 14.120 kHz

Great California ShakeOut Drill Reported a Success

Editor's Note:

Tuolumne County Amateur Radio and Electronics Society (TCARES) members Rich Combs, KN6HSR; Ned Sudduth, K6NED, and Toni Sudduth, K6TNI reported that the October 2023 Great California ShakeOut exercise was an "outstanding" success.

Here is their story as reported to ARRL News:

"This is a drill. Drop! Cover! Hold on!" was the mantra for the Great ShakeOut exercise on October 19, 2023, at 10:19 AM in Tuolumne County, California.

The Great ShakeOut is an annual international event that promotes awareness of how to prepare for and react to an earthquake. For the past 2 years, TCARES has used this event as an opportunity to test our ability to provide backup communication for the county public safety agencies. Considering that over the past year there have been two instances where primary communication systems went down -- one due to a fire, and the other due to a damaged T1 fiber optic cable -- this was a timely



opportunity. It is a great chance to partner with first responder agencies, build trust, and develop awareness of mutual capabilities and needs.

There was an amateur radio operator stationed at the Tuolumne County Emergency Operations Center, which was operated by the Office of Emergency Services. After a preparatory simulated 5.0-magnitude San Francisco earthquake preamble at 10:19 AM, Ned Sudduth, K6NED, began taking check-ins from amateurs throughout the county with his wife Toni, K6TNI, who logged the reports. County Geographic Information System (GIS) staff loaded the real time of those hams on a map that was displayed on a TV. Tuolumne County is fortunate to have a backbone of four linked, 2-meter repeaters that cover almost the entire county.

There were 38 amateur radio operators providing reports on conditions throughout the county. In addition, we had four Neighborhood Radio Watch (NRW) communities using Family Radio Service radios, General Mobile Radio Service (GMRS) radios, and a few GMRS repeaters to add an additional 28 reports. Each NRW community has an embedded ham who monitors the NRW traffic, and then provides a summary to the Incident Commander during their check-in.

Considering it was a Thursday morning, we felt this was a great response. Participation increased from last year's check-ins. Although Tuolumne is a large county by area, it has a population of just more than 55,000, and it is primarily rural and mountainous in character. Nonetheless, the combination of NRW communities with embedded ham radio operators and a robust repeater system has shown that even when the power and internet are down, first responder operations can continue to operate, and communities can immediately communicate and mobilize to help themselves.

During the net, net control began by asking for regional check-ins based on repeater location, starting with the most remote corners of the county. Roll call was not conducted, but check-ins in small batches of three or four allowed for concise reporting with "yes" or "no" comments on the availability of grid power and telephone services. Most stations checking in had clear audio and delivered their local status professionally. Some stations learned they needed to make improvements. Stations at sites of interest, like schools or government buildings, were asked to state their affiliation with organizations like the Community Emergency Response Team, Search and Rescue, Crime Scene Unit, etc. Mobile units also checked in and made reports. Those in nearby counties checked in, too, and they reported their local situation reports.

Ideas for next year are already underway with plans to assign operators to specific locations like the local fairgrounds, hospital, Red Cross, fire stations, etc. The Automatic Packet Reporting System can also provide value next year with real-time location and status updates from mobile operators. Thanks to TCARES, the Tuolumne County Sheriff, the Office of Emergency Services, and GIS staff, and the radio operators who have made this an outstanding exercise for the last 2 years.

Thanks to TCARES for the information contained in this report.

ARRL Podcasts Schedule

The latest episode of the ARRL [On the Air](#) podcast (Episode 28) features a discussion of digital multimeters with practical usage examples and shopping tips.



The latest edition (Episode 58) of the ARRL [Eclectic Tech](#) podcast features a discussion with author Nick Tusa, K5EF, about his new book Wes Schum - Amateur Radio's Unsung Hero.

The On the Air and Eclectic Tech podcasts are sponsored by Icom. Both podcasts are available on iTunes (iOS) and Stitcher (Android) as well as on Blubrry -- [On the Air](#) | [Eclectic Tech](#).

Amateur Radio in the News

ARRL Public Information Officers, Coordinators, and many other member-volunteers help keep amateur radio and ARRL in the news.

["Edmonds Woodway Amateur Radio Club celebrates five years of connecting"](#) / My Edmonds News (Washington) November 22, 2023 -- The Edmonds Woodway Amateur Radio Club is an ARRL Affiliated Club.

["Longmont's Santa on the Air radio call-in program starts next week"](#) / Daily Times - Call (Colorado) November 24, 2023 -- The Longmont Amateur Radio Club and the Northern Colorado Amateur Radio Club.

["Amateur Radio Association expands N6SBC repeater coverage"](#) / BenitoLink (California) November 28, 2023 -- The San Benito County Amateur Radio Association.

["Gold Hill hosts ham radio licensing class"](#) / The Mountain Ear (Colorado) November 14, 2023 -- Boulder County Amateur Radio Emergency Services (ARES®).

["The Fort Wayne Hamfest and Computer Expo Happened This Weekend"](#) / WOWO Radio (Indiana) November 20, 2023 -- Allen County Amateur Radio Technical Society.

"Homecoming complete for Detroit Lakes Amateur Radio Club" / Detroit Lakes Tribune (Michigan) November 6, 2023 -- The Detroit Lakes Amateur Radio Club is an ARRL Affiliated Club.

"Amateur radio operators test skills at statewide disaster drill" / The Advocate (Louisiana) November 7, 2023 -- The Ascension Amateur Radio Club is an ARRL Affiliated Club.

"Antenna goes up for student-run HAM radio station at University of Scranton" / WNEP (Pennsylvania) November 10, 2023 -- The University of Scranton Amateur Radio Club, W3USR.

"A look at the questions Valley Stream South students sent to the International Space Station" / LI Hearld (New York) November 3, 2023 -- The Long Island Mobile Amateur Radio Club is an ARRL Affiliated Club.

"Radio enthusiasts flock to 75th annual 'Hamarama Hamfest' in Ardmore" / KXII (Oklahoma) November

6, 2023 -- 75th annual 'Hamarama Hamfest' in Ardmore, Oklahoma.

"Shooting for the stars: Marietta students speak with astronaut aboard International Space Station" / Atlanta News First/ANF (Georgia) October 24, 2023 - - A.L. Burruss Elementary School in Marietta, Georgia.

"Detroit Lakes Amateur Radio Club installs commemorative plaque to Mark Knutson" / KFGO (North Dakota) October 28, 2023 -- The Detroit Lakes Amateur Radio Club is an ARRL Affiliated Club.

"Community members recognized for helping create Clipper Amateur Radio station at Columbiana High School" / Salem News (Ohio) November 1, 2023 -- Columbiana High School K8LPS Clipper Radio Club project.

Arrl.org. 2023. ARRL Letter. [online] Available at: <http://www.arrl.org/arrlletter?issue=current> [Accessed 06 Dec 2023]

NARS Membership – Due Dates and More

DID YOU
KNOW



Did you know that you can find your membership expiration date on the club website? Simply click the "Membership Reports" link on the home page or visit this link: <http://www.w5nc.club/nars/index.php/2014-03-30-18-23-31/membership-reports/club-roster>. Find your name in the list and look at the "Expires" column of the table!

NARS Monthly Club Meeting

November's Monthly Meeting

The November meeting featured Marty Fitzgerald, W5MF, who presented a report on standing up the tower and antenna at HCESD 16. Marty also described the current challenges of the downtown repeater, showed pictures of repeater site and testing work that has recently been completed. Marty also described the work being completed to enable Allstar on the NARS repeater system. Thank you, Marty, for excellent presentation!

In addition to the presentation, a membership vote was held to fill the Director position that was vacated with Sam Labarbera's resignation from the position. Jerry Davis, N5EKO, who had been filling in as an interim director, was confirmed to fill the directory position.

Next Club Meeting

Our next club meeting will be December 15th at HCESD 16 Admin – 18606 Stuebner Airline Rd, Spring, TX 77379. We will hold our annual Show and Tell meeting in December and will include a silent auction. Be sure to bring items that you would like to trade or sell or other items that you just want out of your shack. We look forward to seeing you there!

NARS General Club Meetings

NARS holds monthly club meetings where a variety of topics are presented from a number of guests. Come learn anything from antenna design, phasing, emergency response, and more!

Who: All club members, friends, or anyone interested in the Amateur Radio hobby

When: The Third Friday of the Month at 7:30pm

Where: HCESD 16 Admin, [18606 Stuebner Airline Rd, Spring, TX 77379](#)
Zoom Conference Call, Meeting ID: 2815436502, Passcode: 123456

NARS Club Documents and Minutes



Did you know that you can find all of the club's public documents, including board meeting minutes, financial statements, and newsletters on the [club website](#) at http://www.w5nc.club/doc_repos/

NARS Name Badges: Get Yours Today!

Cindy (KM4YGG) and Art (KM4YGH) Grant are offering the club a deal for the NARS club on getting membership name badges. Each badge costs \$10 and can be delivered at the next NARS meeting (if ordered two weeks or more before the next meeting).



To order, go to <https://badgesunlimitedllc.com/#!/4-2-NARS-CLUB-MEMBERS-ONLY/p/104217140/category=13635038> and pay the fees using the checkout capability on the website.

NARS Announces a Dues Increase

NARS has made the difficult decision to increase its annual membership dues for the first time in its history. While this was a difficult choice for the Board, it has become necessary to sustain the provision of our numerous services to the community. Over the years, prices on goods and services have risen, and we have faced these increases while maintaining our membership fees, despite enhancing our repeater system and other services to our members.

Effective January 2024, the dues will increase by \$5.00 across the board. The new dues structure will be as follows:

- Individual Membership \$25.00
- Family Membership \$30.00
- Student Membership \$17.50

We will continue to offer new licensees a \$5.00 discount upon their initial sign-up.

Members who need to renew their membership before January 1 will pay the current dues, while those renewing after January 1 will see the increase. Membership terms run for one year from the day of joining, so many members will not experience the increase until sometime next year.

Amateur Radio Activities

The “Amateur Radio Activities” feature of NARS News highlights various activities related to ham radio. Each issue provides a quick overview for those who may be interested in the learning new aspects of the amateur radio hobby.

This month, we thought we would highlight an excellent tour of a broadcast radio station, KMOX-AM. KMOX-AM is a 50kW clear channel station in St. Louis. The tour is facilitated by YouTuber and amateur radio operator Jeff Geerling (KF0MYB) with his father, Joe Geerling (KF0MYJ).

From site fandom.com, “Jeff Geerling, known online as geeringuy, is an American tech YouTuber whose channel shares a wide variety of tech videos. More specifically, he is mostly known for his work with Raspberry Pis and other Single Board Computers, and open-source software, especially Ansible, Drupal, and Kubernetes.”

Joe Geering, “is a radio engineer with decades of experience who loves soccer, family, and clean audio signals. His expertise in analog and digital electronics and leadership in engineering have led him to his current job as Director of Engineering at Covenant Network in St. Louis.

Jeff eagerly accompanied Joe on trips to tower sites as a kid, and got his start in IT as an engineering assistant. After running the Jeff Geerling YouTube channel for a few years, Jeff decided convinced Joe to appear on camera and launched the Geerling Engineering YouTube channel in late 2021.”

You can watch the 40-minute tour at the following link:

<https://youtu.be/Aax-ehkRTnQ?si=Hh9UdUoUkM4Tjehj>

Did you know...

There are several members of the NARS club that are interested in setting up a regular ARDF/foxhunting activity with the club. If you have interest in being a part of this, please contact the newsletter editor (k5blr@arrl.net) or post on the club Groups.io email reflector.

Gift Guides From YouTube

In the world of ham radio, finding the right gear can be a daunting task. While not always perfect, online tools can help discover tools and equipment. Below you can find several YouTube videos that may be able to uncover the essentials that make perfect gifts for both seasoned operators and those just starting out. With that said, let's dive into the world of ham radio gift guides and feel free to let us know on the club Groups.io if you agree or disagree with any of the selections.



<https://www.youtube.com/watch?v=RfHI&qPvxRU>

Holiday Gifts for Amateur Radio Operators

Anthony Luscre,
K8ZT



<https://www.youtube.com/watch?v=lugofAJvTCQ>



<https://www.youtube.com/watch?v=4Rtm2AS0CjE>



<https://www.youtube.com/watch?v=u1P8QyHs8dg>

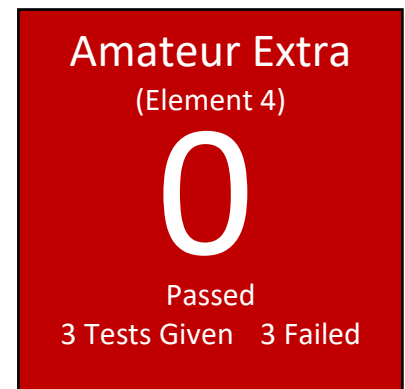
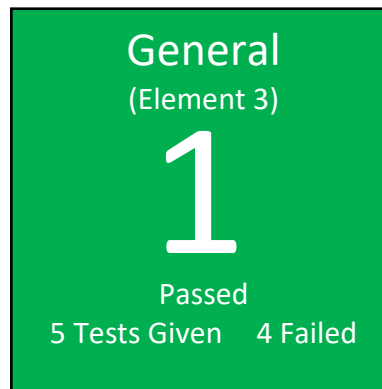
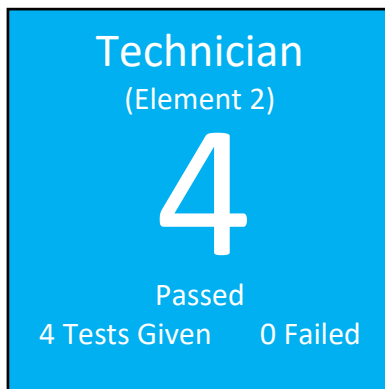
Do you have any gift suggestions that other club members may find useful? Reach out on the club message board or join our DMR or VHF net to share!

VE Sessions and Results

PROVIDED BY SHEREE HORTON, WM5N

Attendees

On Saturday, November 18, 2023, a VE Test Session was held at HCESD 16 Admin, 18606 Stuebner Airline Rd, Spring, TX 77379. During the testing session, 6 candidates took 12 tests.



Congratulations!

Congratulations to the following for passing their new license exams¹:

- Gregory Altimas – Technician
- Robert Bernardini – Technician
- Thomas Lenert – Technician
- Michael Spaulding – Technician

Congratulations to the following for passing their upgrade exams:

- Krystian Altimas KI5ZNS (youth) – Upgrade to General

Pre-registration for Testing Sessions

To pre-register for an upcoming testing session, you can use one of the following links:

HamStudy.org page link: <https://hamstudy.org/sessions/arrrl/77070/inperson>

The next session will be December 16, 2023 at the HCESD 16 Admin Building. Please visit www.w5nc.club for the announcement.

¹ Successful candidates will only receive their **NEW** licenses if they pay the \$35 fee to the FCC within 10 days of receipt of their notification emails. They will have to request the ARRL VEC to resubmit their paperwork if they miss the 10-day deadline. They do **NOT** have to retest.

Thanks and Gratitude

Thanks to the Exam VE's in attendance:

- Synomen Hebert, KG5IRS
- Scott McKee, NT5SM
- Brett Hebert, KG5IQU
- Dale Schmirler, KN5DS
- Paul Owen, N5NXS
- August J Canik, KI5YPD
- Vicki Owen, AC5EW
- Robert Ewers, K9HOU
- Brandy Lang, WE9L

VE Session Guidelines

If you have a temperature or feel ill – DO NOT attend.

Wear masks if you are not fully vaccinated or feel the need to wear them.

Please send an email to either of the following if you plan on attending the test session:

Sheree Horton - wm5n@arrl.net or vec@w5nc.net

Also thanks to Logan Hebert KG5LLM (youth) for helping with setting up and taking down the laptops.

Volunteering and Becoming a Volunteer Examiner

Anyone who wants to observe and/or participate in a session is always welcome. Please let Sheree Horton know if you want to learn more about becoming a volunteer examiner.

Renewing Club Members

New Club Members

Welcome to the following new members of NARS!

- Nagasainath Koduru, VU2TJF

Renewing Club Members

Thank you to all the members who renewed their NARS membership this past month:

- Jesse Brookover, W5KY
- Luke Bugler, KOLTB
- Bill Buoy, N5BIA
- Marty Fitzgerald, W5MF
- John Jackson, N3AG
- Beth Kasper, KI5SCM
- Ron Matusek, WA6TQH
- Terry Myers, KQ5U
- Neal Naumann, N5EN
- Brandon Rogers, K5BLR
- Tom Smith, N5AMA
- Robert White, K0RCW

Training and Education

NARS

NARS Meeting Presentations - <http://w5nc.club/nars/index.php/club-info/technical-presentations>

ARRL

ARRL Online Course Catalog - <http://www.arrl.org/online-course-catalog>

ARRL Emergency Communications Training -
<http://www.arrl.org/emergency-communications-training>

ARRL Webinars - <http://www.arrl.org/ARRL-Learning-Network#schedule>

Exam Review for Ham Radio - <http://www.arrl.org/examreview>

Find an Amateur Radio License Class -
<http://www.arrl.org/find-an-amateur-radio-license-class>



Free Study Guides

A [study guide](#) for Technician license preparation, Dan Romanchik, KB6NU

A [study guide](#) for Technician license preparation on the Inland Empire VHF Radio Club website, Jack Tiley, AD7FO (Click on "Training Links" and go to the Technician training link)

Online Video/Audio Courses

[Online Technician license exam self-study course](#), Fred Benson, NC4FB - The purpose of the resources developed for this course is to provide candidates in geographical areas that do not provide classes and candidates who cannot attend a class with the means to prepare for the Technician license exam. The materials cover all questions in the question pool with explanations, sub element tests, and sample license exams. Help is available upon request via email.

Benson also offers a ["kid friendly" self-study course](#) and a self-study program especially designed for [emergency services personnel](#).

"The Ham Whisperer" [Video Course](#), Andy Vallenga, KE4GKP – This course is based on the FCC question pool sequence to assist with Technician license preparation.

[A Self-Study Video Course](#), Dave Casler, KE0OG – This course provides a guided self-study [video course](#) based on ARRL's Ham Radio License Manual curriculum.

[Online Technician License Preparation Course](#) – Chris Johnson, N1IR

Study Tools

[HamStudy.org: Cutting edge amateur radio study tools](#) - Free ham radio flash cards, practice tests, and question pools as well as introduction to ham radio and explanations for questions.

[HamTestOnline](#) – Study Tips for the Ham Radio License Exams

[HamExam.org](#) - Free Amateur Radio Practice Tests with Flash Cards

[eHam.net Ham Radio Practice Exams](#)

Paid Resources

[W5YI Group](#) - Your Resource for Ham Radio and Commercial Radio Licensing

[HamRadioPrep](#) - Enroll in Ham Radio Prep, the industry's #1 online test prep and training program, and pass your FCC Amateur Radio License exam on the first try - or your money back.

[HamTestOnline](#) - Study for your Ham Radio License Exam!

Exam Practice Answers

Technician: T4A06 - D. Receive audio, transmit audio, and transmitter keying

General: G4E09 - D. 0.5 VDC

Amateur Extra: E4B02 - B. The full scale reading of the voltmeter multiplied by its ohms per volt rating will indicate the input impedance of the voltmeter

Of Interest to the Club

Houston Local Traffic Net

The Houston Local Traffic Net (HLTN) was formed July 14, 2020 in preparation for ARRL Field Day 2020. Originally called the Fort Bend County Traffic Net, the HLTN has been in continuous operation since then.

The nets ran on Monday nights for one hour with training sessions during the net. Because of the volume and interest in the Traffic Net, on April 15, 2021 an additional session was added on Thursday nights for 30 minutes and in 2020 the time was increased for up to an hour to also accommodate training.

The Houston Local Traffic Net currently meets from 6:30pm – 7:30pm twice a week handling National Traffic System (NTS) traffic (Radiograms) into and around the Houston Metro area and also includes, time permitted, traffic handling/training.

Monday's net: 146.940 (-) PL 167.9
Thursday's Net: 147.000 (+) PL 103.5

Backup repeater for both:

- 146.660 (-) PL 100.0,
- 444.375 (+) PL 100.0
- Echolink Node W5NC-R (all linked)

A complete schedule of Area Traffic Nets is located on the HLTN.org 'Nets' web tab with the times and frequencies. Visitors are welcome and encouraged to check-in to listen and learn this important Amateur Radio skill.

Direct any questions, via phone or email, about the Houston Local Traffic Net, Radiograms, and Traffic handling to: Sheree Horton WM5N, ARRL South Texas Section Traffic Manager

GHSN monthly Simplex Propagation Net

Beginning January 2022, the [Greater Houston Simplex Network](#) will return to its regular schedule of the 4th Thursday evening of the month, with 6:15pm for the Zoom meeting and 7:00pm for the beginning of the net. Simplex frequencies are 146.540 MHz.

I would also like to restart the relay nets for the 2nd week of each month, so I need volunteer(s) to help out as Net Control Operator. I am just swamped with developing our cool new propagation application. Please contact me if you can help with this. The script is fully developed, and can be found on [the website](#).
Contact Mark - N5PRD@yahoo.com

Calendar

Club Activities and Events

Monthly Club Meeting – December 15, 2023 - HCESD 16 Admin – [18606 Stuebner Airline Rd, Spring, TX 77379](https://www.google.com/maps/place/18606+Stuebner+Airline+Rd,+Spring,+TX+77379)

VE Test Session – December 16, 2023 – [18606 Stuebner Airline Rd, Spring, TX 77379](https://www.google.com/maps/place/18606+Stuebner+Airline+Rd,+Spring,+TX+77379) - Check-in will start at 8:30am with testing lasting from 9:00am - 11:30am. All testing activities will be completed by noon.

The full NARS calendar can be viewed at: <https://w5nc.groups.io/g/main/calendar>

Social Events

Lunch Break – North

Take a break with fellow radio operators and enjoy a lunch together!

Locations are announced weekly on the NARS email reflector!

Lunch Break – Medical Center

Near the Medical Center and want to take a break with fellow radio operators and enjoy a lunch together?

Watch the NARS email reflector for details!

Saturday Breakfast

Saturdays at 7 am Broken Yolk Café, 16803 Stuebner Airline Road, Spring, TX 77379

Monday Lunch (Taildraggers Lunch)

Mondays at 11 am; Aviator's Grill at Hooks Airport Terminal

Did you know...

NARS has a social media presence! Thanks to Sam Labarbera, N6HB, we have a Facebook page for those who would like to follow us there. Visit the [W5NC Facebook page](#) and join! It is open to ham radio operators, so there is a short quiz to qualify new members.

Hamfests and Conventions

January 27 | [Winterfest](#), ARRL Midwest Division Convention, Collinsville, Illinois

February 9 - 11 | [Orlando Hamcation](#), ARRL Florida State Convention, Orlando, Florida

March 1 - 2 | [Greater Houston HamFest](#), ARRL West Gulf Division Convention, Rosenberg, Texas

Contests and Radiosport

ARRL Contest Corral

December 2023 - http://www.arrl.org/files/file/Contest%20Corral/2023/December_2023_Corral.pdf

January 2024 - <http://www.arrl.org/files/file/Contest%20Corral/2024/January%202024%20Corral.pdf>

For a calendar of ARRL contests, please see <http://www.arrl.org/contest-calendar>.

For resources and results for all ARRL contests, please see <https://contests.arrl.org>.

NARS Club Officers and Information

Board Officers with Voting Privileges

President: Ron Matussek, WA6TQH, 713-825-9606, officers@w5nc.net

Vice President: Paul Kent, KI5FJS, officers@w5nc.net

Treasurer: Tom Hoherd, KK5YU, 713-828-8630, treasurer@w5nc.net

Secretary: Brandon Rogers, K5BLR, 713-294-6630, officers@w5nc.net

Director: Rich Jones, W5VEK, officers@w5nc.net

Director: Jerry Davis, N5EKO, officers@w5nc.net

Board Non-Voting Associate Members

Administrative Secretary: Neal Naumann, N5EN

Social Media Liaison: Sam Labarbera, N6HB

Newsletter Editor: Brandon Rogers, K5BLR

Public Information Liaison: Sheree Horton, WM5N

ARRL/VEC Liaison: Sheree Horton, WM5N

Repeater Team Lead: Mike Pate, K5MAP

Webmaster: Bill Buoy, N5BIA, webmaster@w5nc.net

Trustee: Paul Owen, N5NXS

Club Nets

DMR Weekly Net – Every Tuesday at 7pm. Tune in on Talkgroup 3146211 for information on configuring codeplugs, see the DMR pages on the Club website (<http://w5nc.clubs>) or contact a club Elmer. Sam Labarbera, N6HB, coordinates this Net.

The Weekly Wednesday Evening Net - Every Wednesday at 8:00 pm. Join us on one of the W5NC repeaters: 146.660 MHz, -600kHz offset, PL 100.0 - wide area centered on downtown Houston and/or 444.375, + 5 MHz offset, PL 100 best in the Spring / Klein area. You can also join from anywhere in the world by connecting to EchoLink node W5NC-R. Kirc Breden, N5XJB, coordinates this Net.

Repeaters

For information on NARS-managed repeaters, please see the club website at <http://w5nc.club/nars/index.php/repeaters/nars-repeaters>

Did you know...

that NARS has a messaging service, called Groups.io, that allows you to connect with a giant group of experts, club members, and resources. Get more information on our club website at <http://w5nc.club/nars/index.php/social-media/email-reflector-groups>