W5NC
Houston, Texas
Northwest Amateur Radio Society

NARS NEWS

DECEMBER 2022

Northwest Amateur Radio Society
P.O. Box 11483
Spring, TX 77391
w5nc.net

Season's Greetings

Feliz Navidad

Merry Christmas

Happy Hanukkah

Happy Holidays
From NARS

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President's Message

BY RON MATUSEK, WA6TQH

NOVEMBER ELECTIONS RESULTS

I would like to thank the NARS Membership for the honor of being Elected as President for this coming two-year term, because I do regard it as an honor.

It is my greatest delight this evening for your trust and faith you bestowed in me as the President of NARS. With all the opportunities and challenges that come with my acceptance to serve us all, I am of the belief that this journey will not be a smooth one if I am to walk it alone, however, we thank our leaders for drafting constitution/by-laws that recognizes the importance of the Vice President, Treasurer, Secretary and Directors, as it is through this synergism that we are going to make sure that our theme of One Health, One People, One Team with common focus is going to be achieved.

I want to especially thank Vice President Paul Kent-KI5FJS and the officers, Treasure Tom Hoherd-KK5YU, Secretary Brandon Rogers-K5BLR, Director Rob Nixon-KD5BXZ and Director Kirc Breden-N5XJB for the excellent job that they have done over the past two years, and I want to acknowledge, that for a number of reasons, it has been a difficult year, which makes their achievements all the more significant. I would be remiss if I did not recognize the contributions of our Associate Board members and Team Leads. Admin Secretary Neal Naumann-N5EN, Social Media Liaison Sam Labarbera-N6HB, Public Information Liaison Sheree Horton-WM5N, Webmaster Bill Buoy-N5BIA, Repeater Team Lead Marty Fitzgerald-W5MF, Repeater Trustee Paul Owen-N5NXS, and ARRL VEC Liaison Sheree Horton-WM5N.

Please welcome the following Voting Board members for the next term: President Ron Matusek-WA6TQH, Vice President Paul Kent-KI5FJS, Treasure Tom Hoherd-KK5YU, Secretary Brandon Rogers-K5BLR, Director Rich Jones-W5VEK, Director Sam Labarbera-N6HB.

To all our NARS members who may also be belonging to other clubs, we still want to say that this journey we cannot make alone as leaders, but it is through your support, critics, and encouragements that we shall have something to do together because together we shall continue to build upon past experiences and make it better. Thank you all, God bless you!

I want to conclude by saying, we are going to have fun. I sincerely hope that that will be the case this coming year. Our goal is to make NARS the number one club in Houston:

The mission of the NARS Amateur Radio Club is to:

1. Promote amateur radio through training, mentoring, and enhancing fellowship among radio amateurs.
2. Periodically provide licensing classes and VE testing to promote the use of amateur radio as a hobby, and educational tool, and as a vehicle for providing emergency and public service communications to our community.

3. Offer our network of technical resources to provide skilled operators and disaster communications when requested by any governmental department of emergency management or relief agency.
4. Support and maintain communication systems such as repeaters and other community communications devices for the Amateur Radio community in support of these objectives.

Merry Christmas!

Ron Matusek
President NARS

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)

T5C04
What is the unit of inductance?
- A. The coulomb
- B. The farad
- C. The ohm
- D. The henry

General (Element 3)

G3A10
What causes HF propagation conditions to vary periodically in a roughly 28-day cycle?
- A. The position of the moon in its orbit
- B. Cyclic variation in Earth's radiation belts
- C. The sun's rotation on its axis
- D. Long term oscillations in the upper atmosphere

Amateur Extra (Element 4)

E6E04
Which is the most common input and output impedance of circuits that use MMICs?
- A. 50 ohms
- B. 450 ohms
- C. 300 ohms
- D. 10 ohms

See the answers on .

The ARRL Letter

An excerpt from the weekly ARRL Letter

Australian Radio Amateurs May Move to a Class Licensing Structure

Australia's radiocommunications regulator, the Australian Communications and Media Authority (ACMA), is proposing to move the country's radio amateurs to a class license, which is intended to simplify administration of the Amateur Radio Service.

Currently, Australia's radio amateurs are regulated under an apparatus license, with privileges and conditions set out in a Radiocommunications License Conditions Determination. Australian hams pay an annual license fee of A$55.00 (US$35.68), but under the proposed class license, annual license renewal payments would end.

The ACMA reports that the current consultation follows extensive public feedback on the review of the non-assigned licensing arrangements conducted between February and April 2021. The review's principal objective was to identify the most appropriate licensing mechanism that would reduce regulatory burden and minimize costs for amateur radio operators, while preserving the operational utility for amateurs.

The ACMA says they will carefully consider responses received to the current consultation. As stated in the consultation paper, subject to the outcomes of the current consultation and the implementation of supporting operational and administrative arrangements, the ACMA intends to implement the proposed class-licensing arrangements on July 1, 2023.

The Wireless Institute of Australia (WIA) is the national member organization representing the interests of Australian radio amateurs and is a member of the International Amateur Radio Union (IARU). The WIA has a well-credentialed working group developing their response to the ACMA's proposals. The ACMA's deadline for receiving responses is November 29, 2022.

The WIA's working group intends to open a survey in early November to gauge the views of the Australian radio amateur community.

"As this is going to be a quantum step in the evolution of amateur licensing in Australia, such as we have not seen previously, the details need close and careful consideration," said working group leader Peter Young, VK3MV. Peter has been licensed since 1964 and has a background in maritime communications engineering. He is a former Regional Manager with the ACMA and, since retiring, held positions with the WIA as a Director on the WIA Board, and Director with IARU Region 3.

Thanks to Peter Young, VK3MV, Media Advisor Naazbano Schonberger, ACMA, and WIA for their help and contributions to this story.

Hurricanes Lisa and Martin Kept Amateur Radio Operators Busy

Amateur radio operators were closely monitoring hurricane and weather nets, as two tropical storms in the eastern and southwest Atlantic were upgraded to hurricane status late Wednesday, November 2, 2022.

Hurricane Lisa made landfall late Wednesday in the Central American nation of Belize, near Belize City and the town of Dangriga, with 60 MPH winds and heavy rain. The hurricane has now been downgraded to a tropical storm, but a state of emergency has been issued and remains in effect.

Meanwhile, Hurricane Martin, in the eastern Atlantic, has also been downgraded to a tropical storm. The National Hurricane Center (NHC) is predicting that Martin will become a large and powerful post-tropical cyclone by late Thursday, November 3, 2022.

The Hurricane Watch Net (HWN) was activated late Wednesday morning on 14.325.00 MHz, and later on 7.268.00 MHz. The VoIP Hurricane Net was also activated, and as of early Thursday morning, both nets are in standby mode.

Amateur radio operators will continue to monitor the hurricane and weather nets to be ready if help is needed.

Reaching Youth Through Amateur Radio in the Classroom

ARRL Education and Learning Manager Steve Goodgame, K5ATA, attended the Georgia Educational Technology Conference, held November 2 - 4, 2022. The conference was the first part in a series of planned ARRL exhibits to meet with teachers and promote amateur radio in the classroom.

Assisted by ARRL Teachers Institute Instructor Wayne Greene, KB4DSF, along with volunteers Cyndi Goodgame, K5CYN, and Betsey Greene, they spoke to hundreds of teachers, school administrators, and technology directors about the ARRL Teachers Institute on Wireless Technology.

ARRL's participation at this conference, as well as future events, is meant to inform and network with educators looking to incorporate amateur radio into their curriculum.

"The level of interest among teachers was incredible!" said Goodgame. "Our booth enjoyed heavy traffic for the duration of the conference, much of the time with all four of us engaged in discussions with multiple people simultaneously. Except for a couple of teachers we met who were already hams, few teachers had heard of amateur radio before this conference. These teachers were absolutely amazed at the possibilities that exist when including amateur radio and related educational experiences in their schools."

"Teachers were especially excited at the connections between amateur radio and space. We shared information about the ARISS program -- Amateur Radio on the International Space Station -- as well as communicating via amateur satellites. Enough teachers were interested in learning more about the relationship between amateur radio and satellites communications that we put together an impromptu live demonstration using two handhelds and an Arrow antenna we had for display in the booth. We gathered a crowd of teachers, along with a few students who were presenting their Student Showcase projects and headed outside. We enjoyed a good satellite pass and made contacts through AO-27. One of the students even got on the air!"

"Overall, it was a great conference and a great opportunity for ARRL to network with educators and work with them to help get more youth engaged in amateur radio."

Radio Amateurs at the Ready for Tropical Storm Nicole

Amateur radio emergency communications volunteers have been busy throughout preparations for, and in response to, Tropical Storm Nicole as the storm crossed the Atlantic and made landfall in Florida as a hurricane on Thursday, November 10, 2022, around 3:00 AM EST.

The National Hurricane Center (NHC) had upgraded the tropical storm to a hurricane on Wednesday night when Nicole made landfall on Grand Bahama Island. The storm soon returned to tropical-storm status, after moving over east-central Florida.

The Hurricane Watch Net (HWN) activated Wednesday morning at 10:00 AM EST on their primary frequency of 14.325 MHz. The net disseminates the latest NHC advisories and will obtain real-time ground-level weather conditions and initial damage assessments from amateur radio operators in the affected area, and relay that

information to the NHC by way of their station, WX4NHC.
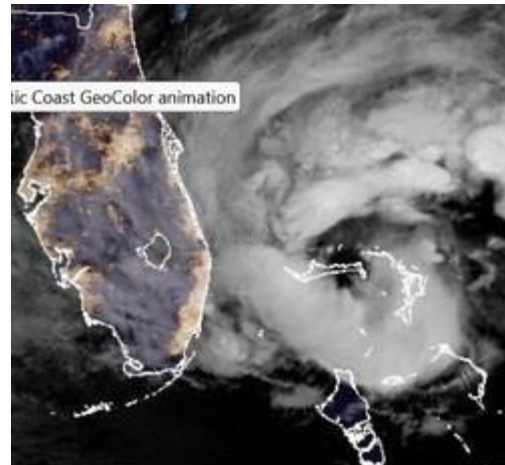
Tropical Storm Nicole on November 9, 2022 at 22:06 UTC. [Photo courtesy of NOAA/NESDIS/STAR - GOES-East; credit CIRA/NOAA]

The VoIP Hurricane Net began monitoring conditions at 8:00 AM EST on Wednesday morning, and activated at 12:00 PM EST. The net will remain active potentially through 12:00 PM EST on Thursday. Read the Wednesday post from Director of Operations for the VoIP Hurricane Net Rob Macedo, KD1CY.

Amateur Radio Liaison to the State of Florida Arc Thames, W4CPD, reported that the radio room in the Florida State Emergency Operations Center (EOC) was staffed for any emergency traffic. The center has been monitoring HF nets and the Statewide Amateur Radio Network (SARnet), a network of linked repeaters that serves Florida. Additionally, the Statewide Emergency NET was activated on Wednesday at 11:00 PM EST/10:00 PM CST, with plans to run the operation for approximately 24 hours. More information is available at https://floridaemergency.net.

ARRL Southern Florida Section Manager Barry Porter, KB1PA, reported activations of Amateur

Radio Emergency Service® (ARES®) groups and counties that had activated shelters. Northern Florida ARES was operating at "Level 3 MONITORING."

Dayton Hamvention Announces Theme for 2023

Dayton Hamvention® 2023 is just over 6 months away, and next year's Hamvention team has selected "Innovation!" as the event theme.

The team reports that, in just one word, the theme encompasses the world of amateur radio today. "There are so many exciting 'Innovations!' worldwide in amateur radio. We want to capture the spirit, and we expect to see many of these throughout the coming year and presented at [Hamvention 2023]," said Hamvention 2023 spokesperson Michael Kalter, W8CI.

Dayton Hamvention is the largest annual amateur radio gathering in the US, and among the largest in the world. With nearly 700 volunteers, next year's event boasts more than 500 indoor exhibits and more than 2,500 outdoor exhibits. They will showcase the latest in amateur radio equipment,

technology, and computer software and hardware, along with hard-to-find radio and computer accessories and equipment.

In a message to the 2022 exhibitors, Inside Exhibits Chairman Mike Berger, WD8OMX, announced on November 14 that the Hamvention online vendor portal is open to accept credit card orders for the 2023 show. There will be no price increase for vendor booths, and early bird pricing is available through March 15, 2023. Inside Exhibit vendors who had booths for the 2022 show will have until March 15 to pay for their booths in full. All booths not paid by March 15 will be made available to the public at the full rate.

ARRL is planning its large exhibit area and overall participation for the event. Hamvention is an ARRL-sanctioned event.

Hamvention 2023 runs from May 19 - 21 at the Greene County Fairgrounds in Xenia, Ohio. Tickets are on sale now, and can be purchased at https://hamvention.org/purchase-tickets.

More information about Hamvention 2023 is available on their website.

Eastern Massachusetts Section to Welcome New Section Manager; Incumbent Section Managers were Reelected

Jon McCombie, N1ILZ, will become Section Manager (SM) of the ARRL Eastern Massachusetts Section on January 1, 2023. McCombie, of Eastham, was the only nominee to submit a petition to run for office when the nomination period closed in early September. As the sole nominee, he has been declared elected.

This past year, McCombie has been Assistant SM to Tom Walsh, K1TW, who has been the SM of the Eastern Massachusetts Section for the last 8 years.

Walsh, of Bedford, decided not to run for a fifth 2-year term of office.

There were no balloted elections during this fall season's SM election cycle. The following incumbent SMs ran unopposed, and they were declared reelected, beginning their new 2-year terms of office on January 1: Cecil Higgins, AC0HA (Missouri); Matt Anderson, KA0BOJ (Nebraska); Jim Mezey, W2KFV (New York City-Long Island); Rocco Conte, WU2M (Northern New York); Marc Tarplee, N4UFP (South Carolina); Tom Preiser, N2XW (Southern New Jersey); Michael Douglas, W4MDD (West Central Florida), and Joe Shupienis, W3BC (Western Pennsylvania).

Thanks to ARRL Field Organization Supervisor Steve Ewald, WV1X, for information contained in this story.

CW Operators' Club Accepting Nominations for Advancing the Art of CW Award

The CW Operators' Club (CWops) is now accepting nominations for the 2023 Advancing the Art of CW Award. This award recognizes individuals, groups, or organizations that have made the greatest contribution(s) toward advancing the art or practice of radio communications by Morse code.

Award candidates must be one or more of the following: authors of publications related to CW; CW recruiters, trainers, mentors, coaches, or instructors; public advocates of CW; organizers of CW activities; designers and inventors who advance the art or practice of CW, and other contributors to the art or practice of CW.

The award is not limited to amateur radio operators or their organizations, and nominations may be made by anyone, not just CWops members.

Nominations must be emailed to awards@cwops.org and secretary@cwops.org by

March 10, 2023. Those submitting nominations will receive an email confirmation acknowledging receipt. Nominations must include: a detailed explanation supporting nominee qualifications according to the above criteria; nominee(s) name(s), call sign(s) if applicable, and contact information, including their postal address(es), email address(es), and telephone number(s); as well as the name, telephone number, email address, and call sign (if applicable) of the person submitting the nomination(s).

The winners will be announced and presented with a plaque at Dayton Hamvention® 2023. If a recipient is not present, their plaque will be sent to them.

Information about past recipients, dating back to 2016, can be found at https://cwops.org/cwops-award-winners. For more information about the award criteria, visit https://cwops.org/the-cwops-award-for-advancing-the-art-of-cw.

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.

Santa Claus will once again be on Longmont's airwaves / LongmontLeader (Colorado), November 12, 2022. -- The Longmont Amateur Radio Club and the Northern Colorado Amateur Radio Club are ARRL Affiliated Clubs.

Amateur radio-aided rescue highlights useful hobby / Buffalo Bulletin (Wyoming), November 17, 2022. -- The Buffalo Amateur Radio Klub is an ARRL Affiliated Club.

Free amateur radio program offered / Altoona Mirror (Pennsylvania), November 15, 2022. -- The Bedford County Amateur Radio Society is an ARRL Affiliated Club.

'When all else fails, ham radio doesn't': Radio club connects Burlington to the world and beyond / The Burlington Post (Canada), August 24, 2022 -- Thanks to the Burlington Amateur Radio Club.

Loften HS teaches amateur radio skills / Mainstreet Daily News (Florida), October 31, 2022. -- Thanks to W. Travis Loften High School Amateur Radio Club, K4WTL, of Gainesville.

St. Stephen's Episcopal School students make contact with space in unique, STEM-based programming / Community Impact Newspaper (Texas), October 3, 2022. -- Thanks to ARISS and the Brazos Valley Amateur Radio Club, an ARRL Affiliated Club.

Boy Scouts use amateur radios for worldwide conversations / Murfreesboro Post (Tennessee), October 27, 2022. -- The Stones River Amateur Radio Club is an ARRL Affiliated Club.

Arrl.org. 2022. ARRL Letter. [online] Available at: http://www.arrl.org/arrlletter?issue=current [Accessed 1 December 2022].

NARS Monthly Club Meeting

November's Monthly Meeting

During November's monthly meeting, the club heard held board elections and re-elected Ron Matusek, WA6TQH, as NAR President. Other positions ran uncontested. The NARS Board and Officers for 2023 includes the following individuals:

Voting Board Members	
Position	**Individual**
President	Ron Matusek, WA6TQH
Vice President	Paul Kent, KI5FJS
Treasurer	Tom Hoherd, KK5YU
Secretary	Brandon Rogers, K5BLR
Director	Rich Jones, W5VEK
Director	Sam Labarbera, N6HB
Associate Board Members & Team Leads	
Position	**Individual**
Administrative Secretary	Neal Naumann, N5EN
Social Media Liaison	Sam Labarbera, N6HB
Public Information Liaison	Sheree Horton, WM5N
Webmaster	Bill Buoy, N5BIA
Repeater Team Lead	Marty Fitzgerald, W5MF
Repeater Trustee	Paul Owen, N5NXS
ARRL VEC Liaison	Sheree Horton, WM5N

Next Club Meeting

Our next club meeting will be December 16th at the Klein Fire Station #3 Training Facility. This month we will be holding our annual "Show and Tell" meeting. Bring your special projects you have been working on to the meeting and tell us all about them.

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: Klein Fire Station #3, 9755 Landry Blvd, Spring, TX 77379
        Zoom Conference Call, Meeting ID: 2815436502, Passcode: 123456

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Greater Houston HamFest

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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.

Affordable Remote Operation

BY BRANDON ROGERS, K5BLR

There is something wonderful about holding a radio mic in your hand, spinning dials, and looking for that next contact. For over a century, manual radio operation has been the norm. In the last few years, however, digital and remote operation has augmented the number of ways that we can leverage radio for communication and fun. Most new radios on the market, in fact, put the capability to operate digitally front and center. Whether the radio supports a USB connection or is a software-defined radio (SDR) that supports IP networks, connectivity to a computer is now the norm.

For SDRs, like FlexRadio, Hermes, or other similar radios, remote operation can be conducted with any computer attached to a network. You can be on your couch, in the garage, or relaxing in the backyard and be operating both digital and analog modes on the radio in your shack. As control and operation of the radios relay on IP networks, you can even operate them when you are away from home or travelling.

If you do not have an SDR, however, you may not be out of luck. There are many solutions for USB-enabled radios that may be able to provide similar functionality.

USB-over-IP

In a recent post on the NARS Groups.io, Marty Fitzgerald, W5MF, highlighted the capability to share your USB connections over an IP network, but what is USB-over-IP and how does it work?

USB-over-IP bridges/software encapsulate USB data into an IP packet and sends that data over the network. This allows remote computers to be able to access the remote USB connection as if it is directly connected. To do this, a few important components are required:

1. A computer connected to the radio. This device can be a lightweight System on a Chip (SoC), like a Raspberry Pi, a laptop, or a tower computer. Since the processing to encapsulate the USB data is not intensive, a very cheap, low-powered device will work perfectly.
2. The software server is installed on the computer connected to the radio. This piece of software connects to the USB device, captures it, and relays the data over the network.
3. The software client is installed on a remote computer. This piece of software discovers the server, reads the available USB devices from the server, and simulates the local connection of a USB device to the remote computer.

4. A remote computer that runs software to interact with the radio remotely. This software could be for digital communication, like FLDIGI or WSJTX, or any other amateur radio package that might interface with the USB connection of the radio.

When these four components are properly configured, the remote computer sees the radio as if it were locally connected. The operator can move anywhere, as long as they can access the network, and still operate the radio as if they were directly connected to it.

Practical Tests and Configuration

Theory is nice, but it doesn't matter, unless it actually works. Radios are significantly different than USB mice or other less complex devices, and all types of issues could arise with this type of setup. So I tested it!
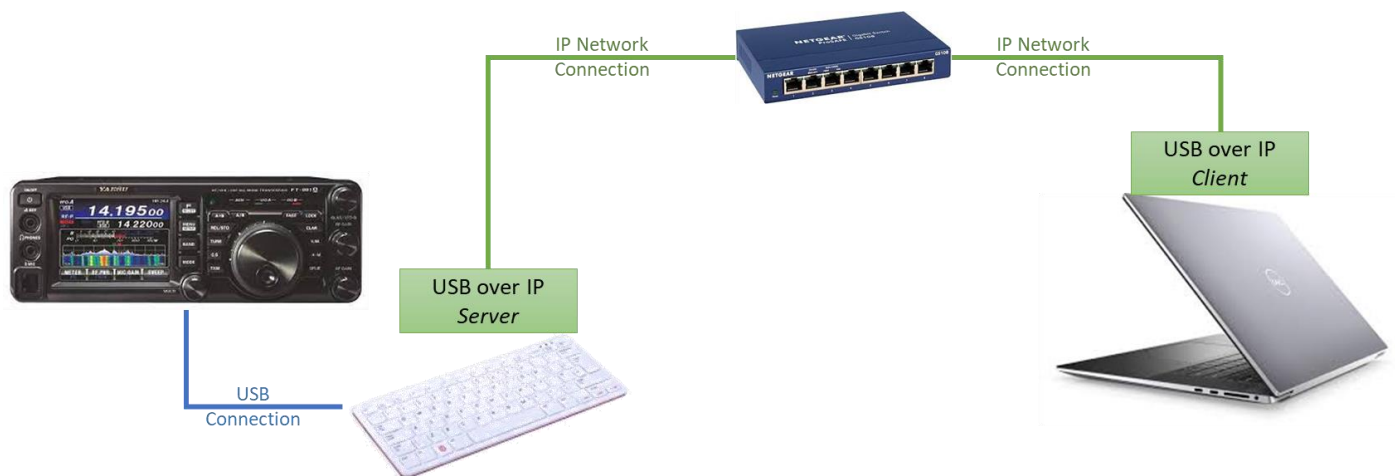

Figure 1: Configuration for USB-over-IP using my Yaesu FT-991A, a Raspberry Pi 400, and my existing home network.

I had an unused Raspberry Pi 400 laying around so I decided recruit it for testing. In case you are unfamiliar with it, this device is a Raspberry Pi 4 SoC embedded into a keyboard. It has the same components of the Raspberry Pi 4. I installed Raspberry Pi OS and connected it to my Yaesu FT-991A. The radio was recognized and I configured WSJT-X locally on the Raspberry Pi to verify that it worked properly. After making several contacts over FT8, I was convinced that the setup was working well and I moved on to the USB-over-IP configuration.

USB/IP Project

The USB/IP project "aims to develop a general USB device sharing system over IP network" (USP/IP Project, https://usbip.sourceforge.net/, December 2022). To top that off, the solution is included in the latest Linux kernel and supported by all major Linux distributions. I followed the instructions provided on the USB/IP Project site to configure the server software. The server software found my radio's USB devices and began sharing them out over the network without an issue.

Unfortunately, my laptop is a Windows-based computer, and the USB/IP project's support for Windows seems to be less robust. Officially, the project *does* support Windows, but due to version mismatches between the available Windows client and the Linux server, I had some initial issues getting the systems connected. I decided to move on to a more commercial offering.

VirtualHere

In his post to the NARS Groups.io board, Marty mentioned the VirtualHere software package. While it isn't free, VirtualHere promised to be a simple, trouble-free way to set up the USB-over-IP service.

I followed the instructions on the VirtualHere website to install the server software on the Raspberry Pi 400. The installation was straightforward and I did not run into any issues during installation. The service runs as a Linux daemon on the Raspberry Pi and starts on reboot, allowing the devices to always be available for sharing.

I then ran the client software on my laptop. The client software is a standalone package that does not require installation. It runs as a service in your taskbar notification area when it has been started. When I started the client software, a window like the one in Figure 2 opened.
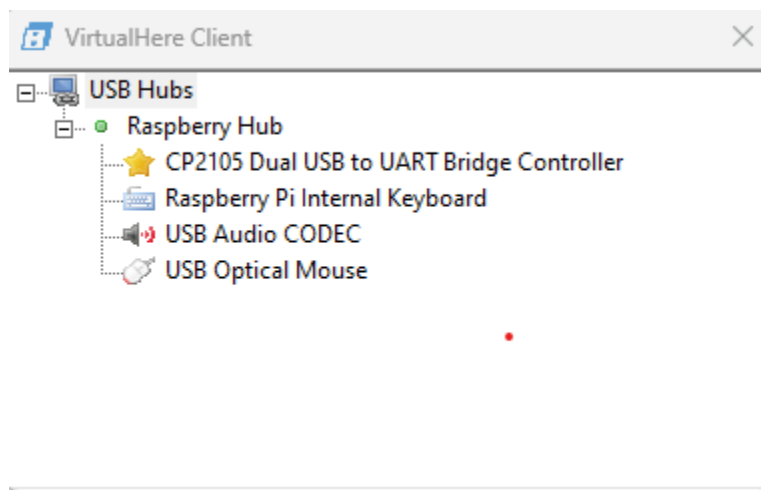

Figure 2: VirtualHere client software running on my laptop showing the USB devices connected to the Raspberry Pi 400.

You can see that my radio's serial controller (CP2105 Dual USB to UART Bridge Controller) and soundcard (USB Audio Codec) were immediately detected. The Raspberry Pi Internal Keyboard and USB Optical Mouse were also detected, as you can see. Right-clicking one of the devices and selecting the "Use this device" option will connect the remote USB device as if it were directly connected. I connected the radio's serial controller and the soundcard and those devices popped up on the laptop, just as expected.

The next step was to test the use of WSJT-X over the newly attached USB devices. I opened WSJT-X and created a new profile for the radio on my laptop. I tested the CAT and PTT interfaces in WSJT-X and both worked perfectly. I configured the audio devices to use the [remote] radio's soundcard and closed the configuration window. Then, I listened/watched for what would happen next.

Exactly as I had hoped, FT8 CQ calls started filling my screen. It seemed as everything as working perfectly. I tried to reply to one of the calls and discovered the first challenge: latency. My laptop and my Raspberry Pi 400 were both connected to WiFi and this seemed to introduce a fair amount of latency to the radio control commands. Even though my laptop perfectly time-synchronized via NTP, my FT8 transmissions would begin a full 2-3 seconds after the start of the FT8 window. For time-synchronized protocols like FT8, this can make communication impossible. To try and combat this, I connected my Raspberry Pi 400 and

laptop to my network through a wired connection. The latency dropped significantly and I was able to complete a few QSOs, however, I'm still not convinced that the latency isn't causing minute issues. Testing in this regard, is still ongoing.

Conclusions

From the limited tests that I performed it seems that USB-over-IP is a realistic option for remote communication. The following are a few of the observations I made about this configuration:

- Latency can make USB-over-IP untenable for time-synchronized modes or protocols. However, for digital modes where synchronization is not critical (i.e., PSK, RTTY), remote communication in this manner can be very effective.
- The cost for a simple, easy-to-use USB-over-IP software package is not zero. While the USB/IP project could be leveraged, expect a time cost in configuration and troubleshooting. For VirtualHere, a free option is available, but it only allows a single remote USB to be connected at once. At the time of this writing, VirtualHere cost about $50 for a license that unlocks all functionality in the app. The license is locked to a single USB-over-IP server, so you may need to re-purchase if the device connected to the radio ever changes.

If you have ever wanted to convert your USB-enabled radio to be remotely operated, USB-over-IP may be what you have been looking for.

Preparing the Nation for Space Weather Events

The FEMA Emergency Management Institute (EMI) has released a new online study course and exam on Preparing the Nation for Space Weather Events. The course identifier is IS-66. ARRL Director of Emergency Management (DEM) Josh Johnston, KE5MHV, took the course and passed the exam. Johnston said: "This course provides some interesting insight to the Federal Government's role and response to space weather events." It also "explains the levels of response the government uses in regard to space weather events." Johnston concluded: "This course would be a good training course for any ham to gain a better understanding of how space weather affects communications here on Earth." "This is a useful course and only takes about 2 hours to take online," Johnston said. A FEMA student ID is required and is free from the Emergency Management Institute online.
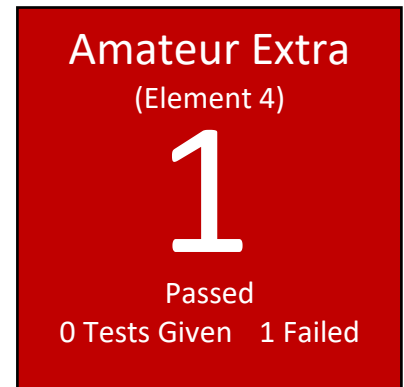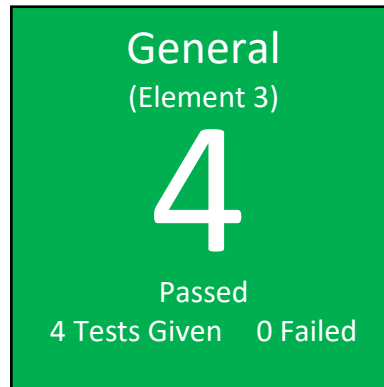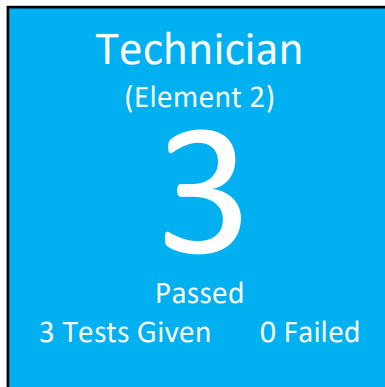
Provided by:

VE Sessions and Results

PROVIDED BY SHEREE HORTON, WM5N

Attendees

On Saturday, November 19, 2022, a VE Test Session was held at Klein Fire Station #3 in Spring, Texas. During the testing session 5 candidates took 13 tests.

Technician (Element 2) **3** Passed 3 Tests Given 0 Failed	General (Element 3) **4** Passed 4 Tests Given 0 Failed	Amateur Extra (Element 4) **1** Passed 0 Tests Given 1 Failed

Congratulations!

Congratulations to the following for passing their new license exams[1]:

- Levi N Cato – Technician
- Richard A Adams – Technician and General
- Christopher J Hofer – Technician and General

Congratulations to the following for passing their upgrade exams:

- August J Canik KI5YPD – Upgrade to General
- Darrell W Paul KI5YHF – Upgrade to Extra

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/arrl/77070/inperson

Test-specific Links
December 17, 2022 https://ham.study/sessions/632ca7fce5133e31a52e01aa/1

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[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:

- Ed Messman, KT5EM
- Paul Owen, N5NXS
- Marvin Wilken, KT4W
- Michael Robinson, KI0DE
- Ron Matusek, WA6TQH
- Kyle Vann, K5KNV

Thanks to Paul Kent, KI5FJS, for assisting at the VE Session!

VE Session Guidelines

If you have a temperature or feel ill – DO NOT attend.
• Tables and chairs will be arranged to meet social distancing. DO NOT MOVE THEM.
• 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

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.

New Club Members

Welcome to the following new members of NARS!

- August Canik, KI5YPD
- Christopher Winkler, KA5MRY

Renewing Club Members

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

- Jackie Blackburn
- James Blackburn, WB5AW
- Scott Blanchette, K5RSB
- Rick Braddy, W5FCX
- Andrew Jones, K9ACJ
- Rich Jones, W5VEK
- Joseph Lahnstein, W4HUA
- Ron Matusek, WA6TQH
- Neal Naumann, N5EN
- Dale Schmirler, KI5SCP
- Jerry Whiting, KB5VGD

Did you know...

NARS now has the ability to run computer-aided tests through Ham.Study. Computer-aided tests provides many benefits, including the ability to make the tests easier to administer, quicker to get results, easier for many test-takers, and many more!

Thanks to Brandon Rogers, K5BLR for helping to set up the laptops to enable the club to provide this computer-aided test option!

Training and Education

NARS

NARS Member Articles and Tutorials - http://w5nc.net/index.php/2014-03-31-00-54-20

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!

Of Interest to the Club

Houston Local Traffic Net

The Houston Local Traffic Net meets each Monday night at from 6:30 – 7:30pm on the 146.940 repeater with a PL tone of 167.9 Hz. The backup repeater for Monday night is the NARS repeater 146.660/100.0. The Thursday night edition of the Houston Local Traffic Net meets on Thursday evenings at 6:30pm on the 146.660 repeater with a PL tone of 100.0 Hz. This repeater is linked to the 70cm repeater on 444.375 also with a PL tone of 100 Hz. You can access the two linked repeaters via EchoLink node W5NC-R. The Thursday night backup repeater is 147.000 with a PL tone of 103.5 Hz. The purpose of both nets is to pass National Traffic System (NTS) radiogram messages into and out of the Houston area. The Monday edition of the Net also provides traffic handling instruction/training.

Anyone with questions about the Houston Local Traffic Nets, radiograms and or message handling can call or email Sheree Horton WM5N for more information.

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

Club General meeting – December 16, 2022 - Klein Fire Station #3 – "Show and Tell" presentations

VE Test Session – December 17, 2022 – Klein Fire Station #3 - Check-in will start at 8:30am with testing lasting from 9:00am - 11:30am. All testing activities will be completed by noon.

Social Events

Lunch Break – North	Lunch Break – Medical Center
Take a break with fellow radio operators and enjoy a lunch together! Locations are announced weekly on the NARS email reflector!	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.

We also have a Twitter feed. Follow us on https://twitter.com/nars_w5nc

ARRL Contests & Activities

January 2023	February 2023	March 2023
1: Straight Key Night 7: Kids Day 7-8: RTTY Roundup 21-23: January VHF TBD: Winter Field Day	13-17: School Club Roundup 18-19: International DX – CW	4-5: International DX– Phone
April 2023	**May 2023**	**June 2023**
16: Rookie Roundup – Phone		3-4: International Digital Contest 10-12: June VHF 17: Kids Day **24-25: Field Day**
July 2023	**August 2023**	**September 2023**
8-9: IARU HF World Champ	5-6: 222 MHz and Up Distance 19-20: 10 GHz & Up – Round 1 20: Rookie Roundup – RTTY 12-13: EME - 2.3 GHz & Up #1	9-11: September VHF 16-17: 10 GHz & Up - Round 2 9-10: EME - 2.3 GHz & Up #2
October 2023	**November 2023**	**December 2022**
16-20: School Club Roundup 28-29: EME - 2.3 GHz & Up #3	4-6: Nov. Sweepstakes – CW 18-20: Nov. Sweeps. – Phone 25-26: EME-50 to 1296 MHz #4	2-4: 160 Meter 10-11: 10 Meter 18: Rookie Roundup–CW

Hamfests and Conventions

December 9 - 10 - Tampa Bay Hamfest, ARRL West Central Florida Section Convention, Plant City, Florida
March 3 – 4 – Greater Houston HamFest, Fort Bend County Fairgrounds, Sponsored by Brazos Valley
Amateur Radio Club (BVARC),

Exam Practice Answers

Technician: T5C04 – D, The henry
General: G3A10 – C, The sun's rotation on its axis
Amateur Extra: E6E04 – A, 50 ohms

NARS Club Officers and Information

Board Officers with Voting Privileges

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

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

Treasurer: Tom Hoherd, KK5YU, 281-370-2941, treasurer@w5nc.net

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

Director: Rob Nixon, KD5BXZ, officers@w5nc.net

Director: Kirc Breden, N5XJB, 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: Marty Fitzgerald, W5MF

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

Trustee: Paul Owen, N5NXS

Did you know…

that NARS has an 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.net/index.php/club-info/email-reflector-groups

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.net) 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. Neal Naumann, N5EN, coordinates this Net.

Repeaters

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