



W5NC

Houston, Texas
Northwest Amateur Radio Society

NARS NEWS

AUGUST 2022

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

Battling QRM

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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

k5blr@arrl.net

President's Message

BY RON MATUSEK, WA6TQH

Titan Missile Silo Virtual Tour!

Do not miss the August General meeting! This presentation will be a virtual tour of one of the United States most powerful defense facilities and promises to be one of the best and most informative we have had this year!

Our Vice President Paul Kent KI5FJS was on vacation in Arizona and met the site manager/operator of this Silo when the military de-commissioned the site. Paul has been working with the current site manager to bring us the story behind the scenes of the inside workings of the Silo.

UNCOVER THE SECRETS OF AMERICA'S LARGEST NUCLEAR WEAPON

At the Titan Missile Museum, near Tucson, Arizona, visitors journey through time to stand on the front line of the Cold War. This preserved Titan II missile site, officially known as complex 571-7, is all that remains of the 54 Titan II missile sites that were on alert across the United States from 1963 to 1987. A once top-secret nuclear missile silo, only a 30-minute drive from Tucson, AZ, has gone up for sale at an asking price of \$395,000. The Titan II program was deactivated in 1982, a year after President Ronald Reagan announced the start of his Strategic Forces Improvement Plan to modernize land-based ICBM programs.

This one-of-a kind museum gives visitors a rare look at the technology used by the United States to deter nuclear war. What was once one of America's most top-secret places is now a National Historic Landmark, fulfilling its new mission of bringing Cold War history to life for millions of visitors from around the world. Join us now for your own tour!

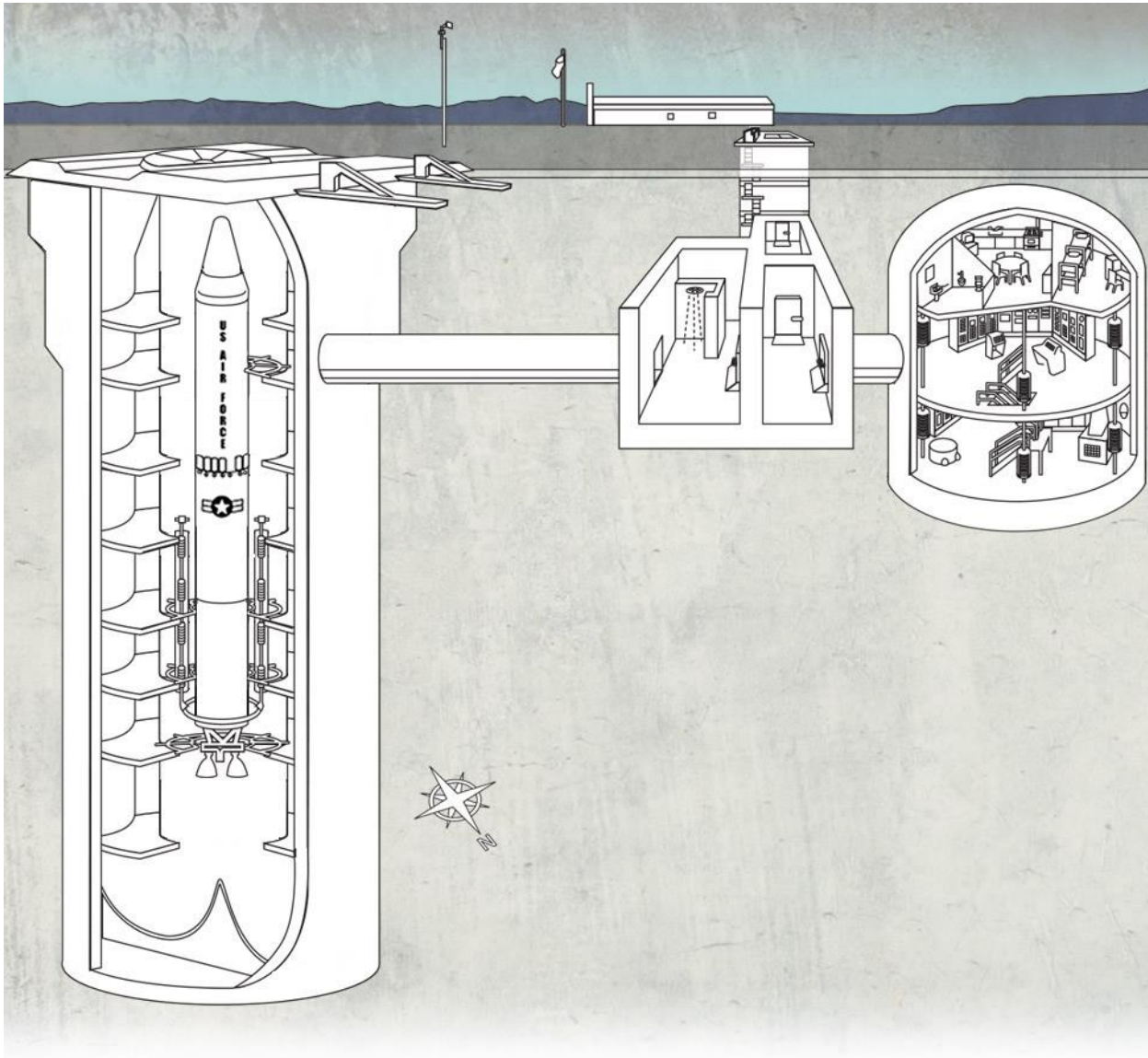
Ham Radio Operators, you can now broadcast and listen on the discone antenna at the Titan Missile Museum.

When the Titan II became operational in 1963, its communication system included a large, broadband discone antenna that is still standing today.

Built by Collins Radio Company, the antenna is 80 feet tall and has a large crown, enabling it to radiate signals over a wide range of frequencies.

If you are an amateur radio operator, you can use the antenna free of charge when the museum is open.

Go underground and back in time on the 45-minute guided tour. You will descend 35 feet into the missile complex, visit the launch control center, and experience a simulated launch of the missile. Then you will journey down the cableway to level 2 of the missile silo to get an up-close look at the Titan II missile itself. This tour lets you experience Cold War paranoia and American ingenuity while walking in the footsteps of the brave men and women who operated America's largest land-based missile ever deployed.



See you at the August General Meeting!

NOTE: We have been asked NOT to make any recordings of this presentation!

Ron Matusek
President NARS

The ARRL Letter

An excerpt from the weekly ARRL Letter

FCC Legacy CORES System to be Retired

The Federal Communications Commission (FCC) will retire the [Legacy version](#) of its COMmission REGistration System (CORES) on July 15, 2022. CORES is the FCC's public-facing database that enables and tracks certain types of FCC and FCC applicant actions, including amateur radio applications and licenses. Its implementation has enabled routine amateur applications and licenses to be issued overnight instead of over weeks, as was the case with earlier methods. ARRL The National Association for Amateur Radio® advises the amateur radio community to transition to the [updated version of CORES](#) as soon as possible.

In essence, CORES is designed to identify those who hold certain types of FCC licenses and FCC authorizations, including amateur licenses, and organize them in an easily accessible manner under a common FCC Registration Number (FRN) regardless of whether one holds a single such authority or thousands. The new CORES, in addition to assigning individual FRNs, allows holders of multiple FRNs to aggregate them under a single account where the licenses and authorization, fees



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>

and payments, and related actions can be administered from within the same account.

In effect, new CORES can be conceptualized as an electronic interactive file folder. The [updated version of CORES](#) has been available since 2016, and now its use will be mandatory for all amateur licensees when submitting amateur-related applications.

Starting on July 15, 2022, the Legacy CORES website will re-direct users to the [Commission's updated CORES](#) site. Although some functionalities in the old system will continue to work for a short time, the [FCC has urged all users](#) to transition to the updated CORES system to take advantage of its enhanced security and functionality.

Register with the FCC

Licensees that do not already have an FCC CORES Username Account must create one with a unique username (a valid email address) and password. After creating the account, when logged in, users should associate their existing FRN or FRNs with this account. Instructions for doing so are on the [FCC Registration Help](#) page. One's FRN is printed on all current amateur applications and licenses, and will not change. FRNs can also be found by looking up one's call sign in the Commission's ULS (<https://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp>) or by using the FCC's [advanced search](#) page.

The FCC has posted [Tutorial Videos](#) to assist with the transition. ARRL VEC Manager Maria Somma,

AB1FM, recommends viewing the videos "Getting Started With the New CORES," which explains how to register for a CORES Username Account, and "Associating an FRN to a Username," which instructs Legacy CORES users on how to link one or more existing FRNs to a username. [FCC CORES Registration Instructions](#) can also be found on the ARRL website.

Additional information is available on the [FCC](#) website or by calling the FCC Licensing Support Center at (877) 480-3201, Option 4, and on the FCC's [e-support](#) page.

Amateur Radio to Be Showcased at 2022 EAA AirVenture in Oshkosh, Wisconsin

ARRL member-volunteers will ensure amateur radio is well-represented at the annual EAA AirVenture in Oshkosh, Wisconsin, on July 25 through July 31. More than 10,000 aircraft and a half-million flight enthusiasts make Wittman Regional Airport the busiest airfield in the world during AirVenture.



ARRL has participated at AirVenture since 2018, supporting an exhibit that encourages pilots and aviation enthusiasts to discover radio communications and radio technology through ham radio. ARRL Director of Public Relations and Innovation Bob Inderbitzen, NQ1R, has organized a booth (#2152 in Hangar B) and an all-volunteer team.

"There's a kinship among the aviation and amateur radio communities," Inderbitzen said. "In addition to introducing newcomers to ham radio, we expect to meet hundreds of ham-pilots at AirVenture. This is a great opportunity to show off ham radio at such a large-scale event." Frederick Hart, AA0JK, and Bob Inderbitzen, NQ1R, wrote "Growing Amateur Radio, One Pilot at a Time," in the January 2019 issue

of *QST*, describing some of the opportunities and experiences pursued by pilots who become active ham radio operators.

At KidVenture, a highlight for children attending AirVenture, kids can build and take home a radio receiver to listen to air traffic and other nearby transmissions from approximately 65 - 140 MHz. The kit, designed by student engineer Levi Zima, KN4YHS, with additional support from his sister, Kirsten Zima, KC9RWG, has been an ARRL offering since 2021 (see [ARRL's Introduction to Radio Receiver Kit](#)). "It's great fun to see children at AirVenture walking around with the radio kits they've built and tuning in to the busy Air Traffic Control Tower throughout the event," said Inderbitzen. "Radio communications is a key part of learning about avionics. ARRL is grateful to EAA AirVenture for sponsoring the activity, which promises to introduce a lot of young people to radio."



Children attending KidVenture at 2022 AirVenture will be able to build a simple radio receiver kit, encouraging their discovery of radio communications.

Richard William Ehrhorn, W4EA, SK

Richard William Ehrhorn, W4EA, passed away on June 26, 2022. An ARRL Life Member, Ehrhorn was first licensed in 1947 and founded Signal/One. He and Eugene Chenette, N5YJ (SK), designed, manufactured, and marketed the then state-of-the-art, high-end Signal/One CX7 multiband transceiver in the late 1960s. He also founded Ehrhorn Technological Operations, Inc. and was Chairman of Alpha/Power, Inc.

He graduated from the University of Minnesota in 1955 with a BS in Electrical Engineering, and in 1958

he received his MS in Electrical Engineering from the California Institute of Technology.

Ehrhorn was a licensed amateur radio operator for over 70 years, an ARRL Life Member, and throughout his career in radio technology, was well known for designing and building RF amplifiers.

In his QRZ database biography, Ehrhorn wrote about his respect and competitiveness with Art Collins, founder of the Collins Radio Company in 1933. "I always had aimed to replicate in a small way Art Collins' success: build the finest ham radio gear and -- someday -- government and/or industrial customers would 'discover' us," Ehrhorn wrote. Then in 1983, Ehrhorn was invited by General Electric Medical Systems to design a linear RF amplifier to work with their new magnetic resonance imaging (MRI) technology.

Ehrhorn retired to Forest, Virginia, where Brian Justin, WA1ZMS, began to know Ehrhorn and his work in more detail. "He was a man of a lot of firsts and high-water marks," said Justin. "His claim to fame was certainly the development [of] the Alpha Series RF power amplifiers that made their way into medical technology."

Justin added that Ehrhorn, in his later years, was still active in amateur radio, especially on the HF bands. On his move to a new location, Ehrhorn wrote, "New QTH, 58 acres with a broad hilltop 0.2 miles high! We still can see for miles in all directions. And I finally have room for decent 75 - 80 and 160-meter antennas. Better late than never." Several years ago, a tornado barely missed Ehrhorn's house, leaving his towers and antennas intact.

Amateur radio drove Richard Ehrhorn's passions and creativity throughout his career.

QST Now Offering a Column for Radio Clubs

ARRL invites you to be part of "Club Station," the newest column in QST. This column is a space for radio clubs to share the different ways in which they're successful to help other clubs grow. They do this by offering advice, and practical solutions to common experiences and problems.

In each issue, a different club will share how they undertook a specific activity or project, how and why it was successful, and any challenges they may have had to overcome throughout the process. Some examples include, but aren't limited to, successful community club projects, innovative ways to attract new members, getting youth involved with ham radio, and developing active hams.



The York County Amateur Radio Society (YCARS) in South Carolina provides a welcoming environment for members to learn new skills. Here, members are learning how to program a Raspberry Pi. Be sure to read

"Clubs are the backbone of the amateur radio community," said ARRL Field Services Manager Mike Walters, W8ZY. "If your club is doing something that will inspire other clubs, we want to hear from you!"

"In order to help you tell your story, ARRL has published author guidelines that are geared toward 'Club Station,' and they include a club profile form," said QST Editor Leanna Figlewski, KC1RMP. Both of these documents can be found at www.arrl.org/qst-club-station-guidelines-and-profile-form. "You don't have to have writing experience to be published in QST. If your submission is accepted, our editorial

staff will work with you to get your story ready for publication."

All clubs are welcome to participate. The first iteration of "Club Station" appeared in the August 2022 issue of QST (www.arrl.org/qst) and includes more information about what members can expect to see from the column.

If you have any questions, contact us at clubs@arrl.org. We look forward to hearing from you about your radio club!

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.

["Ham radio group receives national recognition"](#) / KAAL TV (Minnesota), July 6, 2022 -- Northland Amateur Communications Group is an ARRL Affiliated Club.

["Community Amateur Radio Club holds 24-hour emergency training"](#) / The Advocate (Louisiana), July

8, 2022 -- Baton Rouge Amateur Radio Club is an ARRL Affiliated Club.

["Ham radio operators take part in communication, camaraderie and code"](#) / New Castle News (West Virginia), July 21, 2022. -- The Mountaineer Amateur Radio Association is an Affiliated ARRL Club

["The box that rocked the universe."](#) Meet the U-M researcher who helped pioneer the CubeSat -- and a new era in space exploration. / Michigan Engineering, University of Michigan, July 19, 2022. - - Thanks to ARRL Member James Cutler, KF6RFX.

["Ham radio operators active in Preston County"](#) / The Preston County News & Journal (West Virginia), July 12, 2022. -- The Preston County Amateur Radio Club is an ARRL Affiliated Club.

["HAM radio still has a role in our modern age"](#) / WTVG (Ohio), July 8, 2022. -- The Toledo Mobile Radio Association is an ARRL Affiliated club

["Amateur radio group holds Field Day to test readiness"](#) / Up and Coming Weekly (North Carolina), July 12, 2022. -- The Cape Fear Amateur Radio Society is an ARRL Affiliated Club.

["Stanly Amateur Radio Club hosts Field Day at Morrow"](#) / The Stanley News & Press (North Carolina), July 18, 2022. -- Stanly County Amateur Radio Club (K4OGB) is an ARRL Affiliated Club.

["Ham radio enthusiasts connect in West Virginia"](#) / The Herald-Dispatch (West Virginia), July 25, 2022. - - The Mountaineer Amateur Radio Association is an ARRL Affiliated Club.

["Local ham participates in national radio program for teachers"](#) / The Crescent-News (Ohio), July 25, 2022.

Arrl.org. 2022. ARRL Letter. [online] Available at: <http://www.arrl.org/arrlletter?issue=current> [Accessed 28 March 2022].

NARS Monthly Club Meeting

July's Monthly Meeting

During July's monthly meeting, Ron Matusek, WA6TQH, and Paul Kent, KI5FJS, demonstrated a mobile, solar-powered unit. The unit includes a battery that can be charged by a solar panel throughout the day, all packaged neatly in a portable case. During the session, Ron demonstrated the build while Paul followed up with calculations on sizing the panels and battery and an estimating tool for how long operating might last.



Please contact Paul or Ron for more details on the project or for the planning spreadsheet.

Next Club Meeting

Our next club meeting will August 19th, 2022 and will include a presentation on the Titan Missile Silo. Don't miss this amazing presentation!

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

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.

Battling QRM

BY BRANDON ROGERS, K5BLR

I have always had problems with QRM, or human-made RF noise and interference, in my shack. I had always attributed it to the wireless home automation switches or the LED light bulbs or the wireless network or even that “I lived in a suburban area with power lines, neighborhoods with houses close together, with a lot of devices close together.” I had told myself this so many times, that I dismissed it as “just the way it will be”. However, after a frustrating week operating SSB on 20m, hardly making any contacts, I decided it was time for a change. After playing with every knob, digital noise reducer, and amp circuit that my radio had, I could hear *someone* responding (or at least I thought I could). But the noise was just too loud to copy the other operator. My QRM had to go.

What does QRM look like?

QRM can look like many things on your waterfall, but, in my experience, two common patterns exist that represent man-made noise: a broad loud whine or crackle across an entire band or squealing/whining on regular frequency intervals.

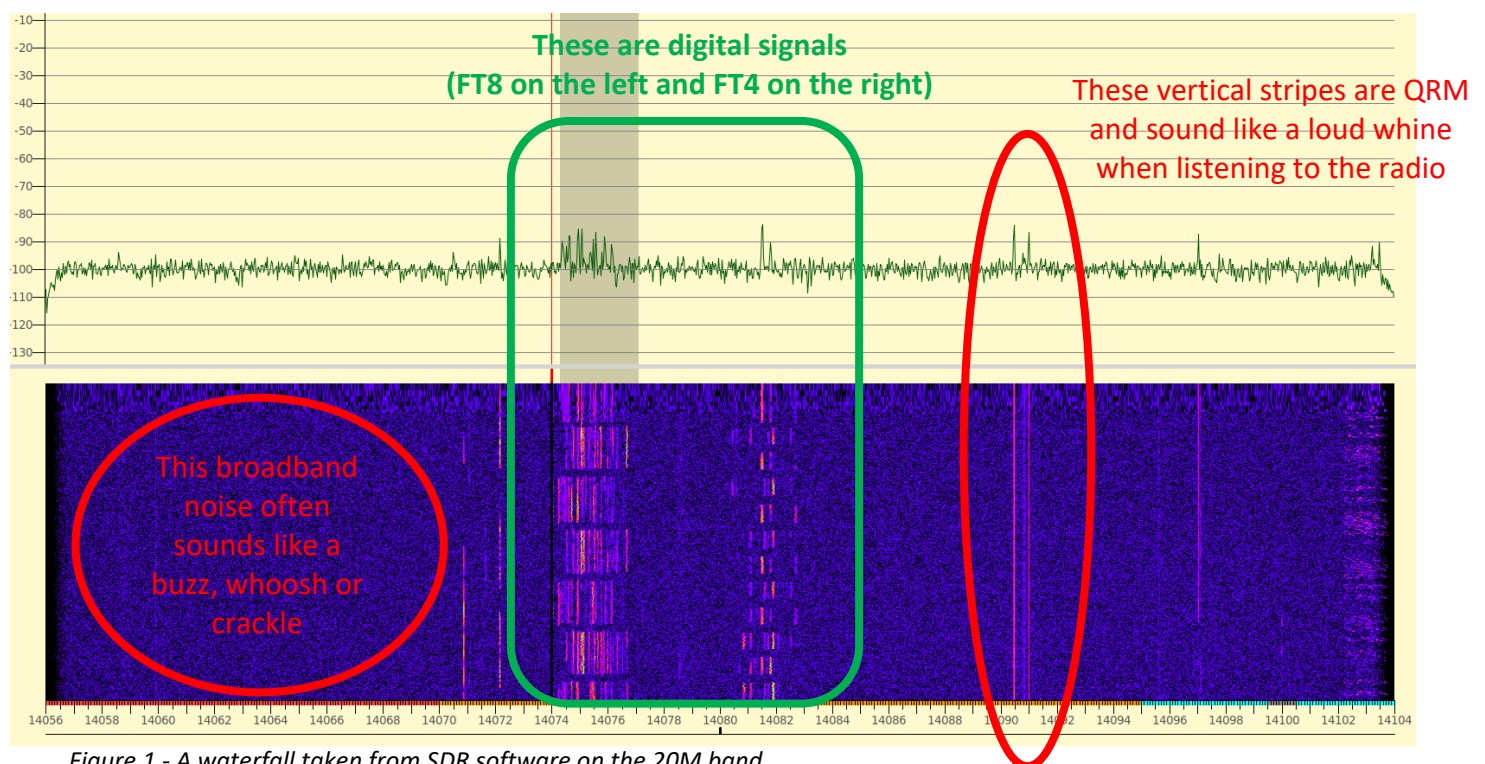


Figure 1 - A waterfall taken from SDR software on the 20M band.

While these two patterns may not be the only way QRM manifests itself, these are two symptoms that have plagued my QTH.

Taking Action

As I mentioned, for a long time, I had just accepted the high QRM as a fact of life, but this wasn't because of any good reason. I had half-heartedly checked a few devices to see if they were causing issues, but just assumed QRM was beyond my control. Fortunately, I was totally wrong about this. As I started to seriously and methodically move through several adjustments, I found that my QRM was completely controllable.

Power Main Sleuthing

After watching a few YouTube videos and reading several articles, it was obvious that the first step in understanding your QRM problems is to turn off your power (see some interesting resources listed at the end of this article).

The recommendation is to run your radio off a battery and turn off all the circuit breakers/fuses in your home. This will eliminate many interference (RFI) sources that may be coming from your own home. If the QRM persists while the breakers are off, then the RFI may be coming from a neighbor or some place local. If you are unfortunate enough encounter this condition, it may be difficult to solve this noise problem. You could "wardrive" your neighborhood with a receiver to try and detect where the noise is coming from. If the noise is coming from a place where you can talk with the owner of the property/equipment, you may be able to work with them to correct the issue. If the noise is coming from a power line or transformer, you can call the power company (Centerpoint in our area) to report the issue and get it corrected. Otherwise, corrections may be difficult to resolve.

Fortunately, this was not my case. I don't have a battery on which to run my radio, so I did what I could. I turned off all the breakers in my home *except* for the one from which my radio was powered. When I turned on the radio, I found some amazing improvement in the noise levels.

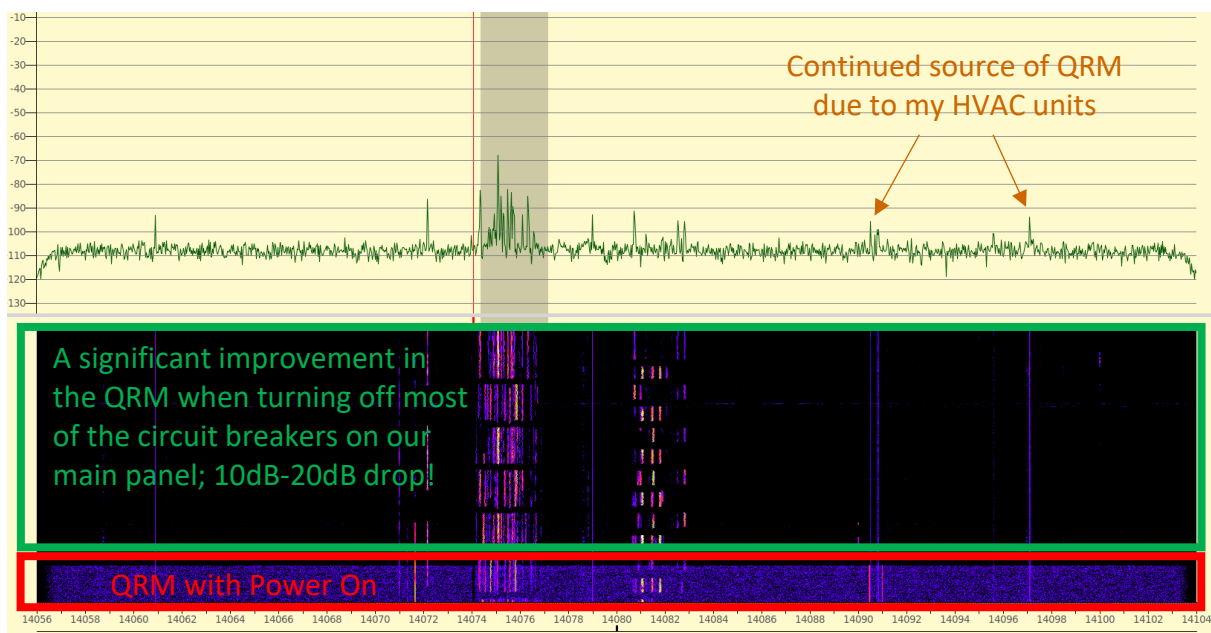


Figure 2 - A waterfall taken from SDR software on the 20M band showing the change in QRM when most of the house power has been removed.

I was delighted to see this improvement! This means that 1) the noise would be controllable (coming from my home) and 2) that I was wrong about the QRM being unfixable. One by one, I turned on each circuit and watched the response on the radio. Fortunately, there were only two or three circuits that seemed to be contributing the most noise.

Garage LED Workshop Lights

The LED lighting in my garage was throwing out a crazy amount of interference on 10M. Simply turning off the wall switch removed a large amount of noise on 10M, so I was able to narrow down the source to the LED lights themselves.

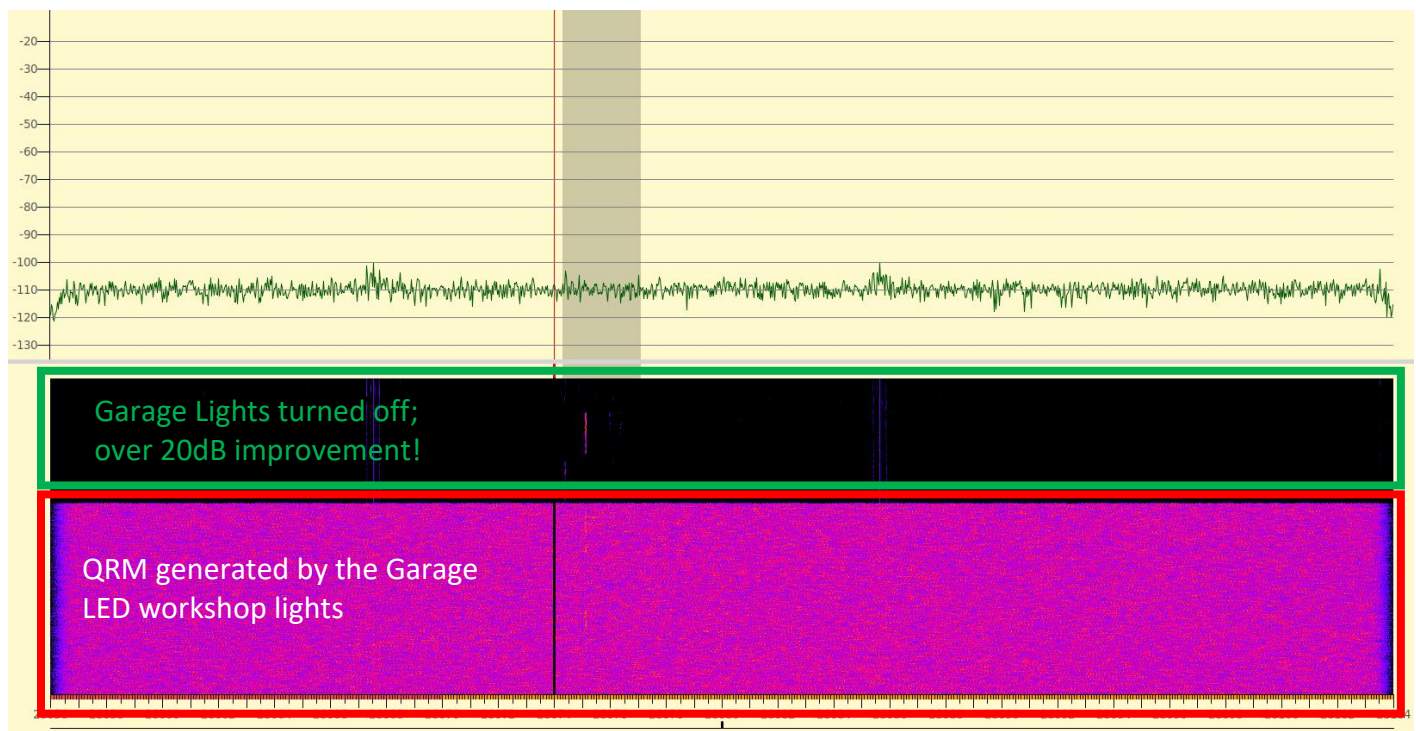


Figure 3 - A waterfall taken from SDR software on the 10M band showing the QRM from LED workshop lights (bottom) and with those lights turned off.

Computer Workstation

One of the circuits was powering the Family Computer workstation. The Internet Service Provider (ISP) devices, router, bedroom lighting (including LED strips) and the family computer were all on this circuit. I disconnected each device one by one and observed the change in the waterfall. The main culprit ended up being the ISP router and turning it off reduce the broad, across-band QRM significantly.

Air Handlers / Heater

As you may have noticed from some of the pictures in this article, there bands of QRM (that look like vertical stripes in the waterfall). Through my sleuthing, I found that these were being generated by my air

handler. It can be a little more difficult to adjust for this type of QRM, but I have contacted the manufacturer of the air handler to get help on reducing the interference.

Other than the Air Handlers, to correct these sources of QRM, I have ordered a pack of ferrite beads and toroids. I will add these to the offending devices and other wiring near my radio when I receive them.

Noise Cancellation

For those with high levels of QRN (natural sources of RFI) or unmanageable QRM, noise cancellation devices can be purchased. These devices use similar technology that is used in noise cancelling headphones. Noise is sampled from a “noise antenna” (a non-resonant antenna that is used to just pick up the noise profile), inverted, and added to the signal from the receiving antenna. The idea is that the inverted noise from the noise antenna will cancel out the noise from the receive antenna, while keeping the signals intact.

In practice, for this to work, some fine, and sometimes tedious, adjustment is required. The devices generally have a knob to adjust the phase of the inverted noise signal to match up with the noise signature of the receive antenna. The amplitude of the noise profile needs to be adjusted as well. If you can get the amplitude and phase adjusted properly, the noise will be cancelled out and the signal will not be affected.

I have not tried my had at a noise cancellation unit, but you can see reviews and discussion on these devices online.

QRM Resources

The following resources may be useful to you in your own personal quests to reduce QRM in your shack:

Videos

Ian from the IANXFS YouTube channel has a 3-part series on finding and reducing QRM in his area:

- Part 1: [A Rare Local Area Power-Off Test - Amazing Results On QRM 🤖 - YouTube](#)
- Part 2: [Successful QRM / RFI \(Radio Frequency Interference\) Tracing! - YouTube](#)
- Part 3: [I Found & Eliminated My QRM / RFI \(Radio Frequency Interference\)! 🤖 - YouTube](#)

The OMOET YouTube channel demonstrates the use of a Noise Cancellation or QRM Eliminator Unit

- [QRM Eliminator / RF Noise Canceller - YouTube](#)

Web Pages

[Tips on how to operate and finetune a QRM Eliminator - PA9X](#)

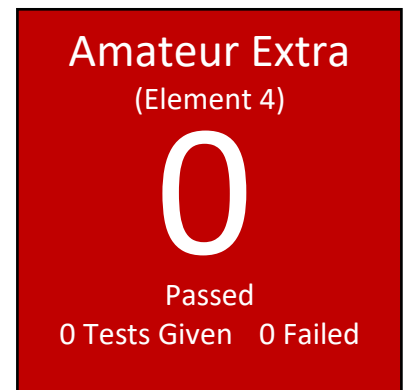
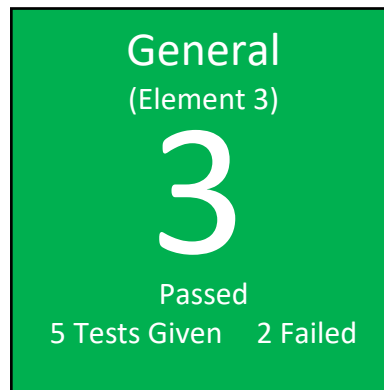
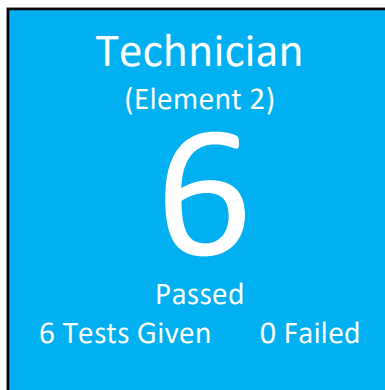
[Locating RF Interference at HF \(ARRL\)](#)

[Sounds of RFI \(arrl.org\)](#)

VE Sessions and Results

Attendees

On Saturday, July 23rd, 2022, a VE Test Session was held at Klein Fire Station #3 in Spring, Texas. During the testing session 9 candidates took 16 tests.



Congratulations!

Congratulations to the following for passing their new license exams¹:

- Milton J Kelley – Technician
- Joe B Terpstra – Technician
- Dominik Horvath – Technician
- Gary L Graves – Technician
- Javier Torres Jr – Technician
- Michel Muenier – Technician and General
- Evan J Welch – Technician and General

Congratulations to the following for passing their upgrade exams:

- Fletcher E Lewis II KE5BGG – Upgrade to General

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:

- Paul R Owen N5NXS
- Marvin J Wilken KT4W
- Robert Ewers K9HOU
- Michael Livingston AG5ZG

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

Next Session

Our next VE Test Session will be on August 27, 2022 at Klein Fire Station No. 3 in the main Meeting Room in the Main Building. Check-in will start at 8:30am with testing lasting from 9:00am - 11:30am. All testing activities will be completed by noon. Please visit www.w5nc.net for the announcement.

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

New Club Members

A big welcome to all the new NARS club members!

- Marc Charendoff, KI5WAR
- True Hatch, K5PTP
- William Johnson, KI5VIE
- Fletcher Lweis, KE5BGG
- Michel Meunier, KI5WLU

Renewing Club Members

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

- Jim Berry, KD5BN
- Jesse Brookover, W5KY
- George Cryar, KI5QYZ
- Brett Hebert, KG5IQU
- Brynn Hebert, KG5KRV
- Logan Hebert, KG5LLM
- Synomen Hebert, KG5IRS

FCC Application Fee Update

PROVIDED BY SHEREE HORTON, WM5N

The following excerpt was provided in a letter from the ARRL VEC on July 11, 2022 concerning the FCC's changes to application fees and the retirement of the Legacy CORES System.

INFORMATION ABOUT THE FCC APPLICATION FEE AND VEC FILED APPLICATIONS

It's been three months since the FCC application fee was implemented on April 19, 2022. Here's what we know so far...

EXAMINEES MUST PAY WITHIN 10 DAYS

Examinees do NOT have to wait for the email from the FCC to pay the fee. As soon as the application file number is issued by the FCC, they can pay by logging into the CORES [Payer FRN System](#) (easier to use but only temporarily available) or the CORES FRN Registration system ([CORES - Login](#)).

Other systems that are useful in the process are listed below:

- Application File Number search using an FRN: [FCC Application File Number Search](#)
- CORES payment system background information and instructions: [Information](#)
- CORES step-by-step payment instructions: [FCC Application Fee Instructions](#)

Issues with Mobile Devices (Smartphones/Tablets)

The FCC help center acknowledges a known issue with individuals paying the \$35 application fee via a smartphone or tablet. This is not a new issue, and they haven't been able to help troubleshoot the issue at the support center. As such, the FCC continues to strongly recommend that candidates should login and pay the FCC application fee from a computer.

Do Not Amend

Examinees should NOT amend any applications that a VEC submits on their behalf, especially NEW license applications. Amending VEC filed applications will cause the application to be dismissed without action in the FCC system and potentially require the applicant to pay another \$35 fee. If there is a minor mistake on the application, either call the ARRL VEC and they can correct and resubmit the application, or the individual can pay the fee, be issued the call sign, and then log back in and make corrections.

Review Applications Before Payment

Individuals should review their application BEFORE paying the fee. If there is a major error on the application, such as the licensee's name or license class earned is incorrect, or the answer to the felony question is wrong, DO NOT PAY the fee. Call the ARRL VEC immediately.

The ARRL VEC Is Here to Help

When in doubt, call the VEC! Even if you think you shouldn't bother us with your question, call us anyway.

FCC Legacy CORES System to be Retired

Important information about registering in the new CORES system and creating an FCC Username account can be found at the following link: <https://www.arrl.org/news/fcc-legacy-cores-system-to-be-retired>

ARRL VEC Contact Information

ARRL VEC
225 Main Street
Newington CT 06111 USA

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>

Other

Amateur Radio License Practice Tests - <https://hamexam.org/>



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

VE Test Session – August 27, 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

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

Aug 03 - Cleburne Cafeteria
Aug 10 - Southwell's Hamburger Grill
Aug 17 - Silver Palace Chinese Buffet
Aug 24 – TBD
Aug 31 - TBD

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

<p>January 2023 1: Straight Key Night 7: Kids Day 7-8: RTTY Roundup 21-23: January VHF TBD: Winter Field Day</p>	<p>February 2023 13-17: School Club Roundup 18-19: International DX – CW</p>	<p>March 2023 4-5: International DX– Phone</p>
<p>April 2023 16: Rookie Roundup – Phone</p>	<p>May 2023</p>	<p>June 2023 3-4: International Digital Contest 10-12: June VHF 17: Kids Day 24-25: Field Day</p>
<p>July 2023 8-9: IARU HF World Champ</p>	<p>August 2022 6-7: 222 MHz and Up Distance 20-21: 10 GHz & Up – Round 1 21: Rookie Roundup – RTTY</p>	<p>September 2022 10-12: September VHF 17-18: 10 GHz & Up - Round 2 17-18: EME - 2.3 GHz & Up #1</p>
<p>October 2022 15-16: EME - 2.3 GHz & Up #2 17-21: School Club Roundup</p>	<p>November 2022 5-7: Nov. Sweepstakes – CW 12-13: EME-50 to 1296 MHz #3 19-21: Nov. Sweeps. – Phone</p>	<p>December 2022 2-4: 160 Meter 10-11: 10 Meter 18: Rookie Roundup–CW</p>

Hamfests and Conventions

August 20-21, 2022 – [Hunstville Hamfest](#), Hunstville, Alabama

August 26-28, 2022 – [Northeast HamXposition](#), Marlborough, Massachusetts

September 23-24, 2022 – [HRO Superfest](#), Milwaukee, Wisconsin

September 24, 2022 – [Red River Radio Amateur Hamfest](#), West Fargo, North Dakota

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, 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

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>

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>