

February 2020

Northwest Amateur Radio Society

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Lunch Break - North

Feb 19 Gianna's
Feb 26 Spring Creek BBQ
Mar 04 Mi Rancho Grill & Bar
Mar 11 Panera Bread
Mar 18 Jason's Deli
Mar 25 Adriatic Café
Apr 01 Woodlands Sweet Tomatoes

Saturday Breakfast:

Saturdays at 7 am
Denny's 6504 FM 2920 @ TC Jester
(west of Kuykendahl)

Lunch Break - Medical Center

Feb 19 Niko Niko's (BW-8 & I-10W)
Feb 26 Silver Palace Chinese Buffet
Mar 04 Pappas Barbecue
Mar 11 Antonio's Mexican Grill
Mar 18 Jason's Deli
Mar 25 Buffalo Grille
Apr 01 Vieng Thai Restaurant

Monday Lunch (was Taildraggers lunch):

Mondays at 11 am; Goodson's in Tomball

Next Gathering: Friday, February 21st

“Everything you wanted to know about DMR but were afraid to ask”

- February 21st, 2020 at 7:30PM
- Klein Fire Department Administration, 16810 Squyres Rd., Klein, TX 77379.

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. Please send all submissions to the newsletter editor before the end of the month prior to publication.

Meeting Location

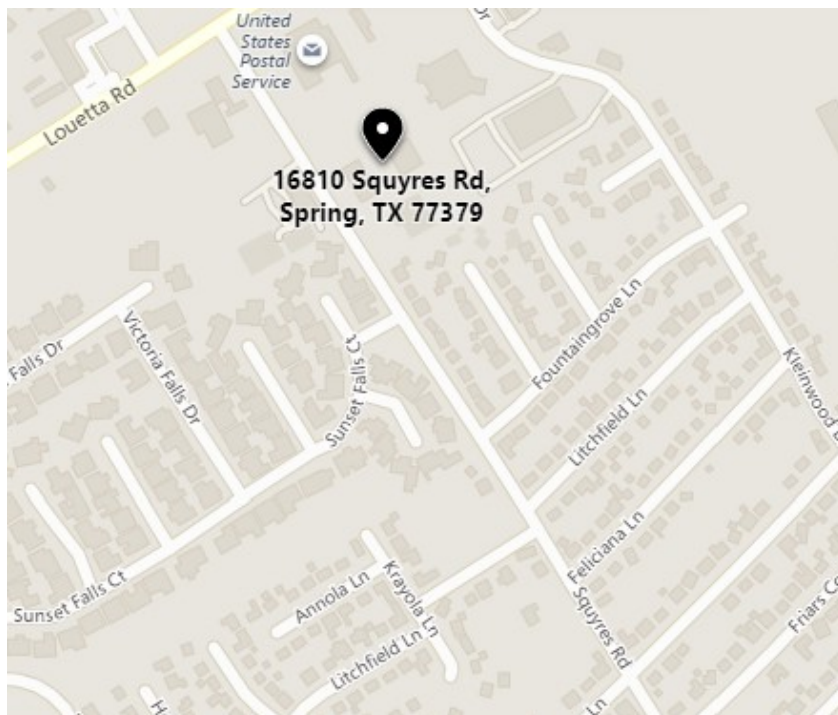
We will meet at Klein Fire Department Administration, 16810 Squyres Rd., Klein, TX 77379. It is located behind Klein Fire Station 4.



Picture from <http://kleinfiredept.com/services/stations/headquarters>

The Board wishes to thank the Klein Fire Department for the generous offer allowing NARS use of their facility.

LOCATION MAP — 16810 Squyres Rd.



February 2020 message from NARS President

Our February 21st program will be presented by Jason Johnson (KC5HWB) and subject: Addressing “everything you wanted to know about DMR but were afraid to ask”. Here is your opportunity to get up to date information on DMR. New Radio’s, Hotspot’s, OpenSpot3 (cross functionality) network expansion etc. DMR technology is changing so fast and becoming a much more stable platform along with new hardware enabling cross functionality you should consider attending this presentation. So, check it out!

At our annual NARS Awards Banquet held on January 17th we had a larger attendance than the year before which required us to provide additional seating. This was accommodated easily by the Restaurant and reflects the enthusiasm of the NARS membership and continued growth. Let’s keep moving towards a larger turnout each year and maybe next year we can occupy two full rooms! A good time was had by all. We installed our new Officers for the new year. (see Officers listing later in this newsletter) A special Highlight of this event is Our “Ham of the Year” Award which last year went to Keith Dutson NM5G, so it was fitting for him to present the award to this year’s Ham of the Year “Walter Holmes” K5WH. He was presented with a certificate award and beautiful **Plaque**. This Ham seems to be available 24/7 and is always eager to help those who need technical assistance. I wonder when he gets any sleep? Anyone else up to the challenge? There are many volunteers which contribute a lot to club activities during the year so, the award selection process can be challenging. That’s why we ask the membership to vote by secret ballot and the only one who knows the winner is the presenter.

The next monthly VE Test session will be held at 8:15AM Saturday, February 22nd at Tomball Regional Hospital - Main Entrance - The Founders Room – See W5NC web site for directions or ARRL web site.

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.

NARS is considering having some Technician training classes during the year so if this is of interest to you please let any of the officers know of your interest.

Some upcoming events:

HamFests = Orange, Texas February 21, 2020 and the Houston HamFest March 6th and 7th 2020.

Continued on Page 4

President's Corner—Continued from Page 3

The following is something I came across in the ARRL publication and thought if you had any interest in the Titanic story you might want to read the following article:

[Undersea Expedition Planned to Retrieve *Titanic's* Radio Gear](#)

The company with sole rights to salvage artifacts from the RMS *Titanic* has gone to court to gain permission to carry out a "surgical removal and retrieval" of the Marconi radio equipment on the ship, a *Washington Post* article reports. The *Titanic* sank in 1912 on its maiden voyage after striking an iceberg in the North Atlantic. As the radio room filled with water, radio operator Jack Phillips transmitted, "Come at once. We have struck a berg. It's a CQD, old man," and other frantic messages for help, using the spark transmitter on board. CQD was ultimately replaced with SOS -- which Phillips also used -- as the universal distress call. The passenger liner RMS *Carpathia* responded and rescued 705 of the passengers.



As might be expected, the deteriorating Marconi equipment is in poor shape after more than a century under water. The under-sea retrieval would mark the first time an artifact was collected from within the *Titanic*, which many believe should remain undisturbed as the final resting place of some 1,500 victims of the maritime disaster, including Phillips. The wreck sits on the ocean floor some 2 1/2 miles beneath the surface, remaining undiscovered until 1985.

A just-signed treaty between the UK and the US grants both countries authority to allow or deny access to the wreck and to remove items found outside the vessel. "This momentous agreement with the United States to preserve the wreck means it will be treated with the sensitivity and respect owed to the final resting place of more than 1,500 lives," British Transport and Maritime Minister Nusrat Ghani said in a statement.

A recreation of the *Titanic* radio room. The request to enter the rapidly disintegrating wreck was filed in US District Court in Eastern Virginia by RMS Titanic, Inc. of Atlanta, Georgia, which said that it hopes to restore the *Titanic* radio transmitter to operating condition, if it is allowed to go forward.

The company plans to use a manned submarine to reach the wreck and then deploy a remotely controlled sub that would perforate the hull and retrieve the radio equipment.

Ron Matusek, WA6TQH President, NARS

Opportunities to Serve

FEBRUARY GATHERING

Our February program will be presented by Jason Johnson (KC5HWB) and subject is: Addressing “everything you wanted to know about DMR but were afraid to ask”.

Friday, December 21st at Klein Fire Department Administration, 16810 Squyres Rd., Klein, TX 77379.

JANUARY MEETING RECAP

The January gathering was the annual awards banquet at Back Yard Grill.

DMR Training

If you are interested in obtaining a copy of the Video of each Session please bring a USB stick (estimate 3GB per session) and we can make a copy available to you to download on your USB stick with a NARS donation of \$6.00 per session. You can sign up at the meeting. Many have requested this as a helpful tool to refer back to when programming radio's and other general information related to DMR. This video is NOT planned for wide public publication so take advantage of this opportunity.

VE Session Congratulations

- Malcolm B. Clay - New Technician
- John C. Rice KI5HRK – Upgrade to General
- Jesse B. Kahle KI5HWU - Upgrade to General
- Gerald R. Dilliard WB5MAP - Upgrade to Extra
- Richard A. McQuaide KI5FUJ - Upgrade to Extra

Saturday, January 25th (Tomball
Regional Hospital)

We had 5 candidates taking 5 tests.
Element 2 tests given: 1; passed 1
Element 3 tests given: 2; passed 2; Failed 0
Element 4 tests given: 2; passed 2; Failed 0

Thanks to the VE's in attendance:
Martin Rogoff N5GPS; Stephen G. Protz
KA5AUD; Cindy Grant KM4YGG; Robert Ewers
K7HOU; Keith Dutson NM5G; Sam Labarbera
N6HB; Marvin J. Wilken KT4W; Dan Carroll
KD5DAN; Mark Tyler K5GQ.

And to Ron Matusek WA6TQH , NARS ARRL VE Liaison.

Special points of interest:

- Next VE Session: February 22nd, 2020; 8:15
at Tomball Regional Hospital - Main Entrance
- The Founders Room.

NARS WEBSITE: W5NC.NET
E-Mail Reflector: mailman.qth.net.

NARS now has a new address!

Please update your address list!

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



Houston Transtar Building

Conference Center West Entrance

6922 Katy Road

Houston, TX 77024

V.E. Exams every 4th Saturday of the month at 9:30 a.m.

Contact: Mark Landress, WB5ANN@arrl.net for further info.

Welcome, Congratulations, and Condolences

NARS Info

NARS name tag

Any member can request a badge and should contact Cindy, KM4YGG, & Art, KM4YGH.

Board Meetings

The board meetings will be at 6:00 on the same date and at the same location as the general membership meeting, except for January due to the NARS award banquet.

General Membership Meetings

3rd. Friday each month at 7:30 pm. — EXCEPT January Banquet
Located at Klein Fire Station Administration, 16810 Squyres Rd., Klein, TX 77379. Located behind Klein Fire Station 4.

Weekly 2m Net

Wednesdays at 8 pm.
Monitor Reflector for Current Repeater.
Coordinator: Neal Naumann N5EN.

Weekly DMR Net

Tuesdays at 7 pm.
Monitor Reflector for Current Repeater.
Coordinator: Ron Matusek WA6TQH
ronm1@att.net

NARS Resource List

Digital Modes (Including DMR)

Walter Holmes – K5WH

Marty Fitzgerald – W5MF

Ron Matusek – WA6TQH

NARS Officers & Other Contacts

President & Board Chairman

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Directors (term expires 12/31/2021)

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Sam Labarbera N6HB

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Directors (term expires 12/31/2020)

Richard Nelson KF5WRD
281 257-1279
officers@w5nc.net

Mike Pate K5MAP

281-376-1316
officers@w5nc.net

Texas QSO Party

Co-coordinator: Chuck Sanders NO5W
832 657-4832
no5w.chuck@gmail.com

Administrative & General Info.

Marty Fitzgerald W5MF
281 251-4301
officers@w5nc.net

Web site

URL: <http://www.w5nc.net>
Web Master: Bill Buoy N5BIA
281 370-3510 webmaster@w5nc.net

NARS E-Mail Reflector

NARS@mailman.qth.net
Coordinator: Keith Dutson NM5G
keith1@dutson.net

VE Session (ARRL) Manager

Ronald Matusek – WA6TQH
vec@w5nc.net

Texas QSO Party

Co-coordinator: Keith Dutson NM5G
281 516-1466
keith1@dutson.net

A brief comment about transmission lines and connectors

Richard Nelson, KF5WRD

February 2020

ARRL recently sent me a digital sample copy of their new *On The Air* magazine targeted towards new hams. I think is great that ARRL is targeting new hams and in connection with their On The Air podcasts this might prove useful.

The Jan/Feb issue is a 36-page affair with eight short articles and various columns (some which I recognize from QST). There are articles on the Ionosphere, on Repeaters, and on Buying a Handheld. There are two antenna projects: (1) a basic ground-plane for VHF/UHF and (2) a multiband wire antenna for HF.

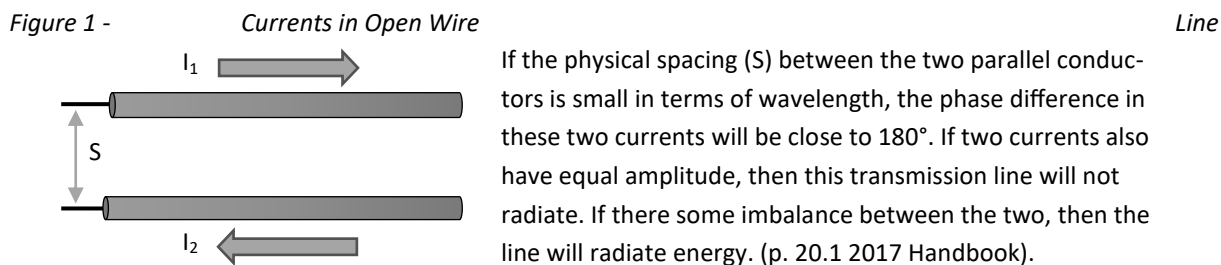
When I read the HF article, "One Wire, Many Bands," it describes building a random-wire dipole fed by 450-ohm ladder line. While the "magazine" software will not let me take a screenshot, the drawing with the article shows the ladder line from the antenna basically floating through an open window (pg. 19) then going to an antenna tuner. This does not strike me as practical solution, but using pool noodle pieces over the window and ledge might work. I'm still not sure about what to do about rain.

I was bemused by the choice of this antenna, as it was an antenna I initially considered but later rejected as impractical. Apart from needing to be high above the ground (in view of the snoopy neighborhood groups), the use of ladder line or window line also concerned me. Anyway this got me thinking about coax vs. window line, which after a long lead-in is the subject of the rest of the article. As a caveat, I have not attempted to use ladder line

What is Ladder Line?

The 2017 ARRL Handbook mentions three types of transmission line: (1) coaxial, (2) open-wire, and (3) waveguide [pg. 20.1] It notes that coax is the most commonly used, primarily due to convenience. The reader is directed to <http://www.arrl.org/feed-lines>


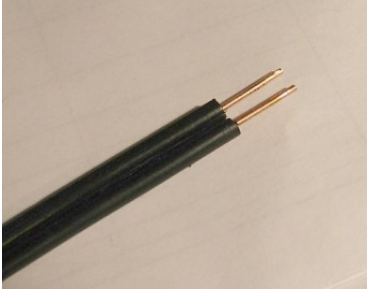

So where's the ladder line or window line? It falls into the open-wire group. Open-wire is really two wires, run in parallel and typically held an equal distance from one another with some sort of insulator.



After Fig. 2.1(I), p. 20.2 2017 ARRL Handbook.

There are three types of open-wire line you are likely to encounter (although some types are getting rarer). I'm using the following naming conventions, but the reader may use something different (please send comments & feedback for inclusion in future newsletter).

- Twin lead: Continuous plastic dielectric between the conductors
- Window Line: Sections of continuous plastic dielectric broken by large openings or windows
- Ladder Line: Regular relatively narrow insulators separating the conductors, often made up of discrete insulators separating either insulated or bare wire

300Ω Twin Lead (ribbon)	75Ω Twin Lead	450Ω Window Line
		



Ladder line consists of parallel wires connected by some sort of insulator which resembles a rope ladder. As far as I know this type of ladder line is primarily home-brewed these days. Some versions of ladder line are much larger, with widely spaced (6 inches plus) plastic or ceramic insulating bars and having a characteristic impedance of 600 ohms or more. [Ref: <http://www.mdarc.org/resources/technical/coax-ladder>]

Ohms	75	300	450	600	<i>So why does this project recommend 450Ω Window Line?</i>
x / 50	3:2	6:1	9:1	12:1	

Multiband antenna systems (e.g., non-resonant wire) will present a wide range of SWR values. One issue is line-loss increases with higher SWR. At HF frequencies, the loss in ladder line is so low, you can still see good results even when the SWR is horrendous. This is why the tuner is necessary—

and also a tuner capable of dealing with a 9:1 transformation between 450Ω window-line and 50Ω equipment.

So if open-wire line is so great, how come all of my equipment have SO-239 coax connectors?

One problem I face with open-wire, is my equipment is not set up to connect to it. Plus there is an output mismatch between the line's characteristic impedance and the 50Ω connector on the back of my radio. This means you have to employ a BALAN (short for BALANCED to UNBALANCED) and will need to have some type of transformer to lower impedance:

I was surprised to learn that coax in various forms dates back to the 19th century, and was used commercially for telegraph/telephone transmissions by the 1930s. Interested readers are referred to *A Short History of Coax* http://www.arrl.org/files/file/Technology/pdf/QST_Aug_2001_p62-64.pdf

The following are what I've been able to discern as the pros and cons of using open-wire vs. coax.

Open-Line	Coax
exceptionally low loss for signals in the HF band of frequencies.	Line-loss. More losses over distance & dielectric heating at high SWR
more fragile than coax	Dielectric and center conductor can limit bend radius. May not tolerate heat well (foam dielectric)
Lighter; can use ordinary wire hardware	Heavier; requires special connectors
Cannot be installed inside conduit or near metal objects; requires standoffs	Can tolerate proximity to metal
experiences a significant attenuation increase when wet	Weather tolerant, some rated for direct burial
Requires impedance matching & balun at equipment	Balanced antennas need balun
More susceptible to outside interference	shielded

So which factors win out? How many of you use open-wire? Do you find it difficult to work with? Please consider sharing your informed opinions with club, either in meeting presentation or within our newsletter.

NARS Awards Banquet

This years NARS awards was held on January 17, 2020 at the Back Yard Grill. About 50 people were in attendance. A good time was had by all with great prizes. Several Amateur Radio Books prizes , two \$25 cash prizes, and a 5th of Crown Royal Whiskey as the grand prize.







2019 officers were Ron Matusek, Sheree Horton, Marty Fitzgerald, Cindy Grant, Richard Nelson (certificate in front), Bill Buoy, Martin Rogoff (not pictured), Mike Bowen (not pictured), and Mike Pate (not pictured)



2020 officers are Richard Nelson, Marty Fitzgerald, Tom Hoherd, Ron Matusek, Cindy Grant, Sam Labarbera, Martin Rogoff (not pictured), Mike Pate (not pictured), and Bill Buoy (not pictured)



VEC for 2019



2019 NARS HAM of the year award. Walter Holmes K5WH for service to the community above and beyond. Certificate and a cash award. Congratulations!