



NOARS Log



April 2021

K8KRG

Volume 57, Issue 4

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Prez Sez

Things are looking up. Although we are still in the transition period, Spring has sprung. It was great to see several days of sun and moderate temperatures. With inspiration from listening to the garden reports on the nets from many of you gardeners, I've decided I will attempt to put a garden in this year. I started preparing the soil and getting rid of years' worth of weeds and their well-established roots.

Soon, we will be able to repair or replace our antennas which may have experienced damage during the winter months. Fortunately, all of mine have withstood the high winds we had

recently. I still need to replace my dipole and repair the dual-band j-pole, which was damaged last year. It just is not safe for me to climb up on the roof, so I'll have to find a youthful person to do that for me.

I am preparing for the Fox Hunting season, beginning for us on April 24th. I am hoping many of you will join in even if you don't have ARDF equipment. Some of us have spare antennas, which we will share. I will gladly permit anyone to tag along with me. It is a lot of fun and an excellent excuse to get out and get some exercise and replenish your

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Zoom Membership Meeting, April 19 at 7:00 PM

Choosing a Radio, Deep Dive

Tom, N8FDY will present ways of going about choosing your first HT, first VHF/UHF base station and first HF radio. This presentation will expand on parts of his overview presentation given in February that can be found on YouTube at https://youtu.be/Rm_1dBr23RY.

Zoom Elmer Starts in April

Zoom elmer? What's that, you say? It's the half-hour, from **6:30 – 7:00 PM**, before each NOARS membership meeting, beginning in **April**. It will be a safe place to get help with anything amateur radio-related, whether you are new to the hobby or have been in amateur radio for 30 years.



Nets

NOARS nets are Tuesday nights at 8 pm on 28.370 MHz, and Thursday nights at 8 pm on 146.700 MHz. All licensed amateurs are welcome. Participation is encouraged and appreciated.

Continued from Prez Sez on page 1

vitamin D. After this past year of isolation, it is also a great way to safely socialize. Some bring lunches to enjoy along with the conversation. Please give it some thought. We would love to have you join us.

I hope most of you have been able to get your Covid-19 vaccinations. In Ohio, any person over the age of 16 is

eligible, so please get them so we can all get back to a “normal” life.

Until next month,

73,

Carl W8KRF

Fox Hunts 2021 Season

The first fox hunt of the 2021 season will be **Saturday, April 24 at 11:00 AM** in the **Cottonwood Picnic Area of the Cleveland Metroparks**. Besides the hunt, we will talk about how the hunts work and how often we want

them. For those who want lunch afterwards, this first fox hunt will be a bring-your-own-lunch affair. You do not need fox hunt gear, nor an amateur radio license to join us. All are welcome.

Welcome New and Returning Members

Jeany Hess, KC3QND, joined us in November 2020. She lives in North Ridgeville.

Dennis Blair, KE8OQA, comes to us from Brunswick.

Thomas Tenny, W8OJM, from Ottawa Hills, and

Jeff Dettmer, WB8PIY, from Cleveland recently renewed.

New Morning Net

Join us for The Coffee Club, a casual round-robin net **Monday, Wednesday, and Friday** mornings at 9:00 AM

on **146.700**. All licensed hams are welcome.

Upcoming Social Events April

Virtual NOARS Lunch Tuesday, April 6

Join us on **Zoom at noon** for our Virtual NOARS lunch.

Fox Hunt Saturday, April 24, 11 AM

Cottonwood Picnic Area of the Cleveland Metroparks

NOARS Lunches are Back!!

Thank goodness! Since so many of us will have had two doses of the Covid-19 vaccine by May, we are resuming the in-person lunches on **Tuesday, May 4th at noon**. We will dine at the **Golden Corral, 8696**

Brookpark Road, Cleveland, OH 44129. Please note, this is not the previous Golden Corral we met at in Elyria. We hope you can join us.

Hamvention Weekend Activities

Thank you, Jeany, KC3QND, for submitting this information from Michael D. Kalter, W8CI, Official Spokesperson for Hamvention 2021.

That magical weekend in May is approaching. With no Hamvention this year, due to continuing Coronavirus restrictions, we have been developing several activities to keep Hams busy and engaged in the hobby. We have a two-day prize total of \$15,000.

On Thursday May 20, 2021 the Virtual Contest University will be held starting at 9 AM EDT 1300Z.

The course outline will be available soon. This will be a free event!

Even if you are not a contester you will learn so much about Amateur Radio and hear the techniques and critiques of many of the world's foremost Hams.

Hamvention is a proud sponsor along with Icom and DxEngineering. Plan on attending this amazing free event!

Several Icom radios will be given away during the all-day event. You must be registered on Zoom and present online at the time of the drawing to win the radios.

Please check <http://contestuniversity.com> for updates.

On Friday May 21 Starting at 11 AM EDT 1500Z we will have the 2021 Virtual Hamvention Forums.

The Hamvention Virtual Forums celebrates the 2021 Hamvention Award winners. Each awardee will give a 45-minute presentation followed by Q&A.

The Hamvention Forums will be presented via Zoom Webinar. Registration for the Zoom Webinar will start 30 days before the event – look for the registration information on the [Hamvention Website](#). Several Icom radios will be given away during the 2021 Hamvention Forums. The winners will be selected at random.

The winner must have registered on Zoom for Hamvention Forums and be present during the drawing to win. Drawing times are random throughout the Virtual Forums event. Thanks to Hamvention, Icom and DX

Engineering for their support of the 2021 Hamvention Virtual Forums.

Our presenters are:

Technical Achievement: WX6SWW – Tamitha Mulligan Skov is well known as the “Space Weather Woman”. Folks that have seen her space weather forecasting show will freely admit that she is full of energy and excited about her work. She is a real space pioneer.

Special Achievement: W3WL – Wesley Lamboley was nominated by his peers for his lifetime, high energy support for the science and art of amateur radio. Not only has Wesley supported youth coaching, membership, recruiting, and technical problem assistance, he always does it with a smile and great humor.

Amateur of the Year: WP3R – Angel M. Vazquez is known for being one of the principal support engineers for what was one of the greatest antennas in the world – the National Science Foundation's Arecibo parabolic dish antenna. Angel's award stems from his unswerving and diligent support of amateur radio throughout the entire territory of Puerto Rico and extends worldwide.

Club of the Year: K4HTA -- The Vienna Wireless society was chosen this year for its 58 years of service to the amateur radio community. K4HTA, with its 280 members, focuses on youth education, public service and promoting the overall growth of radio through the DC area and around the world.

On Saturday May 22, Participate in the Hamvention QSO Party 8 AM to 8 PM EDST (1200 May 22 to 0000 May 23 UTC).

W8BI, the club call of the Dayton Amateur Radio Association, will be a bonus station scored at 10 points per band and mode.

Bands: 10M, 15M, 20M, 40M, 80M. Typical call will be: CQ CQ HVQP (Hamvention QSO Party) W8XX (Your call)

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Continued from Hamvention on page 3

Typical exchange will be signal report and first year you attended Hamvention, eg on CW: KB8XXX 599 1998 W4XX

If you have never attended Hamvention, please send 2021

in place of the year.

Send your score (number of QSOs including bonus points) to 3830scores.com within 5 days of the event.

You will be able to print a certificate after the contest.

USTAW Net Control Stations Needed

The United States Awards Net is looking for volunteers to become Net Control Stations. Netlogger NCS experience is a plus; Netlogger user experience is easily trained to NCS. Our openings are for 40m weekdays at 3PM, and

Thursday/Friday at 8PM on 80m. QRZ subscription required. Go to <http://www.USTAW.net>, or email KD2HCE@ustaw.net for more information.

Did You Know?

Each month QST Magazine has a whole page on code qualifying runs for the month. Included are directions, a schedule of runs, and lists of those who qualified

previously for 10, 15,20, 25, 30, 35, and 45 wpm.

Thanks to Tom, W8KYZ for sending.

Swap and Shop Net

Submitted by Tom, W8KYZ

Several months ago the **Tuesday 7:30 pm** weekly “Swap and Shop” net changed frequencies. It is now using the

W8DES repeater in Chardon, Ohio on **146.94, -600** and no tone needs to be used. Interesting to listen to just before you check into the NOARS 10 Meter Net on 28.370 at 8:00 pm.

Fire Department Communication Upgrades

Submitted by Tom, W8KYZ

Lorain County Fire Departments plan to improve radio communications for firefighters in 2021. A proposed “five-city radio” system will allow fire departments in Avon, Avon Lake, North Ridgeville, Sheffield and Sheffield Lake to switch over to digital 700 MHz communications. All five departments currently use analog systems except North Ridgeville, which uses VHF equipment rather than UHF.

VHF can span long distances but when there are items in the way, like trees or buildings, it tends to block the VHF signal, according to the fire chiefs. UHF signals

overcome this problem. The limitations have been seen in actual operations when one department was inside a power plant and could not communicate properly with a command vehicle outside the building.

The five departments automatically provide mutual aid to each other because of their close locations and staffing levels, especially for structure fires.

To make the 700 MHz system function, a proposal would install repeaters on a water tower in Avon Lake. A computer core would be installed in the Avon Lake Police Department.

The Electro Turbo Encabulator Releases April 1st

Keysight Labs developed The Electro Turbo Encabulator. See announcement and review video on YouTube at

<https://youtu.be/fitOyddlnOE>. Once a Chinese knockoff is out we can all afford one of these.

April Birthdays

Dan Stauffer, K8KGX

Bryan Waltz, W8JMI

Tom Miller, W1PDI

Ralph Wright, KD8REW

Zachery Molseed, KE8MVR

David Semanik, K8WRS

If your birthday doesn't appear here it's a good chance that it's not in our database. Please contact Carl, W8KRF so we can wish you a Happy Birthday!



March 15, 2021 Meeting Attendance

Dan, W8AJF

Tom, KE8BTR

Al, N8CX

Tom, N8FDY

Elaine, KC8FOS

Chris, KD2HCE

Roger, AB8IF

Bob, WA8JBT

Chet, K8KIZ

Carl, W8KRF

Tom, W8KYZ

Bob, W8NNC

Pete, KE8NQK

Jim, KD8OCW

Dennis, KE8OQA

Bryan, N8OOF

Dave, KY8OSU

Dale, KE8QGQ

Jeany, KC3QND

Corrie, KE8QWA

Tom, K1TRB

Bill, K2WJS

Bill, N8WS

Ann, KA8ZEP

David, KB6ZNS

Jeff, KB8ZUN

Greg Isenberg

Heard on the Nets in March

Jeff, K8ACF

Dan, K8AGW

Fred, N8AHS

Dan, WA8AJF

Rich, KD8AJZ

Tom, N8FDY

Elaine, KC8FOS

Jody, KE8GKO

Chris, KD2HCE

Roger, AB8IF

Bryan, W8JMI

Carl, W8KRF

Tom, W8KYZ

John, W8LYO

Pete, KE8NQK

Jim, KD8OCW

Ron, N8OD

Bryan, N8OOF

Bob, W8OOT

Dennis, KE8OQA

Dave, KY8OSU

Dan, KE8OWK

Dave, WV8P

Alan, KF8PM

James, KE8PXU

Clark, N8PZD

Fred, KE8QFT

Dale, KE8QGQ

Jeany, KC3QND

Bill, K2WJS

Tom, W8WLI

Bill, N8WS

George, WA8YVF

Ann, KA8ZEP

Jeff, KB8ZUN

April, 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 2M Net 8 PM NCS Dave, KY8OSU	2	3
4	5	6 Zoom Lunch at Noon 10M Net 8 PM - NCS Dave, KY8OSU	7 Food Group 7PM 2M NCS Elaine, KC8FOS	8 2M Net 8 PM NCS Tom, W8KYZ	9	10
11	12	13 10M Net 8 PM - NCS Tom, W8KYZ	14 Food Group 7PM 2M NCS Dave, KY8OSU	15 2M Net 8 PM NCS Carl, W8KRF	16	17
18	19 NOARS Zoom On Line Meeting 7 PM	20 10M Net 8 PM - NCS George, WA8YVF	21 Food Group 7PM 2M NCS Elaine, KC8FOS	22 2M Net 8 PM NCS Elaine, KC8FOS	23	24 Fox Hunt Cottonwood Picnic Area 11 AM
25	26	27 10M Net 8 PM - NCS Dan, W8AJF	28 Food Group 7PM 2M NCS Dave, KY8OSU	29 2M Net 8 PM NCS Carl, W8KRF	30	

Newsletter Submissions

Email submissions for the Log to noarslog@noars.net.
The deadline is five days before the first of the month.

That gives us time to create and get the Log uploaded to
the Website.

Using a NanoVNA to Characterize an Antenna System

By Roger, AB8IF

There is a new tool that belongs on every ham's workbench. It's called a nanoVNA... i.e. a handheld vector network analyzer. While an oscilloscope measures voltages and currents with respect to time, a VNA characterizes components and systems as a function of frequency. The nanoVNA has two test ports.

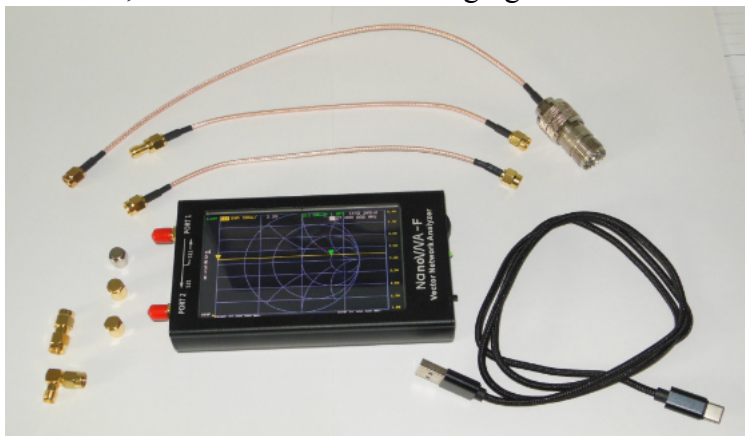
Applications such as component and antenna testing use port 1. Devices under test that have both inputs and outputs (e.g. amplifiers and filters) use ports 1 and 2.

The original benchtop VNAs of forty years ago cost tens of thousands of dollars. Extreme miniaturization of VNA circuitry now makes it possible to manufacture a compact, fully functional VNA that sells for \$50. Despite its design complexity, the nanoVNA uses standard "off the shelf" components. This encourages production of cost competitive me-too products by other manufacturers. Unfortunately there are some knockoffs of questionable performance. For this reason you need to buy from a reputable distributor (with return privileges) and pay close attention to product reviews posted by users.

Antenna measurements are important to the radio amateur. Many analog and digital meters are available that are dedicated to this task. They sell for over \$300. Antenna measurement is just one of many tasks suited to the nanoVNA. This alone is justification for its purchase.

The \$50 product is a bare-bones stack of PC boards with a 2.4" LCD on top. For an extra \$30 you can purchase a larger product with a 4.3" LCD. It includes a bigger battery, a rugged metal enclosure, and robust attachment of its SMA connectors.

Here is the Model F nanoVNA that I bought. It includes an assortment of test connectors and cables, calibration standards, and a USB cable for charging.



Despite its small size, the nanoVNA is loaded with "bells and whistles". Between the supplied accessories, the multiple readouts, and its 4-level touch-screen setup menu, a nanoVNA can be quite intimidating at first. Fortunately there are many nanoVNA tutorials on YouTube. Watch a few of the introductory clips, print out a hard-copy of the menu, and you will be eager to proceed.

My immediate use for the nanoVNA was to characterize my full-wave, 30-meter loop antenna system. Using a MFJ-969 antenna "tuner", this antenna loads up OK on 30, 15, and 10 meters. But I wanted to know more. Would the nanoVNA confirm the tuner settings using my QRPP Lissajous bi-directional power indicator? Also, could I tune up an antenna without using a transmitter? A transmitter and dummy load gets you close, but the final tweak requires the actual antenna, raising potential QRM issues.

NanoVNA setup for antenna measurement proceeds as follows:

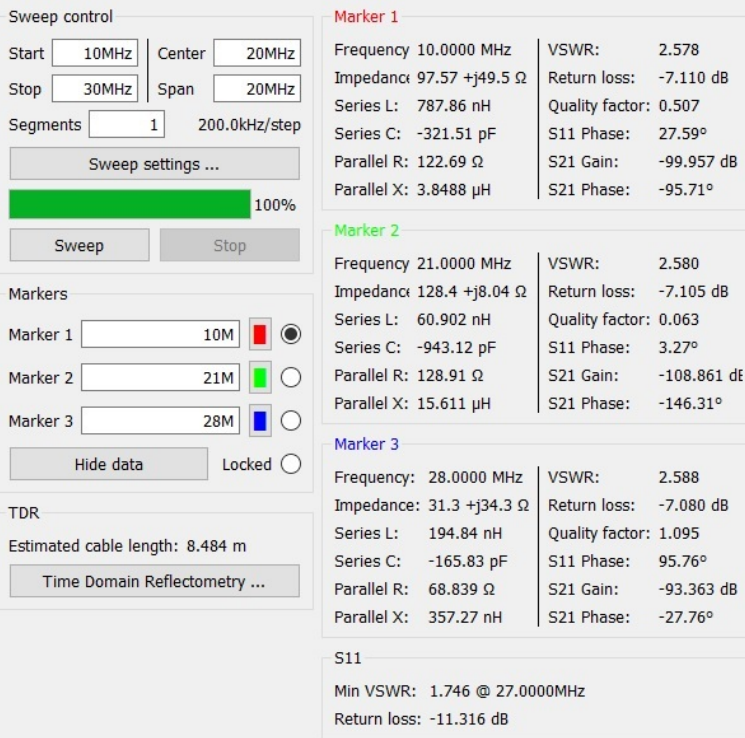
1. Select the desired display traces (e.g. SWR vs. frequency, and a Smith chart).
2. Set the frequency sweep range.
3. Calibrate Port 1 using the "open, short, and 50Ω" standards.
4. Connect the "device under test" to Port 1.
5. Move the markers to read specific points on the traces.

With nanoVNA Saver installed on your computer, you can download data and graphics via the USB charging cable. The figures that follow were downloaded by nanoVNA Saver.

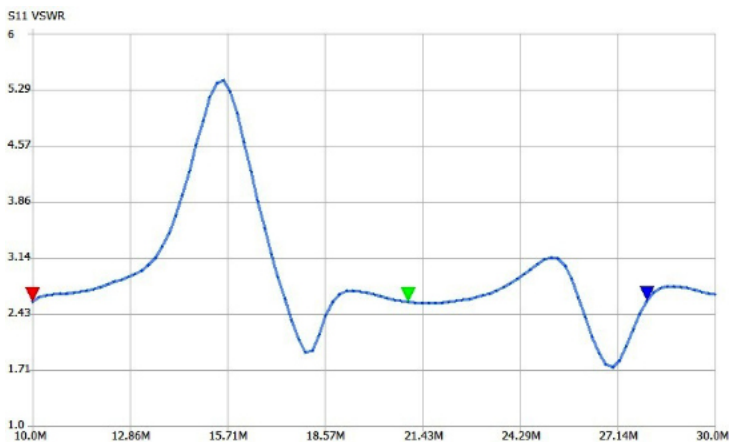
My first task was to observe my antenna as seen by a transmitter. Using a 10 to 30 MHz sweep, the nanoVNA was connected to the transmitter input of the MFJ-969. The MFJ-969 was set to "untuned". Here is a downloaded table showing impedances and equivalent circuits as measured at the pre-selected marker frequencies:

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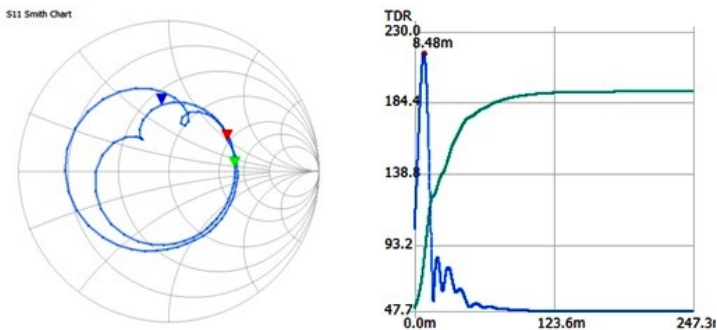
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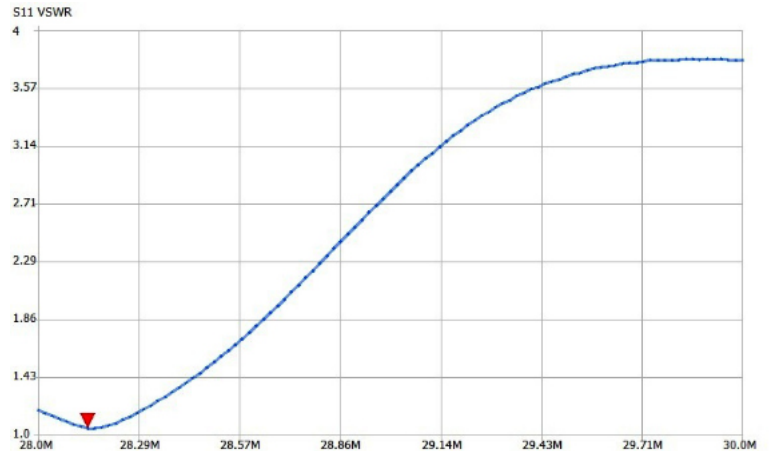
As expected, the SWR figures are barely acceptable, even at in-band frequencies.



This is confirmed by the Smith chart where the markers do not approach the ideal (50 + j0) Ω center. It is interesting to note that the nanoVNA confirms the 28 foot length of the RG58 transmission line:



Next the MFJ-969 antenna tuner (or more correctly, the antenna match) is put to work. The following measurements zoom in on the 10-meter band. A single marker is placed near the 10m WSPR frequency. Both the data and the graphics downloaded from the nanoVNA confirm an excellent SWR (less than 1.1).



The tuner settings and SWR reading were no different from those obtained during a normal power-on tune-up. This validates the tuning procedure for the QRPp SWR bridge, and confirms that a transmitter is not required antenna tuning.

Users who still want to know the driving point impedance of the radiating antenna must still climb a tower and disconnect the transmission line. At least the nanoVNA travels well! But is this necessary? Knowing the length of the transmission line and the impedance looking into the transmission line, a Smith chart can back-calculate the driving point impedance of an antenna.

But it's time to turn off the fire hose! A discussion on Smith charts is more than enough material for another article in NOARS Log.

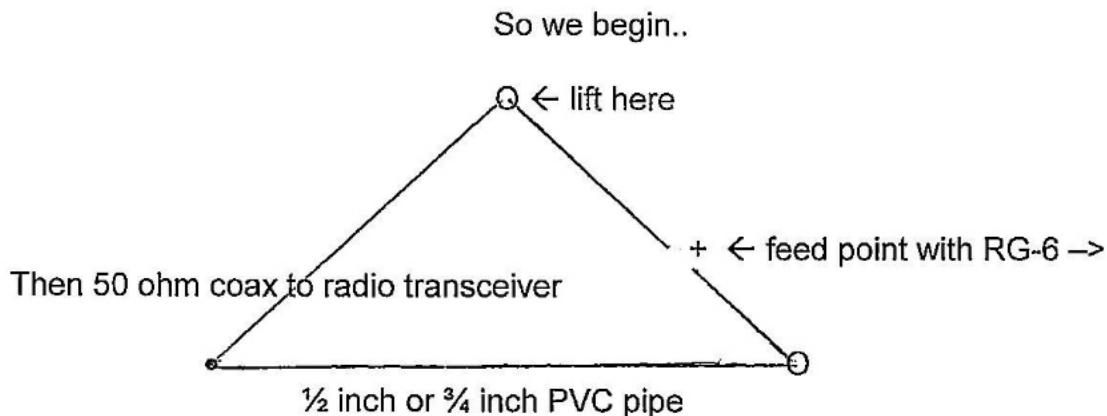


Delta Loop Antenna

Submitted by Clark, N8PZD

For the HF radio with 50 Mhz users this antenna will help you get onto 50 and 28 Mhz bands, this triangle shape is held up $\frac{1}{4}$ wave above ground under a tree branch with a light rope tied off at the trunk or nearby fence post. I suggest using a wrap of colored tape to identify each corner, this really helps if you alternate one with another for a contest or any desired band change.

To start you need the -F- adaptor to -PL259- (read e-bay or amazon) to take the antenna cable into the ham station, the $\frac{1}{3}$ wave length pipe is from a home store, $\frac{1}{4}$ wave 75 ohm of cable tv cable saving the -F- connector end and 2 crimp connectors to join the ends together.



Using colored tape mark a $\frac{1}{4}$ wave from the end and fold gently - that will be the lifting corner, connecting thru the corner dots with a wave length of AWG 16 wire going thru the pipe then insert one antenna end and RG-6 end into a crimp connector, now the other ends get joined to complete the triangle and you can lift partway to stabilize the lower segment and mark the corners with a band of colored tape to make the next lift quicker.

The $\frac{1}{4}$ wave of RG-6 is a linear transformer to convert the 100 ohm antenna feed point to 50 ohms that keeps your signal out in the airwaves and away from the station.

Here are the measurements.

For the 50 Mhz band – 19.5 ft. antenna, RG-6 4.7 ft, PVC pipe 6.5 ft.

For 28.5 Mhz band – 33.2 ft. antenna, RG-6 8.2 ft., PVC pipe 11 ft. (10 ft works)

For 21.2 Mhz band – 44.2 ft. antenna, RG-6 14.7 ft., PVC pipe 14.7 ft.

There is not much in the books about the delta loop so this will help you get a full wave of signal in the air easily, a dipole style is a half wave, you can build them less expensive than you buy them. Enjoy de N8PZD

March 15, 2021 NOARS Meeting Minutes

Submitted by Elaine Wilkinson, KC8FOS

The meeting was called to order at 7:00 PM by club President Carl, W8KRF. Twenty-seven were in attendance. Carl, W8KRF, made a motion to suspend reading minutes of the February 2021 meeting, as they are published in the newsletter. Ann, KA8ZEP, seconded the motion. The motion passed.

Treasurer's Report - Tom, W8KYZ. The current checking account balance was reported and expenses explained. A donation was sent to Second Harvest in memory of Don Norman, AF8B, SK. The Ohio Area Repeater Council cashed the \$15.00 check for registering our three repeaters for 2021. Payment was sent to HostGator, related to the NOARS Website. Chris, KD2HCE, made a motion to accept the Treasurer's Report, seconded by Tom, K1TRB. The motion passed.

Committee Reports

Parliamentarian - Tom, N8FDY. No report. Carl, W8KRF, advised that the updated NOARS Constitution is on the Website.

Club Property - Tom, W1PDI not present. No report

Repeaters - Carl, W8KRF. There was a minor glitch involving the loss of WiresX that Dave, KY8OSU, and Carl were able to work out. Carl also updated the firmware. Carl updated the scheduler so meetings and nets are on the repeaters' announcements. Clark, N8PZD, does not have access to the 145.15 repeater. He will try to get access to it this week. The repeater is in North Royalton on a hill in an apartment complex. Plans are being made to get that repeater on the air.

Website - Carl, W8KRF. Carl is trying to keep it up-to-date. He made this meeting open to the public to try to get a few more people attending.

Membership - Carl, W8KRF. Jeff, WB8PIY renewed his membership. We have eighty-four members.

Field Day - Al, N8CX. We are "penciled in" for June 26 and 27, but it depends on the parks' being open that day. Parks are opening up and the governor has said he wants everything open by July. It's unknown if masks and social distancing will be required. Al asked Tom, W8KYZ, to maintain contact with the park. As more information comes out, Al will update his Field Day bulletin. Discussion

ensued about being charged, especially a few years ago when the club was billed \$100 for clean-up. Later in the meeting we learned the fee was waived and we didn't have to pay.

Social Committee - Elaine, KC8FOS. The Social Committee will meet soon to discuss fox hunts and in-person NOARS lunches, perhaps at Golden Corral on Brook Park Rd., or in Elyria.

Programs - Elaine, KC8FOS. Tonight Bryan, N8OOF, will tell us about fox hunts. In April the program will be about choosing a radio in more depth than the February meeting. May will be a more in-depth look at antennas.

Hamfests - Tom, W8KYZ. We are set with Lorain County Community College for the third Saturday in July. If they don't lift the current restrictions, we will need to have someone take temperatures and people will have to stay six feet apart. Carl expressed the hope that by July those measures will not be necessary. If those procedures are necessary, we could do them inside and also have an outside flea market. Winter Hamfest March 2022. Tom, W8KYZ, advised that we've always had it the first Sunday in March. However, in March 2022 the first Sunday was assigned to another group. The Winter Hamfest will be the second week, March 13, 2022.

Sunshine - Tom, W8KYZ. Bob, W8RET, is glad to be home and listening to the nets from his easy chair. Steve, W8ANJ, is in assisted living. He's doing well and is active, though so far he has been unable to get a radio.

Nets - Elaine, KC8FOS. The nets are going well. The first of the new net at 9 AM Monday, Wednesday, and Friday on 146.70, was this morning. Five or six were aboard. Tom, W8KYZ, advised it's a very informal net. A suggestion was received to have a digital net. Jeany, KC3QND, told us about the Doylestown repeater, which she described as "crazy busy."

Newsletter - Tom, N8FDY. March 27 is the deadline for submissions. We have lots of room for ads. If you send us an article, we will put it in.

Added Comments - Elaine, KC8FOS. The half-hour before each meeting will be a safe time for hams, new and old alike, to ask questions. Dave advised that the

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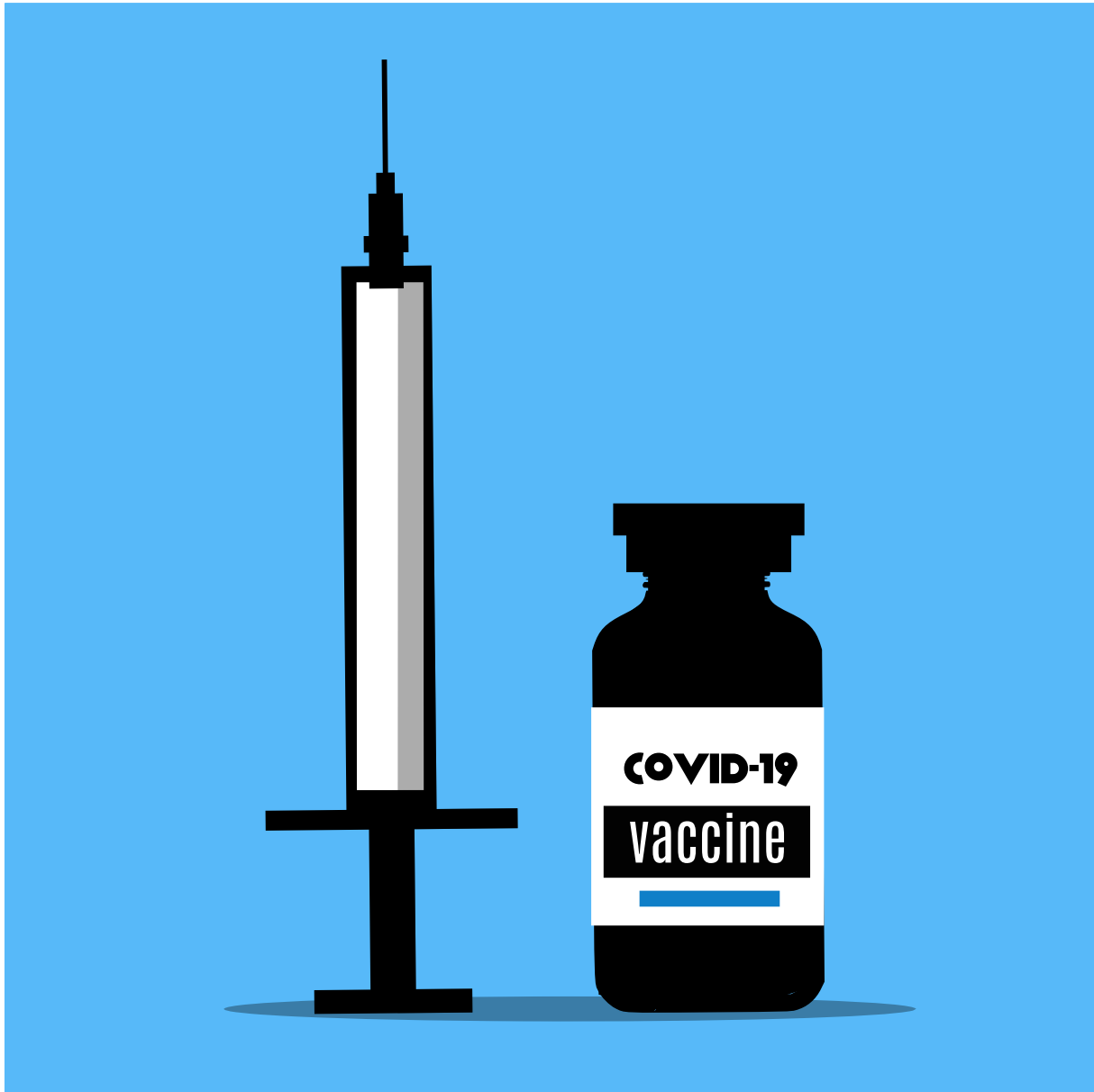
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2meter net on Thursdays is also a good place to ask questions.

A motion was made to adjourn the meeting by Ann,

KA8ZEP, seconded by Jim, KD8OCW. The motion passed. The meeting was adjourned at 7:27 PM.

Following the meeting, a program entitled Fox Hunts – Why and How, was presented by Bryan, N8OOF.



We're Here for Your Ham Radio Needs

The Showroom is Temporarily Closed to Walk-in Customers, But You Can Still Place Your Orders & Pick Them Up at the Curb.

- Available from 9 am – 8 pm, Monday-Saturday and 9 am – 7 pm, Sunday.
- Place your order at DXEngineering.com or by calling 1-800-777-0703. All orders must be prepaid.
- Pull into a designated curbside pickup space in front of the Summit Racing Retail Store. You will need valid ID, your order number, and the physical credit card you used or Pay Pal receipt.
- Only the person who purchased the item may pick up the order.

Please note that the Summit Racing portion of the store is open. If you know your DX Engineering part number, you can place your order directly in the store and pick it up there.

We look forward to seeing you!

DXEngineering@DXEngineering.com

The DX Engineering Retail Showroom
1200 Southeast Ave., Tallmadge, Ohio



DX ENGINEERING®

For Sale by Tom, W8KYZ

Bose Companion 2 Multimedia Speaker System for your computer. Manual, AC power source. \$45.00.

Uniden Bearcat 9000XLT scanner. 500 channel continuous band scanner. 25MHz to 3 GHz. Manual, AC power source, telescopic antenna and manual. \$45.00.

MFJ-4432 digital car voltmeter. New. 8-30 volts. Fits in cigarette lighter plug. Red LED readout. \$5.00.

Heathkit HM2140A HF dual watt meter. 1.8-30 MHz. Manual. \$25.00

Alinco DJ-580T HT for 2M/440cm. Manual, soft case, mobile power cable/charger, remote speaker/mic. Ni-Cad battery charger. Needs battery. \$25.00.

Weller 8200 dual power soldering gun. 100/140 watts. Excellent condition. \$10.00.

Contact Tom, W8KYZ. 440-320-5523 or tporter161@oh.rr.com.

Receivers for sale by Tom Berger, K1TRB

Two receivers from the estate of Bill, AC8FD.

Collins R391 receiver: The R390 is the best vacuum tube receiver ever made. The R391 adds motorized autotune (not tested). The receiver hears a weak generator signal on 80m and 40m. The internal 1MHz calibrator can be heard at all MHz frequencies. No further testing was done. A separate steel box contains two complete documentation sets, replacement vacuum tubes, and various cords for the receiver. The special power cord is included. This receiver is ready to put into service.

On March 10 one of these sold for \$2025 on eBay.

Asking \$1200.



Drake R8 Receiver: Official SWL Channel puts this in the top 10 receivers he wants to own. It includes the matching speaker. This all solid state radio is easy to use and full of features. It competes easily with more modern receivers. The receiver hears a weak generator signal on 80m and 40m. Other random frequencies were checked over the range and they all worked. No further testing was done. The receiver is ready to put into service.

On eBay recent sales (without the speaker) have gone for \$450 or more.

Asking \$400.

Contact Tom Berger, K1TRB at trberger@colby.edu. If NOARS meets again together, I can bring a receiver to the meeting (or better yet, especially for the R391 you can pick the receiver up at Kendal at Oberlin).

CW OP Lapel Pins for Sale Created by Chet, K8KIZ

They have been sent to multiple states, Denmark, United Kingdom, Germany, Australia

CW OP Pins are \$5.75 each. US S/H is \$5.06 - International S/H* is \$15.50

(*The US Postal Service ships to most countries around the world.)

NOTE: This pricing includes shipping charges for up to 10 pins per envelope.

For Example:

- 1 pin + US 1st Class S/H \$10.81
- 2 pins + US 1st Class S/H \$16.56
- 3 pins + US 1st Class S/H \$22.31
- 1 pin + International S/H \$21.25

2 pins + International S/H \$27.00

3 pins + International S/H \$32.75

NOTE: This pricing includes shipping for up to 10 pins per envelope.



Envelopes are 5"x7" tan heavy paper with inside bubble padding. Please send your order and full correct address with ZIP code to:

CWpins05@gmail.com

Send your appropriate payment to: www.paypal.me/ANCRSundials

Please advise me if you are using a

different name with your payment (Example: a company name) so I can credit your email order.

Thank you! 73, Chet K8KIZ



Chet Roberts

22h

How would you like a CW OP label for a coffee mug, car window, or whatever? Get 3 of these 3" durable, waterproof and dishwasher safe labels by sending \$5 WITH a self-addressed AND self-stamped envelope to: Chet Roberts K8KIZ, 173 Fredericksburg Drive, Avon Lake, OH 44012. 73!



This Spot Reserved for Your Free Ad to Sell Your Stuff



Ad Submission Guidelines

Electronic ads may be emailed to noarslog@noars.net.
Printed ads may be sent to NOARS Log, 161 Herrmann Drive, Avon Lake, OH. 44012. The deadline for submissions is seven days before the first day of each month. All must include: asking price, sellers name, call sign and phone number. Only ads from current NOARS

members, or paid advertisers will be accepted. If your items sell, please notify the Log editors at noarslog@noars.net so the ad can be removed. All ads will be removed (unless updated) after four months. NOARS reserves the right to refuse any ads.

NOARS Information

Members of the Board of Directors

President: Carl, W8KRF

Vice President: Dave, KY8OSU

Secretary: Elaine, KC8FOS

Treasurer: Tom, W8KYZ

Others: Bob, W8NNC, Tim, NC8X; Tom, N8FDY

Others

Net Manager: Elaine, KC8FOS

Club Trustee for K8KRG: Al, N8CX

NOARS Log Editors: Tom, N8FDY; Elaine, KC8FOS

Volunteer Examiners: Tom, W8KYZ; Joe, W8GWD;
John, KC8KI; Dave, K8WRS; Sallie, AB8GI

Committees

Parliamentary Committee: Tom, N8FDY

Repeaters: Carl, W8KRF; Tim, NC8X

Field Day: Al, N8CX

Hamfest:

Sunshine: Tom, W8KYZ (temp)

Membership: Carl, W8KRF

Club Property Committee: Tom, W1PDI

Program Committee: Elaine, KC8FOS; Joe, 8DYZ;
Bob, W8NNC; Dave, KY8OSU

Social Committee: Elaine, KC8FOS; Dave, KY8OSU;
Ann, KA8ZEP

Public Relations Committee: Dave, KY8OSU;
Elaine, KC8FOS

Membership

Membership is open to anyone interested in radio communication. Dues are: Full \$15, Associate (non-licensed) \$7, Family members of a full member are \$4 each. Membership forms are available at www.noars.net. Make checks payable to NOARS and mail them to: NOARS Membership Committee, 161 Herrmann Drive, Avon Lake, OH 44012.



Meetings

During the Covid-19 pandemic, in-person meetings have been cancelled. They will resume as soon as it is safe to once again meet in large groups.

Nets

NOARS nets are Tuesday nights at 8 pm on 28.370 MHz, Wednesday nights at 7 pm on 146.700 MHz, and Thursday nights at 8 pm. on 146.700 MHz. All licensed amateurs are welcome.

VE Testing

Due to COVID-19, there will be no VE testing until further notice.

Net Control Stations

Elaine, KC8FOS
Carl, W8KRF
Tom, W8KYZ
Dave, KY8OSU
Dan, W8AJF
George, WA8YVF