



# NOARS Log



April 2019

**K8KRG**

Volume 55, Issue 4

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## Prez Sez

I am still on cloud nine from our very successful Winter Hamfest. I am very grateful to everyone who pitched in and helped. Also, thank you to all who attended. We gained a few new members and some renewals. Our membership count is up to 92.

It is April and the weather man is beginning to get the message. Soon it will be time to do some antenna work to either add to or update our systems or repair the damage done over the very windy winter. Personally, I have to get my OCD back up. I have to get it done before leaves start showing up since I use a sling shot and need an unobstructed pathway over the limb of

the tree I use as support on one end.

With WHF behind us, it is time to get serious about Field Day. I am still tweaking my Digital station and the logging network. I use HRD DM370 for PSK and WSJT/JTAlert for FT8 and they are both interfacing with the N3FJP FD Log program.

I use a phone app called Pocket RxTx Pro (pRxTx+) developed by Dan Toma (YO3GGX) to operate my Kenwood TS-2000 remotely and finally have it connecting and working properly. I have used it to check-in to the 10 M net a few times. I plan to attempt to check-in from

*(Continued on page 2)*

## April Program

What is new at Icom? What may be in the works to help us in our quest for the perfect amateur radio signal? Icom representative Will Jourdain, AA4WJ will be the special guest speaker, via Skype, at our April meeting to answer these and any other questions you may have.

## April Meeting

**Monday, April 15, 2019**

The doors will open at 6:00 PM and the meeting will start at 6:30 PM. Coffee and donuts will be available. North Ridgeville Public Library, 35700 Bainbridge Rd., North Ridgeville, OH. All are welcome to join us.

## 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.

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Dublin, Ireland while I am over there. It will be 12 midnight there and I am sure I will be up and about at that time. Pubs are open. Hi. Hi.

Finally, I would like to find someone to assume the Membership responsibilities and put together a Membership Committee that would spend more time attracting new members. In particular, we need to get younger people involved in ham radio. I have been researching local Maker/Hacker groups and I really think we could attract those individuals to the hobby by

emphasizing the builder aspects of the amateur radio service. We are the only FCC licensed service that permits licensees to build, modify, and operate RF transmitting equipment. Since John, N8RVE mentioned 3D Printing on the net last week, I have become interested in learning more about it. I can visualize that blending nicely with our interests. If you have any interest in helping out in the membership area, please contact me.

73,

Carl W8KRF

## Don't Forget the Food Group!

The Food Group is an informal net which meets every Wednesday at 7PM on 146.700. Elaine, KC8FOS and

Dave, KY8OSU are co – leaders. Food is part of what we talk about, but not the only thing. Join us!



## Upcoming Ohio Section Hamfests

### Cuyahoga Falls Amateur Radio Club Annual Hamfest, Electronics, and Computer Show 4/13/2019

Location: Emidio and Sons Party Center

48 E. Bath Road,

Cuyahoga Falls, OH 44223

Website: <http://www.cfarc.org>

### Athens Hamfest 04/28/2019

Location: Athens Community Center

701 East State Street

Athens, OH 45701

Website: <http://www.ac-ara.org/>

Sponsor: Athens County Amateur Radio Association

### Portsmouth Radio Club Hamfest 04/20/2019

Location: Former National Guard Armory

2313 17th Street

Portsmouth, OH 45662

Website: <https://www.facebook.com/w4pox/>

Sponsor: Portsmouth Radio Club

Talk-In: 147.36 (PL 136.5)

# Upcoming Social Events

## April

### NOARS Monthly Meal

**Tuesday, April 2 at noon.** Golden Corral in Elyria on West River Road.

## May

### NOARS Monthly Meal

**Tuesday, May 7 at noon.** Golden Corral in Elyria on West River Road.

## Welcome New Members!

KB6ZNR, William Gardner, North Ridgeville

K8PPZ, Thomas Wisnor, Westlake

Gary Gross (associate), Elyria

K1TRB, Tom Berger, Oberlin

Keith McCormick (associate), North Olmsted.

## 2019 NOARS Winter Hamfest Prize Winners

**1st prize** - 20 meter COMPACTenna: WC8I, Bill, Marion, Ohio

**2nd prize** - 2 meter COMPACTenna: KC8TEF, Betty, Tiffin, Ohio

**3rd prize** - \$25.00 cash: K8RTR, Bill, Sheffield Village, Ohio

**DXE Gift Certificate** - N8FDY, Tom, N. Olmsted, Ohio

**Mobile check in station** - Gas Gift Card: KD8VIQ, Gary, Parma, Oh

**50/50 cash prize winner** - WC8I, Bill, Marion, Ohio

### Hourly Prize Winners

WB8CXO, Mike, Munroe Falls, Oh.

Kelly Miller, Avon Lake

AK8Y, Mike, Lodi, Oh.

WB8UPA, Russ, Brunswick, Oh.

N8NVI, Nawas, Warren, Oh.

Ed Ewing

N8EFO, Tom, Wellington, Oh.

# Part 3 of SDR School is Now Available!

Dave Kennett, W8KFJ, has developed a series of videos directed toward those who have been hesitant to embrace SDR technology. Parts 1 and 2 were published in the March 2019 NOARS Log. Part One introduces us to the basic principles of SDR, Part



Two gets into some specifics of the hardware involved, and Part Three is about the software and puts it all together.

Here is the link to the Part Three video:

<https://youtu.be/D2yyDGbw8H8>

[Dave's QRZ page](#) is chock-full of links leading to even more info about SDR.

## Technician Class Enhancement

### From the ARRL Website:

The FCC has invited public comments on ARRL's 2018 Petition for Rule Making, now designated as RM-11828, which asks the FCC to expand HF privileges for Technician licensees to include limited phone privileges on 75, 40, and 15 meters, plus RTTY and digital mode privileges on 80, 40, 15, and 10 meters. Interested parties have 30 days to comment. The Technician enhancement proposals stemmed from the recommendations of the ARRL Board of Directors' Entry-Level License Committee, which explored various initiatives and gauged member opinions in 2016 and 2017.

"This action will enhance the available license operating

privileges in what has become the principal entry-level license class in the Amateur Service," ARRL said in its Petition. "It will attract more newcomers to Amateur Radio, it will result in increased retention of licensees who hold Technician Class licenses, and it will provide an improved incentive for entry-level licensees to increase technical self-training and pursue higher license class achievement and development of communications skills."

For the full article, including how to submit comments, go to:

<http://www.arrl.org/news/view/fcc-invites-comments-on-arrl-technician-enhancement-proposal>

## Smithsonian Institution's NN3SI Returning to the Air

### From ARRL News.

The historic NN3SI call sign is being reactivated under the aegis of the Smithsonian Institution Amateur Radio Group. "We do not have a physical station location, and we are not open for guest operation as in the past, but this this is the start to Amateur Radio slowly coming back at the Smithsonian," the group's president, John Weise, N4NPG, told ARRL. "We expect to begin operating holiday style starting in April."

NN3SI will operate mobile and portable from several District of Columbia, Virginia, and Maryland locations on most bands and modes. NN3SI hopes to be on the air for

most contests this year including Rookie Roundup, the ARRL June VHF Contest, and ARRL Field Day, Weise added. As he recounts, NN3SI was initially a temporary "special" call sign granted to the Smithsonian during the US bicentennial in 1976, and the station remained active until 2008 when building renovations left NN3SI without a permanent location. "The call sign lapsed, but was renewed this year," Weise said, "and the new Smithsonian Institution Amateur Radio Group has been organized as a club for Smithsonian staff members, and to provide important emergency management and STEM educational resources to the Smithsonian Institution." — Thanks to John Weise, N4NPG

# April Birthdays - Happy birthday!

Tom, W1PDI  
Bryan, KC8DZJ  
Allen, KE8KZO  
David, K8WRS  
Dan, K8KGX  
Ned, WD8CSP



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 18, 2019 Meeting Attendance

Dan, K8AGW	Bill, AC8FD	Carl, W8KRF	Fred, AA8S
Fred, N8AHS	Tom, N8FDY	Tom, W8KYZ	Tom, K1TRB
Dan, W8AJF	Elaine, KC8FOS	Bob, W8NNC	Bill, KB6ZNR
N8AUC	Harold, K8HRD	Dave, KY8OSU	Jeff, KB8ZUN
Al, N8CX	Roger, AB8JF	Tom, W1PDI	Keith, Assoc
Barb Moriarty	Dave, W8KFJ	Bob, W8RET	
Joe, W8DYZ	Chet, K8KIZ	Bill, W8RTR	

## Thanks to March Net Controls

Elaine, KC8FOS	Dave, KY8OSU
Carl, W8KRF	Bob, W8RET
Tom, W8KYZ	Tim, NC8X

## Heard on the Nets

Dan, K8AGW	Joe, W8GWD	Jack, N8NDL	Bill, K2WJS
Dave, W1AFC	Chris, KD2HCE	Bob, W8OOT	Tom, W8WLI
Dan, W8AJF	Baji, K8IIT	Dave, KY8OSU	Mark, K8WON
Andy, K8ALG	Mike, KE8JCU	Tom, W1PDI	Bill, N8WS
Ray, KA8BPU	John, K8JWS	Bob, W8RET	Chris, KG5WVC
Joe, W8DYZ	Keith, K8KBZ	Bill, K8RTR	Jess, N8XNV
Bryan, KC8DZJ	Dan, K8KGX	John, N8RVE	George, WA8YVF
Lee, WA8ERA	Carl, W8KRF	Russ, WB8UPA	Tim, NC8X
Tom, N8FDY	Sandy, W8KYS	Dave, N8UUC	Ann, KE8ZEP
Elaine, KC8FOS	Phil, KE8LWS	Gary, KD8VIQ	
Jody, KE8GKO	Dave, KD8MXE	Matt, KD8VTX	

# April 2019

Sun

Mon

Tue

Wed

Thu

Fri

Sat

	1	2 NOARS Monthly Meal 12 Noon 10M Net 8 PM	3 Food Group 7PM 2M BRTN 9:30 PM	4 2M Net 8 PM NCS Elaine, KC8FOS	5	6
7	8	9 10M Net 8 PM	10 Food Group 7PM 2M BRTN 9:30 PM	11 2M Net 8 PM NCS Tom, W8KYZ	12	13
14	15 NOARS Meeting 6:30 PM	16 10M Net 8 PM	17 Food Group 7PM 2M BRTN 9:30 PM	18 2M Net 8 PM NCS Bob, W8RET	19 LCARA Meeting 7 PM	20
21 VE Testing 12:50 PM	22	23 10M Net 8 PM	24 Food Group 7PM 2M BRTN 9:30 PM	25 2M Net 8 PM NCS Carl, W8KRF	26	27
28	29	30 10M Net 8 PM				

# Tech Savvy

By Joe Cebula, W8GWD

## ANTENNA BASICS

### Query No. 12

**Q.** What do the terms dBi and dBd that appear in antenna specifications represent?

**A.** Antenna manufacturers express the gain of their antennas in decibels, which is based on a comparison with a standard antenna such as a dipole or an isotropic antenna. An isotropic antenna is a theoretical antenna that is infinitely small, is a point located in outer space, is completely removed from anything around it, radiates equal power in all directions and is used as a reference to explain and measure the performance of a practical antenna. Since the isotropic antenna radiates equal power in all directions, it has no directivity. The dipole antenna is similar to the isotropic antenna in that it is located in outer space and is lossless.

Basically, the gain of a practical antenna is equal to its maximum radiation intensity divided by the minimum radiation intensity from a reference antenna, providing both antennas have the same power input. The main lobe of the antenna pattern is

used to measure gain.

When the standard is referenced to an isotropic antenna, the gain is expressed as dBi (dB isotropic). If the standard is referenced to a dipole antenna, the gain is expressed as dBd (dB dipole). The gain of the dipole antenna over an isotropic antenna is 1.64 or 2.15 dB, which can be used to convert dBi to dBd and vice versa. This would be useful for comparing gains of two similar antennas, each with a different dB rating, from different manufacturers. Simply add 2.15 dB to the dBd value to convert to dBi or subtract 2.15 dB from the dBi value to convert to dBd.

It is hoped this brief article explains how the antenna ratings of dBi and dBd were determined and how to convert dBi to dBd and vice versa to compare ratings and costs of similar antenna designs from different manufacturers.

73

Joe, W8GWD

## Solar Storm Article in USA Today

From Chet, K8KIZ

This is relevant to the hobby...

Roughly 2,700 Years Ago, an Unusually Powerful Solar Storm Swept Past the Earth

<https://www.usatoday.com/story/news/>

[nation/2019/03/13/solar-storms-powerful-one-hit-earth-2-700-years-ago/3140290002/](https://www.usatoday.com/story/news/nation/2019/03/13/solar-storms-powerful-one-hit-earth-2-700-years-ago/3140290002/)

From the article it seems that we'll survive, but our equipment probably will not.

As Chet says, of the two outcomes, that's preferable.

## Newsletter Submissions

Email submissions for the Log to [noarslog@noars.net](mailto:noarslog@noars.net). The deadline is seven days before the first of the month.

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

# NOARS Winter Hamfest 2019 a Resounding Success!

This year's Winter Hamfest drew nearly 200 people, from lovers of the hobby to those who want to know what ham radio is about. Prior to the event, Tom Miller, W1PDI arranged for advertising in local media, more than NOARS had ever had before, and it showed in the higher attendance and ultimate success of the hamfest. Al, N8CX and Bill, K8RTR, handled "talk-ins". There were 56 check-ins, which was more than ever. Expenses were low, due in part to the generous donation of two antennas (2 meter and 20 meter) by Jack Nilsson, AKA Dr. Jack, K8NDL, saving the club over \$100 in prizes. The self-serve table profits were greater than past years and the 50/50 raffle was successful. All in all, the profit was the largest in many years.

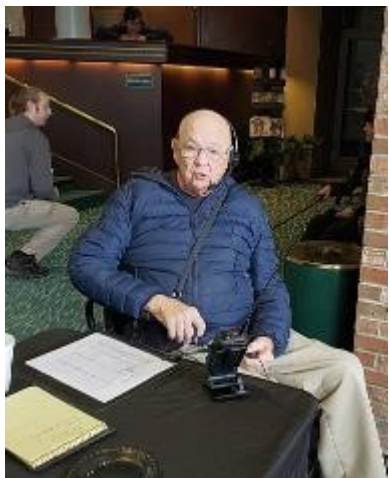
Reporters from Cleveland.com and The Morning Journal

attended, later reporting on the event. For those articles, go to:

The Northern Ohio Amateur Radio Society brought all things for ham radio enthusiasts to Lorain Spitzer Center (Cleveland.com) <https://www.cleveland.com/avon-lake/2019/03/the-northern-ohio-amateur-radi.html>

Hamfest takes over Lorain County Community College (The Morning Journal) [https://www.morningjournal.com/news/lorain-county/hamfest-takes-over-lorain-county-community-college/article\\_6dd6fdfa-3df9-11e9-bd96-675fd566845e.html](https://www.morningjournal.com/news/lorain-county/hamfest-takes-over-lorain-county-community-college/article_6dd6fdfa-3df9-11e9-bd96-675fd566845e.html)

Planning has already begun for the next NOARS hamfest, which will be in July. Stay tuned for more info.







For more NOARS Winter Hamfest Photo, go to <http://bit.ly/WinterHamfest2019>

# March, 2019 NOARS Membership Meeting



# March 18, 2019 NOARS Membership Meeting Minutes

## **Submitted by Elaine Wilkinson, KC8FOS**

The meeting was called to order at 6:30 PM by the club President, Carl, W8KRF. Twenty-six members and guests were in attendance.

The Pledge of Allegiance was recited, followed by roll call by call sign. Jennifer, the new Branch Manager of the library introduced herself and asked about the new room set-up. Everyone agreed that we like it. An audience member asked her if she was a ham, which she is not.

Bill, K8RTR made a motion to suspend reading minutes of the January 2019 meeting minutes, as they are published in the newsletter. Bob, W8RET seconded the motion. The motion passed.

**Treasurer's Report** - Tom, W8KYZ shared the current balance, which includes the profits from the very successful Winter Hamfest. All bills are paid, including LCCC room rental for the hamfest and phone. Carl related the cable company replaced modem free of charge, which saved the club some money. Tom asked for a motion to accept the report. Al, N8CX did that. Seconded by Dave, W8KFJ. Motion passed. Tom reviewed the financials from the Winter Hamfest. Expenses were low, due in part to donation of two 20 meter antennas by Jack Nilsson, K8NDL, saving the club over \$100 in prizes. Self-serve table profits were greater than past years and 50/50 was successful. Dan, W8AJF was thanked for his work on the 50/50. Admissions, table rentals, and club membership renewals were reviewed. It was the largest profit in many years. An audience member asked if W1PDI was paid for banners and signs. Answer was no, Tom did everything free-of-charge. He also was responsible for the increased advertising of the event. Attendance was up. A certificate of appreciation was suggested. All agreed Tom needs recognition for the excellent work he has done. Bill, K8RTR, related there were 55 check-ins. Al, N8CX, suggested there were 56 check-ins. More than ever.

**Parliamentary Committee** - Bob, W8RET. Doing well, "no rules broken."

**Club Property** - Tom, W1PDI was not present. Carl advised posting club members' QSL cards on the bulletin board at hamfest was Tom's, W1PDI idea. Carl brought

the bulletin board to the meeting. He scans the cards and puts them on the website. Dave, KY8OSU said Tom, W1PDI is establishing climate-controlled storage for club property.

**Repeaters** - Carl, W8KRF. Carl started to discuss work he'd done on the repeaters in the last couple of weeks when Tom, W1PDI arrived and introduced himself. No club property report. Concerning the repeaters, Carl went a couple times to the site last week. He put on new connectors as there was fluctuating SWR. He standardized all the connectors with type N connectors, which seemed to stabilize the repeaters. He increased the volume on Echolink and has received no bad reports. Our UDP ports are not being forwarded because ports not forwarded when the new modem was installed. Carl will forward the ports. OhioLink WiresX link on Sunday nights.

**Website** - Carl. The website has been updated. Carl suggested we check the website at least once a week since he continually updates things. 50 photos from the Winter Hamfest will be loaded tonight.

**Membership** - 91 current members. Rosters sent out via email.

**Field Day** - Al, N8CX. Some stations are already assigned. All will be stations aligned as they were last year. There was discussion of generators and their location. Meals have been planned. The generators will be placed the way they used to be, when there were no interference problems as there were last year. Position of stations and their antennas so they won't cause interference was discussed. Carl will bring a new version of software on a jump drive. Pre-Field Day meeting will be June 8 at 7:30 at the pavilion.

**Social Committee** - Elaine, KC8FOS. The NOARS monthly lunch will be Tuesday, April 2 at Golden Corral in Elyria at noon. Everyone is welcome. An Amish country trip will be postponed due to a house fire at Russ's, KE8GNX house. He was in charge of the trip.

**Programs** - Elaine, KC8FOS. April - Icom. May - Tom, W1PDI's Tower Build. June - Tim Duffy, K3LR, rescheduled from the January meeting he couldn't make due to weather. July - HF/VHF The Blessings and Curses

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of Both. Everybody should come with their stories of experiences with HF and VHF. August -Annual Picnic. Carl would like to have a summer meeting with antenna demonstrations in the park across from our meeting space.

**Sunshine** - Mark, K8WON was in the hospital for surgery. He's home now, and is doing well. Needs to rest, though is impatient to get out and be active.

**Nets** – Bob, W8RET. They are doing fairly decently. Elaine mentioned Food Group, a casual net. Last Wednesday there were 14 check-ins. Dave, KY8OSU had been Group Facilitator.

**VE Testing** – Tom, W8KYZ. There was testing yesterday. Six tested, five passed. Hopefully we will get some new members from this.

**Newsletter** - March 27 is the deadline to submit items to the newsletter.

**Old Business** - Winter Hamfest. 180 attended. Heard report from Tom, W8KYZ earlier in the meeting.

**New Business** - The Board discussed future hamfests at the recent meeting. More members need to help. The Board discussed ways to get more participation. Involvement is needed if we are to grow. Suggestions: Helpers sign up for two-hour assignment and get in free. They would not be eligible for a prize. Commit to two hours. Helpers would get a T-Shirt with NOARS logo and indication of involvement in the event. The Summer Hamfest is coming up. There was a suggestion from the floor to make those doing talk-ins more visible. Al, N8CX related that previous hamfests had a talk-ins/program table in front. This year people asking Al, N8CX and Bill, K8RTR about tickets had to be redirected.

Possible assignments: Help Tom, W8KYZ with announcements. Relieve people at the tickets/ membership tables. Timely arrival encouraged. 2 or 3 people needed in the parking lot for the flea market, and people to relieve them.

Carl suggested we get Boy Scouts involved in hamfests. Free admission for the Boy Scouts. We need more young people. There was a recent Maker/Hacker convention in Cleveland. That sort of people needs to be attracted to the hobby. We aren't getting any younger. Two people in NOARS are involved in Boy Scouts. John, KC8KI. Through them we could get people to come to hamfest. We could offer a free table to an OhioLink WiresX group that runs a net.

People have asked why we get no big vendors. We aren't big enough to attract them. We could make our hamfests regional events. We have the venue and parking and could attract people from Michigan and southern Ohio. We need to keep it growing, which needs involvement. Vendors in the flea market at Summer Hamfest will get two spaces for the same price as one.

Reporters asked what is ham radio? Send Carl an email explaining what ham radio is to you, in sixty seconds or less. Send to [noars@noars.net](mailto:noars@noars.net). An audience member mentioned AARL has some nice pamphlets about this. We need this for young people. It's more than talking to people. We need an elevator speech. Tom, W1PDI suggested we create a white paper with bullet points. A motion was made to adjourn the meeting by Al, N8CX, seconded by Bill, K8RTR. The motion passed. The meeting was adjourned at 7:25 PM.

Following the meeting, a program was presented by Eric Jessen, N8AUC describing how he set up his station at Field Day 2018, using solar panels for power.



## The DX Engineering Retail Showroom

More products on the shelves—get hands-on with the newest radio gear!



**The DX Engineering Retail Showroom**  
Inside the Summit Racing Retail Super Store  
1200 Southeast Ave., Tallmadge, Ohio

- Friendly service
- Expert tech advice from active Hams
- Open-box deals
- Free product brochures
- Easy return processing

### ***Come See Us!***

Retail Showroom is Open  
9 am to 5 pm, Monday-Saturday.

Even when the showroom is closed  
you can order items at the Cashier:

Monday-Saturday: 9 am to 9 pm  
Sunday: 9 am to 7 pm

**DX ENGINEERING®**

## Dave Kennett, W8KFJ Items for Sale

MFJ 935B Loop Tuner, with some partially assembled loops and a partially constructed remote control.

MFJ 1788 15 to 40 meter remotely tuned magnetic loop antenna. Handles up to 150 watts.

Magnetic loops are very efficient small portable antennas. Dave's health does not allow him to continue his experiments. There's a bunch of stuff to make loops and the remote for the 935B. Dave will make a good deal to someone for both so they can continue his experiments. If you are interested, call him at 440-327-8624, or email [w8kfj@yahoo.com](mailto:w8kfj@yahoo.com).

## For Sale by Tom, W8KYZ, 440.930.9115

1000 feet Signal Cable Company 22/4 conductor hook up wire. Great for indoor/outdoor security systems, door bells, and weather stations. Will cut to your specifications any length. Make offer.

## For Sale by Brian

Antique oak table and chair for radio operating.  
\$100.00

Yamaha stereo receiver. \$100.00

Yamaha DVD PLAYER/NETFLIX. \$40.00

Grace Internet Receiver. \$100.00

Please call Brian at 440.420.1756.

# NOARS Information

## Members of the Board of Directors

President: Carl, W8KRF

Vice President: Dave, KY8OSU

Secretary: Elaine, KC8FOS

Treasurer: Tom, W8KYZ

Others: Tim, NC8X; Tom, N8FDY

## Others

Net Manager: Bob, W8RET

Club Trustee for K8KRG: Al, N8CX

NOARS Log Editors: Tom, N8FDY, and 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](http://www.noars.net). Make checks payable to NOARS and mail them to: NOARS Membership Committee, 161 Herrmann Drive, Avon Lake, OH 44012.

## Meetings

Meetings are held at 6:30 p.m. on the third Monday of every month at the North Ridgeville Branch of the Lorain County Public Library, 35700 Bainbridge Rd, North Ridgeville, OH. The doors open at 6:00 PM for a social time with coffee and donuts.

Meetings are open to the public and all are welcome.

## 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.

## Committees

Parliamentary Committee: Bob, W8RET.

Repeaters: Carl, W8KRF; Tim, NC8X

Field Day: Al, N8CX

Hamfest: Dee, KA8VTS.

Sunshine: Tom, W8KYZ (temp)

Membership: Carl, W8KRF

Club Property Committee: Tom, W1PDI

Program Committee: Elaine, KC8FOS; Joe, W8DYZ;  
Bob, W8NNC; Dave, KY8OSU

Social Committee: Elaine, KC8FOS; Dave, KY8OSU;  
Russ, KE8GNX

Public Relations Committee:

Dave, KY8OSU, Elaine, KC8FOS



## VE Testing

VE Testing is offered the third Sunday of every month.

2929 West River Road  
N. Elyria OH 44035,  
from 12:50-3 PM.

## Burning River Traffic Net

The Burning River Traffic Net uses the NOARS repeater (146.700 MHz) Wednesdays at 21:30.