



# NOARS Log



August 2019

**K8KRG**

Volume 55, Issue 8

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## Prez Sez

In spite of some concerns regarding having enough volunteers, the NOARSfest was a success. We did not break any attendance records but with the over-the-top support of our Self-Serve tables and the generosity of Tom Miller W1PDI, we made up for it financially. I want to thank those who stepped up at the last minute and helped. You will be recognized later in the newsletter. I have had some of the vendors who regularly support our hamfests comment that with this venue and location, we should become a regionally recognized hamfest and double or triple our attendance. In order to do that, we would need to expand our

membership and membership involvement. We could do so much more if we could get more people involved in NOARS events. Think about what you could offer towards that goal.

I have been using the new WSJT mode FT4 for the last few weeks and find it an excellent and fast contest mode. I have made several DX contacts using it while hearing absolutely nothing on SSB. It is similar to FT8 but takes only half the time to complete an exchange. I realize it does not satisfy everyone's operating preferences, but if you are simply looking to gather grids, states, or

*(Continued on page 2)*

## NOARS Annual Picnic

NOARS Annual Picnic will be Monday, August 19 at 6 PM at the Duck Pond on Nickle-Plate Diagonal Road in the Carlisle Reservation of Lorain Metroparks. The club will provide burgers and brats with all the accoutrements, corn, drinks, and eating implements. Please bring a dish to share. The picnic replaces the usual membership meeting.

**No Meeting this Month.  
Don't go to the Library,  
go to the Duck Pond**

### 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 page 1)

countries, this is a very nice mode to accomplish that.

Our next event is our annual picnic which will replace the normal business meeting for the month of August. We encourage you, your family, and friends to join us for this fun event. There will be more details in this Log as well

as on the website at <https://www.noars.net/picnic>. I am looking forward to seeing many, if not most of you, there.

Until next month, 73

Carl W8KRF

## Vice President's Message

Well, it is picnic time, and I want to see everyone at the Duck Pond on August 19, and I expect you to arrive promptly by 6:00 PM and be hungry!

I don't know where we placed in ARRL Field Day, nor does it really matter, because we worked hard, had fun, got to know each other better, improved our skills, and ate well. These are

the things that really matter! It would be a bonus and nice if we scored well.

Hope to see many of you at the Golden Corral next Tuesday at noon, and at the Duck Pond.....GO Buckeyes....Next Nation Champs 2020!

## What You've Wanted to Know About DMR, but Were Afraid to Ask

Are you curious about Digital Mobile Radio? Learn about DMR in classes taught by Gary Limbert, KD8VIQ.

When: Three Sundays – August 25, September 29, and October 27

Time: 2 – 4 PM each Sunday

Where: Parma Snow Library, 2121 Snow Road, Parma, OH.

Descriptions of classes:

August 25: Down and Dirty DMR. Learn DMR basics to

enable you to play DMR, as well as protocol and etiquette for DMR, information sources, and more.

September 29: Continued basics of DMR, getting more technical with subjects such as how the radio works, code plugs, etc.

October 27: Very involved with a deeper look at the technology. This class is for the technically inclined.

**Class size is limited, with only 9 spaces left. Email Gary at [KD8VIQ@yahoo.com](mailto:KD8VIQ@yahoo.com) to register.**



## 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.

# Thank You to NOARSfest Volunteers

We couldn't have had the hamfest without you!

Carl, W8KRF – Tables, membership, general organizing

Elaine, KC8FOS – Ticket Sales

Al, N8CX – Talk-in station

Bill, K8RTR – Talk-in station

Dave, WV8P – Flea Market

Roger, AB8IF – Flea Market

Baji, K8ITT – Flea Market

Amy, K2KSU – Flea Market

Chet, K8KIZ – MC

Tom, W8KYZ – MC

Tom, W1PDI -- Providing signs

## News from the International Amateur Radio Union – a Must See!

World Radiocommunication Conference 28 October to 22 November

<http://www.iaru.org/news--events/iaru-represents-amateur-radio-at-wrc-19-preparatory-meeting>

The whole article is worth reading. However, please note areas of concern for ham radio:

AI 1.13 is an effort to identify spectrum in bands above 24.25 GHz that may be designated for International Mobile Telecommunications (IMT). Ever since the first terrestrial service allocations above 40 GHz were made in 1979, the band 47-47.2 GHz has been allocated on a primary basis to the amateur and amateur-satellite services to the exclusion of other services. No sharing studies of the 47 GHz band, which normally would be a

prerequisite to consideration of a new allocation, were conducted during the study period; however, that has not prevented a belated effort by IMT interests to justify a mobile allocation and IMT designation. Even if the 47 GHz band escapes attention at WRC-19 it may very well come up as an agenda item for WRC-23, so we will need to be prepared to defend the band in the future.

AI 1.16 covers radio local area network (RLAN) and other wireless access systems and might impact the 5650-5850 MHz [5650-5925 MHz in Region 2] amateur band. One of the proposed methods overlaps the amateur allocation above 5725 MHz and if this method is adopted by WRC-19 then there may be issues for the amateur service

## Upcoming Ohio Section Hamfests

### 08/03/2019 | Columbus, Ohio Hamfest

Location: Grove City, OH

Type: ARRL Hamfest

Sponsor: Voice of Aladdin Amateur Radio Club

Website: <http://www.columbushamfest.com>

### 08/10/2019 | DX Engineering Hamfest

Location: Tallmadge, OH

Type: ARRL Hamfest

Sponsor: DX Engineering

Website: <https://www.dxengineering.com/DXEfest>

### 08/17/2019 | GARS 2019 HamFest

Location: Germantown, OH

Type: ARRL Hamfest

Sponsor: Germantown Amateur Radio Society

Website: <http://www.WG8ARS.org>

# Upcoming Social Events

## August

### NOARS Monthly Meal

**Tuesday, August 6 at noon.** Golden Corral in Elyria on West River Road.

## September

### NOARS Monthly Meal

**Tuesday, September 3 at noon.** Golden Corral in Elyria on West River Road.

## Welcome New Member

John E. Bastin, K8AJS, joined NOARS at the NOARSfest. John lives in Wooster, OH and has an Extra Class License. Welcome, John!

## Congratulations KC8DZJ!!

NOARS congratulates KC8DZJ, Bryan, of Avon Lake for passing the General Class exam on July 21, 2019. Good DX hunting, Bryan.

## Ham Radio at Maker Faire 2019

From Tom Wilkinson

This video is a good example of how ham radio can be part of a maker faire.

<https://www.youtube.com/watch?v=77x-Q6dmmZs&feature=youtu.be>

There is also a PDF of a pamphlet, entitled "Ham Radio – The Original Maker Movement," at the end of this issue of the NOARS Log which highlights ways in which ham radio continues to be relevant to education and the maker movement.

## Technician Classes Coming Soon

Technician level classes will be taught by LCARA member Eric Jessen, N8AUC, probably after Labor Day. Stay tuned for further details in the September NOARS Log

and on the nets. Tell your friends who have said they want to get their ham license, but don't know where to start.

## 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!



# August Birthdays - Happy birthday!

Al Moriarty, N8CX  
Don Smith, KC8REM  
Frank Pawlikowski,  
KE8JON  
Erik Rogal, KD8RNF  
Marlin Lloyd, K8SVT



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!

## July 15, 2019 Meeting Attendance

Dave, W1AFC	Elaine, KC8FOS	Carl, W8KRF	Clark, N8PZD
Dan, K8AGW	Sallie, AB8GI	Tom, W8KYZ	Bill, K8RTR
Fred, N8AHS	Joe, W8GWD	Steve, K8NIA	Gary, KD8VIQ
Dan, W8AJF	Roger, AB8IF	Bob, W8NNC	Mark, K8WON
Steve, WA0DVY	Bob, W8IMO	Dave, KY8OSU	Ann, KE8ZEP
Tom, N8FDY	Dave, W8KFJ	Dave, WV8P	

## Thanks to July Net Controls

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

## Heard on the Nets

Dave, W1AFC	Mark, KC8FQV	Jim, KM4NIY DX	Gary, KD8VIQ
Charles, K8AGV	Jody, KE8GKO	Lynn, KD8NGE	Matt, KD8VTX
Dan, K8AGW	Joe, W8GWD	Ron, N8OD	Bill, K2WJS
Dan, W8AJF	Chris, KD2HCE	Dave, KY8OSU	Bill, N8WS
Ray, KA8BPU	Jeff, KN4ICU DX	Dave, WV8P	Chris, KG5WVC
Jim, W4DVX DX	Dan, K8KGX	Tom, W1PDI	Joe, N8YAC
Bryan, KC8DZJ	Carl, W8KRF	Bob, W8RET	Tim, NC8X
Lee, WA8ERA	Alex, KD8KWO	Bill, K8RTR	Jeff, KB8ZUN
Tom, N8FDY	Sandy, W8KYS	Russ, WB8UPA	
Elaine, KC8FOS	Dave, KD8MXE	Bill, N8UPZ	

# August 2019

**Sun**

**Mon**

**Tue**

**Wed**

**Thu**

**Fri**

**Sat**

				1 2M Net 8 PM NCS Elaine, KC8FOS	2	3
4	5	6 NOARS Monthly Meal 12 Noon 10M Net 8 PM	3 Food Group 7PM 2M BRTN 9:30 PM	8 2M Net 8 PM NCS Tom, W8KYZ	9	10 DXE Hamfest 8 AM—12 PM Tallmadge, OH Free
11	12	13 10M Net 8 PM	14 Food Group 7PM 2M BRTN 9:30 PM	15 2M Net 8 PM NCS Carl, W8KRF	16 LCARA Meeting 7 PM	17
18 VE Testing 12:50 PM	19 NOARS Annual Picnic (Duck Pond) 6:00 PM	20 10M Net 8 PM	21 Food Group 7PM 2M BRTN 9:30 PM	22 2M Net 8 PM NCS Bob, W8RET	23	24
25	26	27 10M Net 8 PM	28 Food Group 7PM 2M BRTN 9:30 PM	29 2M Net 8 PM NCS Carl, W8KRF	30	31

# NOARSFest 2019 Photo









More photos at <http://bit.ly/NOARSFest2019>

# 2019 NOARSfest Prize Winners

**1st - Al Moriarty N8CX – COMPACTenna Model 2M/440 Dual-Band Antenna**

**2nd – Joe Paris N8NGV - COMPACTenna Model 2M/440 Dual-Band Antenna**

**3rd - Gary Limbert KD8VIQ - \$50 ARRL Gift Certificate**

**Mobile Check-ins: Tom, N8FDY - ARRL 2019 Repeater Directory; Bill, KD8POV – Icom Gift Bag**

Thanks to Jack Nilsson, N8NDL, antenna inventor and owner of Compactenna, for the donation of the two Model 2M/440 antennas used as prizes. For information about all of Jack's antennas, go to Compactenna at

<https://compactenna.com/>

Thanks also to the ARRL for the donation of the 2019 Repeater Directory, as well as gift cards. Thanks to Icom for the donation of gift bags.

We apologize if you won a prize and your name is not in the list above. If you wish it had been, please alert us at [noarslog@noars.net](mailto:noarslog@noars.net) and we will include your information in the September issue.

## Makers' Alliance – Cleveland, Ohio

As many of you know, a representative from Makers' Alliance, a group of makers in Cleveland, was present at NOARSfest.

Makers' Alliance is a 501(c)3 non-profit makerspace serving the greater Cleveland community. It provides a physical space, access to tools and resources, and shared knowledge for people with interests in science, technology and art.

Makers' Alliance is located at IngenuityLabs at 5401 Hamilton Avenue in Cleveland.

For more information, go to their website at <http://alpha.makersalliance.org/>

***For more information on makers in general, the following article is quite helpful.***

Read more: <https://www.tweaktown.com/articles/5301/what-is-a-maker-what-it-really-means-to-be-a-maker-/index.html>

The following is from the article. Please note that makers have their roots partly in amateur radio operators of the past.

?In the 1960's being a maker meant that you built your own model airplanes, ships and hobby rockets, and while those subjects are still part of the DIY / Maker scene, a far more advance type of maker has arisen. Today's makers are skilled in coding, embedded electronics, design, and all things computer related. We have our roots set deep in the model makers and amateur radio operators of the past, and while our tech may be a bit more advanced, we have not forgotten those who got us to this point."

"Fast forward 50 years and the makers have returned. They actually never left; it's just that we have seen resurgence in the DIY hobbies over the last decade or so. This surge can be attributed to the rise of the internet, and mass information sharing. We are at a point in history where we are able to share our ideas, projects, and knowledge instantly with anyone anywhere in the world. This sharing of everything has led us to mass collaboration on even the smallest projects."

## Thank You, Dave, KY8OSU

Thanks to Dave for posting the NOARSfest signs at LCCC, then going back to fix them after a storm knocked them around.

## From the Binder

As related in last month's issue of the NOARS Log, we will be publishing interesting bits of information gleaned from a binder of newsletters and rosters, loaned to us by Mike, K8US. What a rich source of historical information!

Speaking of the Log, why, you might ask, is the NOARS newsletter called the NOARS Log? We learn from the November 1977 newsletter that some "members have asked that the club run a poll to find out if the

membership would like to have a name for this newsletter. Surely there is someone out there who could come up with some original 'handle' for this rag." Suggestions were asked for, and a vote was taken. There is no copy of the December 1977 newsletter, but clearly, NOARS Log was chosen since that is what we still call it. The January 1978 newsletter was the first to be called the NOARS Log, complete with a hand-drawn picture of a log. What a play on words!



## Ohio Section News Update – July 29th Edition

If you haven't taken a look at the July 29<sup>th</sup> Ohio Section News Update, you're missing a lot. There is so much going on!

Some examples

ILLW - International Lighthouse and Lightship Weekend – August 17 and 18. The Fairport West Breakwater Light will be activated for the event.

Touch-a-Truck Event is happening in Medina. Help needed.

Ohio Statewide Courthouses On The Air Special Event, August 24, 2019.

DX this week includes the Worked All Continents Award, sponsored by the International Amateur Radio Union (IARU). Information is also on the ARRL Website.

There is so much more. Go to the current Section 8 News Update at <http://arrl-ohio.org/news/2019/ps-07-29-19.pdf>

# July, 2019 NOARS Membership Meeting





# July 15, 2019 NOARS Membership Meeting Minutes

**Submitted by Elaine Wilkinson, KC8FOS**

The meeting was called to order at 6:32 PM by Club President, Carl, W8KRF. Twenty-three members and guests were in attendance.

The Pledge of Allegiance was recited, followed by roll call by call sign. Bill, K8RTR, made a motion to accept the June minutes as they were published in the newsletter. Dave, W1AFC, seconded. The motion passed.

**Treasurer's Report** - Tom, W8KYZ. Tom reviewed balance, income and expenditures, including a check for \$600 for start-up money for the upcoming NOARS Hamfest. Dave, W8KFJ, made a motion to accept the Treasurer's Report, seconded by Dave, WV8P. The motion passed.

Tom, W8KYZ explained his health status.

Carl, W8KRF shared that Bob, W8RET, is in the hospital.

**Property** – Tom, W1PDI was not in attendance. Carl said we don't have any new property. He displayed one of two banners, provided by W1PDI, that advertise the hamfest. They will be put up on the LCCC campus, between the entrances.

**Repeaters** - Carl, W8KRF. Working OK. Carl hasn't received any complaints. Echolink was down, computer needed to be rebooted. It's a sound card issue of some type.

**Website** - Carl. The website is up-to-date.

**Membership** – We have 95 members.

**Field Day** – Al is not in attendance to share the statistics. Carl advised that all the stats are in the July newsletter.

**Social Committee** - Elaine, KC8FOS. Next monthly luncheon is at the Golden Corral in Elyria on August 6 at noon. Annual Picnic will be August 19. There will be no meeting at the library that day. NOARS will provide burgers, brats, and corn. Bring a dish to share.

**Programs** – Elaine, KC8FOS. Program Committee is working on September, October, and November programs.

**Sunshine** - No report.

**NOARSfest** – Carl. NOARSfest will be Saturday, July 20. Carl has a schedule of volunteer slots. He passed it

around, and asked people to sign up for a slot. Dave, W1AFC, spoke of a rig and associated equipment available from an elderly ham who needs to move from her home. Will bring the photo to the hamfest.

**Nets** – Bob, W8RET, was not in attendance. Carl said nets are underpopulated lately. 10 meters is doing OK. Food Group is doing well.

**VE Testing** - Tom, W8KYZ. VE testing will be next Sunday, July 21 at the American Red Cross in Elyria at 12:50 PM. Arrive a little early.

**Newsletter** - Tom, N8FDY. July 26 is the deadline to submit items for the newsletter. Send in items for sale. If you've had items advertised for sale and sold them, please let Tom, N8FDY or Elaine, KC8FOS know. Roger, AB8IF, asked how the newsletter is delivered. Carl advised he sends an email with a link to the newsletter which is posted on the NOARS website. It's name is the NOARS Log.

**Information about NOARSfest** – Carl said mobile check in will be 7-9 or 9:30. Tom, W8KYZ, announced two prizes at NOARSfest. A 2019 Repeater Directory from ARRL and an Icom gift bag. Carl invited members to join the Hamfest Committee. Currently there are two members – Carl, W8KRF and Elaine, KC8FOS. Carl described the helpfulness of the college as well as the anticipated attendance by the Makers Alliance. We are trying to attract younger people to the hobby. Audience member advised of the library sign advertising a meeting of the Young Coders at the library. Steve, K8NIA, mentioned his grandchildren will be taking the VE exam soon. They are in scouts and will be at the hamfest. Carl asked Elaine, to talk about contacting John Baddour, KC8KI, about Scouts at NOARSfest. There is not enough time to prepare to be at the hamfest on the 20<sup>th</sup>. He will come to the one in March. John agreed it would be good for NOARS to be involved in helping the Scouts get their Amateur Radio Merit Badge. Bill, K8RTR, said he and Tom, W8KYZ, worked with local Scouts with Jamboree on the Air.

Information was shared about an amateur radio operator who recently became a silent key.

A motion was made to adjourn the meeting by Dave, W8KFJ, seconded by Dave, WV8P. The motion passed. The meeting was adjourned at 6:55 PM.

**Mark Your Calendar for the First DXE Hamfest!**  
*Free Flea Market – Giveaways – Huge Savings – Loads of Fun!*

# DXE HAMFEST!

**SATURDAY, AUGUST 10**

9:00 am to Noon  
DX Engineering Showroom  
Inside Summit Racing  
1200 Southeast Ave., Tallmadge, OH

8:00 am to Noon  
FREE Flea Market, North Parking Lot

**Expert satellite demos**

**Open-box gear savings  
and Hamfest Specials**

**Enter to win an ICOM  
IC-9700 Transceiver**

**Bring your Go-Kit and  
you could win a \$100  
DX Engineering Gift Card**

**DX ENGINEERING®**

## Drake Twins for Sale

For sale Drake R4C and Drake T4XC pair for sale by Sandy, W8KYS. Very clean with money back guarantee, \$500.  
Call Sandy at 440-647-2255.



## For Sale by Dave, WV8P

Icom 703, QRP rig. Does not have six meters. 250 Mhz filter installed and a 500 Hz to install later.

Automatic tuner with an extra cable to use if installing it in a car.

Samlex power supply.

All items are in a hard case, ideal for travel. \$600

Contact Dave, WV8P at [wv8p@roadrunner.com](mailto:wv8p@roadrunner.com)

# 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](mailto:CWpins05@gmail.com)

Send your appropriate payment to:

[www.paypal.me/ANCRSundials](http://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



# For Sale from the Estate of WA8MZB

Equipment was donated to NOARS by his Family

Kenwood TS-440S, 100 watts, with ATU. Includes carrying handle and mic. Receives all bands 160-10. Transmits all bands except 40 meters. \$125.

Kenwood MC-60 Mic with stand and manual.

Two Motorola commercial speakers, with mounting brackets. \$10 each or both for \$15.

MFJ 948 Versa tuner II, HF antenna tuner, 300 watts, 1.8 – 30mhz. \$55.

Dentron Jr. monitor, 300 watts antenna tuner. 1.8 – 30 Mhz. \$20.

Amprobe Digital AM -12 multimeter, with case, battery and test probes. \$10.

Heathkit GC-1107 digital alarm clock, with manual. \$10.

Heathkit HM-2140 watts meter, 1.8-30 MHz, with manual. \$40.

Contact Tom, W8KYZ, 440-320-5523

## ARRL Amateur Radio Books for Sale

Arrl Antenna Book. 1977 edition. \$5.00

Arrl Antenna Book. 1960 edition. \$5.00

Grounding and Bonding for Amateur Radio Stations. New. ARRL price \$22.95. \$10.00

Radio Auroras. Radio Society of Great Britain. New. \$5.00

AC6V'S HF and Six Meters DXing Reference Guide. New. \$5.00

Contact Tom, W8KYZ, 440-320-5523

## 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).

## Need a complete HF & VHF starter Amateur Radio Station?

List of Ham Radio Equipment for Sale: **W8LE/Bee (Byrness Haworth)**  
**{Bee}** in Elyria, Ph. 440-365-8188

- Kenwood TM 261 2 meter FM Tranceiver w/Mic, in good op cond.
  - Astron Power Supply - RS 5-10A 12 volt DC
  - ICOM-718 HF Tranceiver, 150k-30MHz w/condenser Mic. HM-36 100watt tx, clean & in good operating condition, with manuals
  - Astron Power Supply - RS-20A 12 volt DC, for ICOM-718
  - DAIWA SWR & Pwr Meter [with box, man., & 1ft coax] 1.8-150MHz
  - Vibroplex Keyer, S/N 69330, excellent condition (good value!)
  - (3) new 75 ft rolls, RG-8X (mini RG-8, low loss) 52 ohm coax cable
  - one 3 ft new RG-8X coax w/connectors
  - MFJ-860 SWR & Watt meter & 3 ft RG-8X coax cable
  - Two port DAIWA CS-201 Coaxial Antenna Switch
  - Recent 20th Ed. ARRL Antenna Book, dated 2005, new condition
- **\$1125 for entire station (best offer will be considered)**



# 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

Volunteer Examiners: Tom, W8KYZ, and Joe, W8GWD

## 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: .

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.

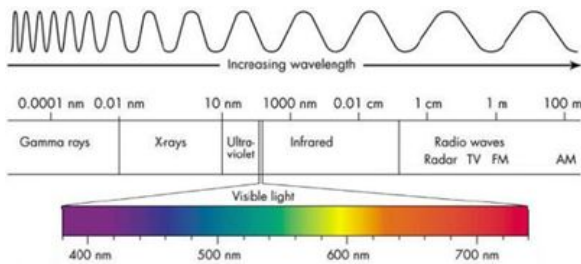
2929 West River Road  
N. Elyria OH 44035,  
from 12:50-3 PM.

## Burning River Traffic Net

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

In addition to the links to STEM, Makerspaces and D.I.Y. Amateur Radio can have a wide variety of tie-ins to K-12 curriculum. Here is a sample:

- Math- wavelength vs. frequency with inverse ratios, the angle of radiation, calculate electronics values with Ohm's Law, Decibels and logarithmic scales, sampling rate and DSP, etc.
- Science- atmosphere & solar activity in propagation, electronic components and circuits, conductivity, energy generation (including solar) and storage (including battery technology), Doppler Shift, etc.
- Language Arts- forms of communication, phonetic alphabet, acronyms, broadcast writing and production, oratory, technical writing, etc.
- Social Studies- Geography, maps and projections, cultures, international relations & regulations, history of communication, etc.
- Music- Morse Code with drums, Frequency and tones, Doppler Shift, DSP, recording, etc.
- Computer Science, Coding, Programming & App Creation
- PE- Wavelength and Frequency demo with jump ropes.
- World Languages



The Web Resource Hoarder  
**ZTL** LEARN.COM

Kids Radio Zone  
 Teacher Radio Zone  
 DIY/Maker Zone

**K8ZT**  
 Amateur Radio Resources  
[www.k8zt.com](http://www.k8zt.com)

**ARRL**  
 The national association for  
**AMATEUR RADIO**  
[www.arrl.org](http://www.arrl.org)

**ARRL**  
 AMATEUR RADIO  
 IN THE CLASSROOM  
[www.arrl.org/amateur-radio-in-the-classroom](http://www.arrl.org/amateur-radio-in-the-classroom)

## Ham Radio- The Original Maker Movement

How does the Amateur Radio service relate to the maker movement you might ask? In many ways, amateur radio is the grandfather of the maker movement. People have been tinkering and experimenting, building their own equipment and radio stations, all in the quest to communicate with each other for well over 120 years!



Today, the range of things within Amateur Radio to get involved in-- building, designing, inventing, experimenting with and operating is even broader, really only limited by your imagination!

Amateur Radio, also known as Ham Radio, involves two-way radio communication with other stations (local, regional, countrywide and worldwide). The ability to transmit requires an FCC license, but listening and experimenting with radio do not.

Although Hams still carry on many traditional forms of communication including Morse Code and voice, today's ham radio includes digital data, digital voice, images and video. Radio contacts can be made directly by line-of-site, propagated by ionized layers of the atmosphere, relayed by repeaters or even through Amateur Radio space satellites.



Beyond communicating with other stations, Hams enjoy building electronic devices, experimenting and tinkering. This tinkering includes metal cabinet fabrication, aluminum antenna construction, 3-D Printing, laser etching/cutting, soldering, etc.

Historically Hams have been at the forefront of experimentation in radio and electronic technology. Earlier adopters of computers, many Hams have been involved in a variety of hardware and software innovations. Recently many Hams have utilized microprocessors, like Arduino, in their projects and devices.

A number of Amateur Radio innovations have found their way into mainstream consumer products. Many of the technologies used in both Amateur Radio repeaters and Packet Radio are incorporating in making today's cellphones possible.

The word Amateur, derived from Latin for "lover of" is a person who engages in a pursuit on an unpaid basis for the enjoyment of an activity. A number of Amateur Radio licensees have been involved in inventions, technology advances and innovations:



- Astronauts- many astronauts have been Hams including Yuri Gagarin (UA1LO) the first man in space
- Nobel Prize Winners- including the very active Joe Taylor (K1JT)
- Apple Computer Co-Founder- Steve Wozniak (ex-WA6BND) was first licensed at 10 years old
- Guillermo Marconi, considered father of commercial radio, self-described as an Amateur Radio operator

Makerspaces and D.I.Y. Amateur Radio can have a wide variety of tie-ins:

- Electronics & Circuits
- Soldering
- Wifi & Bluetooth
- Antenna construction
- Solar Energy & battery storage
- 3-D Printing & Laser Cutting
- Metalworking & Mechanics
- Gears and drive mechanisms
- Remote Control
- Remote Sensors
- LEDs and Lighting
- Satellite Tracking & Astronomy
- Shortwave Listening
- Video & Audio Production
- Digital Signal Processing
- Microprocessors- Arduino, Raspberry Pi, etc.
- Sensors- Temp, Pressure, Motion, GPS, pH, Sound, Light, etc.
- Computer Applications
- Direction Finding & Foxhunts
- Crystal Radios
- Circuit Simulators
- Printed Circuit Design & Production
- High Altitude Balloon Launches

