

# M2M News Beacon

Member to Member News Beacon



## Prez's Preface

*"Like a welcome summer rain,  
humor may suddenly cleanse and  
cool the earth, the air and you."  
- Langston Hughes*

Humor. We can't find much of the good-natured kind these days. And if an attempt *is* made of the gentle kind that teases, parodies, self-depreciates or just evokes silliness, someone, somewhere will manage to take serious offense.

I always wondered how those of the "Greatest Generation" always managed to glean a lighthearted

quip and a laugh about any ordinary event, after having lived through the horrors of World War II. Perhaps because they knew what "serious" was, anything else is humorous by contrast.

Summer is a good time to be lighthearted. Air out your brain in the fragrant breeze and warm up your cordiality under the glimmering sun!

Then plan on having a good time among MCARC friends at the August Meeting.

In place of one speaker, our technical session will consist of you who plan on bringing any type of old radio, vintage testing equipment or dusty electronic device, workable or not. What was Ham Radio like in the past?

This Show-and-Tell Night will be an informal, yet informative program to fit in summer's spirit. Should be fun.  
73,  
Jane K8JGR  
216-570-8500

### Inside this issue:

Touch-a-Truck	2
M2M Calendar	3
Steve NQ8T	4
Solar	5
M2M Repeaters	6
Who We Are	7
ARRL Membership	8
M2M Nomination Form	9

## Nomination of Officers and Trustees

CQ... CQ... CQ... Calling all members! MCARC will again hold the election of Officers and Trustees at our November meeting.

However, in order to give everyone time to recruit and consider the nominees, the Board decided to begin the process early. So, this year we will append the nomination form to the June, July and August M2M News Beacon newsletter. It will also be uploaded to [www.W8EOC.org](http://www.W8EOC.org) website. A brief summary of the nominee's qualifications stating why he or she is interested in serving the Club should be attached. **Forms should be submitted to Diane KD8SSX or any other Officer before August 15<sup>th</sup>.** Half of the nominee's bios will be published in September and half in the October M2M News Beacon newsletters. Voting will be held at our November meeting.

You can nominate yourself or another MCARC member, with their permission.

In order to be eligible for office, the nominee must be a paid up member for at least one full year prior to the election, have a valid amateur radio license, be over 18 and have attended at least six meetings in the prior year.

The ballot for 2019 will include nominees for:  
President, Vice President, Secretary, and Treasurer for one year terms.  
Three Trustees for two year terms bob

**A copy of the nomination form is appended to this newsletter**

## MCARC (M2M) July 8, 2019 Meeting Minutes

The Secretary's Minutes for July will be passed around for review at the August General Meeting.



## Touch-a-Truck

Sam Boyer of the Sun News has asked us if the Medina County Amateur Radio Club would be willing to participate in their Touch-a-Truck event at Heritage Farm in Brunswick.

She describes the occasion as, "The first-ever Touch a Truck event will be held from **11:00 a.m. to 2:00 p.m. Aug. 4 at Heritage Farm**, 4613 Laurel Road, home of the Brunswick Area Historical Society. Fire and police vehicles, a 1943 tractor, a semi, a tow truck and (xxx) we're still waiting for word on a military vehicle and a street rod.

State Farm Insurance agent Greg Zolton is providing goodies for kids and providing safety information. It's free and will be held in the east parking area during the Sunday Farmers Market.

For kids who aren't so interested in vehicles, there will also be a kids' costume parade where youngsters can march wearing their favorite costume."

Fred K8FH is bringing the communications trailer and I'll have handouts and poster display about Ham Radio and coloring sheets for the kids. But we are in need of more volunteers:

- People to explain to kids and/or adults what Amateur Radio is all about
- Someone at home to respond to a GOTA station
- Perhaps a simple home brew circuit that lights up or makes noise
- Anything clever to get people's attention

Please contact me if you are willing to participate. It is a great opportunity to spread the word about Ham Radio in general and our Club in particular.

Thank you and 73,

[Jane@K8JGR.radio](mailto:Jane@K8JGR.radio)

216-570-8500 (mobile and text)



## August 12th General Meeting

Join us 7:30 pm for our regular meeting on August 12, 2019 at the **Medina County Senior Center** aka: Medina County Office for Older Adults,  
246 Northland Drive, Basement  
Medina 44256

Participate with Ed K8NVR in our Technical Session, "Vintage Radio and Equipment Night." Bring in any type of old radio, testing equipment or electronic device, workable or not. What was Ham Radio like in the past? It is sure to be an informative and fun evening.



## MCARC (M2M) Calendar

August 12, 2019	General meeting	<b>Sr</b>
August 17, 2019	Medina Farmer's Market Demo	
September 9, 2019	General meeting	<b>JVS</b>
September 14, 2019	Heritage Farm Market Demo	

### General Meeting Venues:

**JVS** = Medina County Career Center  
Room 246  
1101 West Liberty Street  
Medina 44256

**Sr** = Medina County Senior Center (Basement)  
aka: Medina County Office for Older Adults  
246 Northland Drive  
Medina 44256

**Meetings start at 7:30pm**

## Ohio ARRL Hamfests

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

**Location:** Grove City, OH  
**Sponsor:** Voice of Aladdin Amateur Radio Club  
<http://www.columbushamfest.com>

### 08/10/2019 DX Engineering Hamfest

**Location:** Tallmadge, OH  
**Sponsor:** DX Engineering  
<https://www.dxengineering.com/DXEFest>

### 08/17/2019 GARS 2019 HamFest

**Location:** Germantown, OH  
**Sponsor:** Germantown Amateur Radio Society  
<http://www.WG8ARS.org>

## ARRL Contests

### August 2019

**Aug 3-4** 222 MHz and Up  
Distance Contest  
Logs due: 1800Z  
Aug 18

**Aug 17-18** 10 GHz and Up  
Contest

**Aug 18** Rookie Roundup  
- RTTY

**Aug** Hiram Percy  
**31-** Maxim Birthday  
**Sep 8** Celebration

## Hamateur Antix



## Member of the Month – Steve Hill NQ8T

**Name, Call Sign, and Tech/ General/ Extra?** Steve Hill NQ8T, Extra.

**How long have you been a ham?** I was licensed in 2003 while living in Idaho.

**How long have you been a member of M2M?** This is my second year.

**Family Members who are hams?** My wife Mary KE7CJI, son Steve, and grandson Jake.

**What/who got you interested in amateur radio?** My sixth grade teacher introduced me to Ham Radio in 1958, but I did not have an Elmer to help me. Barry, my good friend and Elmer kept at me. But it was my grandson, Jake, who was licensed when 12 years old, that finally got me off dead center.

**What modes of operation do you like best?** Well, I have operated SSB & FM phone, RTTY, PSK, JT65, FT8 and CW. I have focused on CW the last 18 months. Despite the slow progress of my copy skills, CW has become my mode of choice. We operate barefoot or QRP.

**Awards, activities, nets:** I am not a contester. I have the ARRL Triple Play, mixed WAS, WAS via RTTY, PSK & JT65. I enjoy

special events such as the 13 Colonies and Route 66. National Parks on the Air was a HUGE hit with me. I dabbled with FT8 but did not enjoy it. I quit chasing DX on 170 because of mass confusion in the pile ups. I am very active with the Straight Key Century Club. I operated from a multi-multi station in Michigan for the "Light Bulb Challenge." What a hoot to watch a lightbulb antenna flash the call sign! I completed the ICS100 & ICS200, EmCom courses.

**Current projects?** CW proficiency, antennas including a portable antenna. A station can never have too many antennas! I occasionally build kits which is the extent of my technical knowledge.

**Favorite rigs:** Mary and I have a YAESU FT-950, Elecraft KX2, YAESU 8900R and a couple of HT's. We are trying to keep things simple! We also have a lot of wire hanging in our trees!

**What would you like to learn more about?** I am interested in everything that is going on around me. Amateur Radio keeps the technical side of my brain from atrophying! However, most of the time, I have to settle for just telling myself, "Self, you don't have a clue, its magic!"

**What line of work were/are you in?** I retired in 2003. I worked in fossil fueled electric generating plants, including steam and combustion turbine powered generation. After pulling the plug so to speak, I did some consulting.

Chapter II, our second career (Hi Hi!), was moving to SE Idaho. That opened up the opportunity to be involved in a new culture. Cattle ranching, horses, lots of snow and many opportunities to volunteer our time.

Moving back to Ohio began Chapter III.

**Other Hobbies?** Mary and I volunteer several hundred hours each year at a National Estuarine Research Reserve. We are both OSU Ohio Certified Volunteer Naturalists. We also enjoy canoeing, planting trees, gardening & exploring the US and Canada.

**What would you like to see in MCARC?** Well, we are newbies so don't have any "druthers!" It is a nice & friendly group!

**Please add any other information that expresses your enjoyment with ham radio:** Serving the public and meeting new folks via electromagnetic waves traveling through space! It's gotta be magic!



The Shack



USFS & Idaho State Parks repeater on Paris Peak elevation 9.700'



The Paris Peak "fix it" crew. I am on the left, Mary is crouching with our Mountain Lion Alarm dog Shelby. It was a several hour & really tough climb to the top. No trails, often on hands and knees passing up tools and ShelbyDog. But the view was worth it! We had the opportunity to make two trips to that site. Somehow it had been turned off from the valley floor! Some sharp shooter shot a hole in the antenna!



The Local Radio Club in Idaho, BEARS, with the venerable IC center. We often put this thing in to service. It was so unreliable. We always had to set up our own equipment & emergency power! Mary & I are leaning against the door to keep the thing from blowina over!



The solar powered AC7TJ Repeater on the ridge above Bear Lake Idaho, elevation approx. 8,000'. This was jointly owned by Bear Lake & Franklin Counties and intended mainly for Search & Rescue. The thing was open to all Amateur's. It was easy to "hit it" from the deepest and narrowest canyons. Both counties SAR were hopping busy in the winter. We drug this up the side of the mountain with our old Jeep.

## Breakthrough material could lead to cheaper, more widespread solar panels and electronics

Imagine printing electronic devices using a simple inkjet printer—or even painting a solar panel onto the wall of a building. Such technology would slash the cost of manufacturing electronic devices and enable new ways to integrate them into our everyday lives. Over the last two decades, a type of material called organic semiconductors, made out of molecules or polymers, has been developed for such purposes. But some properties of these materials pose a major hurdle that limits their widespread use.

"In these materials, an electron is usually bound to its counterpart, a missing electron known as 'hole,' and can't move freely," said Wai-Lun Chan, associate professor of physics & astronomy at the University of Kansas. "So-called 'free electrons,' which wander freely in the material and conduct electricity, are rare and can't be generated readily by light absorption. This impedes the use of these organic materials in applications like solar panels because panels built with these materials often have poor performance."

Because of this problem, Chan said "freeing the electrons" has been a focus in developing organic semiconductors for solar cells, light sensors and many other optoelectronic applications.

Now, two physics research groups at KU, led by Chan and Hui Zhao, professor of physics & astronomy, have effectively generated free electrons from organic semiconductors when combined with a single atomic layer of molybdenum disulfide ( $\text{MoS}_2$ ), a recently discovered two-dimensional (2-D) semiconductor.

The introduced 2-D layer allows the electrons to escape from "holes" and move freely. The findings have just been published in the *Journal of American Chemical Society*, a leading journal in chemistry and interfacing areas of science.

Over the last few years, many researchers have been investigating how free charges can be generated effectively from hybrid organic-2-D interfaces.

"One of the prevailing assumptions is free electrons can be generated from the interface as long as electrons can be transferred from one material to another in a relatively short period of time—less than one-trillionth of a second," Chan said. "However, my graduate students Tika Kafle and Bhupal Kattel and I have found the presence of the ultrafast electron transfer in itself is not sufficient to guarantee the generation of free electrons from the light absorption. That's because the 'holes' can prevent the electrons from moving away from the interface. Whether the electron can be free from this binding force depends on the local energy landscape near the interface."

Chan said the energy landscape of the electrons could be seen as a topographic map of a mountain.

"A hiker chooses his path based on the height contour map," he said. "Similarly, the motion of the electron at the interface between the two materials is controlled by the electron energy landscape near the interface."

Chan and Zhao's findings will help develop general principles of how to design the "landscape" to free the electrons in such hybrid materials.

The discovery was made by combining two highly complementary experimental tools based on ultrafast lasers, time-resolved photoemission spectroscopy in Chan's lab and transient optical absorption in Zhao's lab. Both experimental setups are located in the basement of the Integrated Science Building.

In the time-resolved photoemission spectroscopy experiment, Kafle used an ultrashort laser pulse that only exists for 10-quadrillionths (10-14) of a second to trigger the motion of electrons. The advantage of using such a short pulse is the researcher knows precisely the starting time of the electron's journey. Kafle then used another ultrashort laser pulse to hit the sample again at an accurately controlled time relative to the first pulse. This second pulse is energetic enough to kick out these electrons from the sample. By measuring the energy of these electrons (now in a vacuum) and using the principle of energy conservation, the researchers were able to figure out the energy of electrons before they were kicked out and thus reveal the journey of these electrons since they were hit by the first pulse. This technique resolved the energy of the excited electrons as it moves across the interface after the light absorption. Because only electrons near the front surface of the sample can be released by the second pulse, the position of the electron relative to the interface is also revealed with atomic precision.

In the transient optical absorption measurements, Peng Yao (a visiting student) and KU graduate Peymon Zereszki, both supervised by Zhao, also used a two-pulse technique, with the first pulse initiating the electron motion in the same way. However, in their measurements, the second pulse does the trick of monitoring electrons by detecting the fraction of the second pulse that is reflected from the sample, instead of kicking out the electrons.

"Because light can penetrate a longer distance, the measurement can probe electrons in the entire depth of the sample and therefore provide complementary information to the first techniques that are more 'surface sensitive,'" Zhao said. "These detailed measurements enabled us to reconstruct the trajectory of the electron and determine conditions that enable the effective generation of free electrons."

## MCARC (M2M) Repeaters

05/11/2018

				Repeater Directories		
Call	Location	Function	Repeater Input	Repeater Output	CTCSS (PL)	Band
W8EOC	Medina (Main Site)	Repeater TX & RX	147.630	147.030	141.3	2 Meter
W8EOC	Brunswick (North)	Receive only	147.630	From Main Site	131.8	2 Meter
W8EOC	Lafayette (South)	Receive only	147.630	From Main Site	88.5	2 Meter
W8EOC	Lafayette Litchfield	Split Site Repeater	51.160		107.2	6 Meter
				51.660		
W8HN	Medina	Digital C4FM TX & RX Repeater	147.885	147.285	(0)	2 Meter
		Analog TX & RX Repeater	147.885	147.285	(110.9)	2 Meter
W8UQZ	Medina	Repeater TX & RX	223.260	224.860	-	1.25 Meter
W8EOC	Lafayette	Repeater TX & RX	449.925	444.925	131.8	70 CM

*Remember to check in to the 2-Meter Net 147.030 on non-meeting, Monday evenings at 7:30pm.*

## MCARC (M2M) Monday Night 2-Meter Net Control

5-Aug-2019	KE8JID	12-Aug-2019	Meeting
19-Aug-2019	KDBSST	26-Aug-2019	KE8APO
2-Sep-2019	K8TV	9-Sep-2019	Meeting

## ARRL Membership

Please consider paying your dues for ARRL membership through our club Treasurer, Gail KD8GGM. **M2M will retain \$15.00 for each NEW membership and \$2.00 for each renewal.**

Yearly dues are \$49.00 for regular membership, \$25.00 for youth under age 21 being oldest Ham in household, and \$10.00 for Additional Ham member in family. All but Additional Ham memberships will receive the monthly QST magazine. Dues can be paid by cash, **personal check made out to "Medina Two Meter Group"** or credit card.

**A copy of the ARRL Membership Application/Renewal form is appended to this newsletter). Please return it with payment to: Gail Helwig KD8GGM, Treasurer, M2M Group, 12891 East River Road, Columbia Station, Ohio 44028. (Do not mail cash, give it to Gail at the next meeting.)**

# MCARC (M2M) News Beacon

## M2M GROUP, INC

We're on the Web!

See us at:

[www.W8EOC.org](http://www.W8EOC.org)

Also,

"Like Us" on Facebook

"Medina County Amateur Radio Club"



## Who's Who

### President:

Jane Reed K8JGR  
jane@K8JGR.radio

216-570-8500

**VP:** Diane Snider KD8SSX

### Treasurer:

Gail Helwig KD8GGM

### Secretary:

Ray Orobona K2RWO

### W8EOC Repeaters:

Ed Eyerdorn K8NVR

Ken Koyan K8TV

### Trustees:

Doug McClure KD8SST

Dave Swancer KE8APO

Ken Koyan K8TV

Don Duman W8DD

Ed Eyerdorn K8NVR

### Sunshine:

Diane Snider KD8SSX

### Newsletter:

Jane Reed K8JGR

### Field Day:

Fred Helwig K8FH

### Facebook Page:

James Johnston KD8FHY

### Website:

Jane Reed K8JGR

### Net Scheduling:

Baji Panchumarti K8IIT

### Social Events:

Gail Helwig

### Skywarn:

Tracey Liston W8TWL

### MECARS/ARES:

Jim Bodnar W8UQZ

### RACES:

Dave Rickon NF80

## About Our Organization...

The Medina County Amateur Radio Club (M2M) is a nonprofit, ARRL Special Service registered, amateur radio organization based in Medina County, dedicated to communication, public service, education and fellowship.

Many of our members also are involved with Skywarn, ARES/MECARS, RACES, and assist with community events

such as bicycle and foot races.

We meet on the second Monday of each month at either the Medina County Senior Center (Sr) or the Medina County Career (JVS) Center. See Website or page three for more information.



MEDINA TWO METER GROUP INC.

1254 HADCOCK RD  
BRUNSWICK, OHIO 44212



TO:



**ARRL** The national association for  
**AMATEUR RADIO®**

# Membership Application

Application for use by ARRL Affiliated Clubs

## Contact Information

- I am a brand new member or my membership has been lapsed for 2 or more years. My club will keep \$15 of my dues.  
 I am renewing (includes lapsed members of less than 2 years). My club will keep \$2.00 of my dues.

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_ Get an annual birthday coupon (US only)

My Family Member is Joining or Renewing: (\$10 per member)

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

## Your Annual Membership Dues – Circle Your Choice/s.

	1 Year	2 Years	3 Years	
US	\$49	\$95	\$140	Monthly QST via standard mail for US members
Youth	\$25			Must be 21 years old or younger AND the oldest licensed Radio Amateur in the household
Canada	\$62	\$120	\$177	Monthly QST via standard mail for Canadian members
International	\$76	\$147	\$217	Monthly QST via standard mail for International members
International/Canada – no print QST	\$49	\$95	\$140	Digital QST only
Family	\$10	\$20	\$30	Must reside with primary member and have corresponding membership dates; no extra copies of QST
Blind	\$10	\$20	\$30	No QST delivery; all other member benefits apply. Requires a one time signed and dated statement of Legal Blindness

Additional membership options available online at [www.arrl.org/join](http://www.arrl.org/join). US Memberships include \$21 per year for subscription to QST. Dues are subject to change without notice and are non-refundable. Only one free book and one monthly issue of QST per family. Memberships may not be combined with any other promotion or special offer.

- I do not want my name and address made available for non-ARRL related mailings.

## Payment Information

Please charge my ARRL dues less my club's commission. I have paid the commission directly to my club.

\$ \_\_\_\_\_ Total Charge to:  Visa  MasterCard  Amex  Discover  Check Enclosed

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Card Holder's Signature \_\_\_\_\_

ARRL = 225 Main Street = Newington, CT 06111-1494 = USA  
Toll free (US) 1-888-277-5289 or 860-594-0200 = [www.arrl.org/join](http://www.arrl.org/join)

