

M2M News Beacon

Member to Member News Beacon



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Prez's Preface

"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less."

Marie Curie

Hello Everyone,
Hope you all are safe, healthy and coping with the constraints imposed by the pandemic.

How many of you have used videoconferencing on Skype, Google Meet, Zoom or other platforms?

Ed K8NVR and I are looking into the possibility of presenting technical sessions via your PC, tablet or smartphone if enough members participate. We would provide detailed info about how to hook up your computer to join in.

You do not need a camera on your device since you could interact through audio, yet you would still be able to view the

video presentation. However, if you do have a camera, your lovely face could be visible to all participants, if you choose.

Ain't technology grand? 😊

There is also the possibility of additional tech support through your children and grandchildren who might be using it for work or school!

Stay Well and 73,
Jane@K8JGR.radio

Radio Direction Finding – Fox Hunting

Do you feel cooped up and ready to go exploring? The MCARC will be hosting another Fox Hunt as soon as the weather provides us with some sunny days.

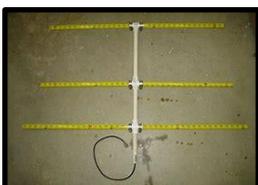
Don't know what Fox Hunting is all about? Well, a transmitter – in this case a 2-meter "Fox" -will be hidden somewhere public in Medina County. This Hunt will be by vehicle only, no walking, to maintain social distancing. Participants will meet at a designated spot, sign in with odometer reading, and all will leave at the same time. It will be a timed Fox Hunt, probably around three hours. Whoever finds the Fox will record the time it was found and their ending odometer reading. The Foxfinder with the lowest odometer reading at the end of the three hours wins! That way we will discourage breaking the speed limits and encourage triangulation efficiency.

The only equipment necessary is a HT with a S-meter and perhaps some "tinfoil." Some may build or buy a tape measure beam, fabricate a Doppler antenna system, or play with an attenuator.

First-time Fox Hunter, Amy K2KSU, merely used a HT with tinfoil to win our last Hunt!

Dave KE8APO and I, K8JGR, will provide much more information to anyone interested. Perhaps a ZOOM video presentation on the topic could be arranged as well.

Let us know if you are interested.... Dlswan@zoominterne.net or Jane@K8JGR.radio

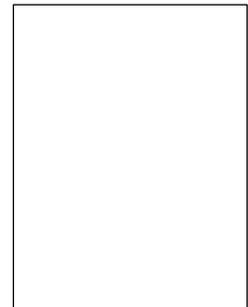


MCARC April 13th On-Air General Meeting Minutes

MEDINA COUNTY AMATEUR RADIO CLUB
On-Air Net Meeting Minutes for April 13, 2020

The April 13, 2020 meeting was held as a net because of the corona virus lock down. The net opened at 7:30pm with check-ins logging onto the 147.030MHz repeater. The net was controlled by Toby WT80. The following paid members (*non-members*) were present for the network meeting:

Toby WT80	Doug KD8SST	<i>Austin KE8OGA</i>
Ray K2RWO	Doug N8XQM	<i>Jerry KE8OFO</i>
Gordon AI8Y	Dave KE8APO	<i>Keith W0AHA</i>
Amy K2KSU	Jane K8JGR	<i>Mike KC8SNR</i>
Diane KD8SSX	John K8JEK	<i>Larry N8RKE</i>
Frank KN4AW	Steve KB8SCI	<i>John KE8LVC</i>
Tracy W8TWL	Macy N8OBG	<i>Andy AC8JR</i>
Julio KE8JIE	Baji K8IIT	<i>Jeff KE8NNW</i>



Toby asked net participants for their first go-around comments.

NCO, Toby WT80 then transferred control over to Jane K8JGR at 8:12pm to conduct the regular monthly meeting...

The Treasurer's Report was submitted by Gail KD8GGM and read by Ray K2RWO. Doug, KD8SST moved to approve the Treasurer's Report and was second by Doug N8XQM.

The March 9, 2020 Minutes of the in-person meeting of the Medina County Amateur Radio Club (MCARC) will be printed in the May M2M News Beacon newsletter [page 4], for approval during the May 11, 2020 Club meeting.

The Club's IRS Form 990N has been submitted and filed with the IRS.

The Club's Hanover insurance policy has been renewed for the year 2020.

Payment for the web hosting for W8EOC was also sent in.

Ed K8NVR is interested in holding a Google Hangouts video program on-line.

Dave KE8APO and Jane K8JGR will organize an automobile-based foxhunt.

The Dayton Hamfest has been canceled.

The May MCARC monthly meeting will be conducted on-air on May 11, 2020 at 7:30pm on 147.030MHz.

The April meeting was called for adjournment by Doug KD8SST and second by Diane KD8SSX.

Respectfully submitted by Secretary, Ray Orobana K2RWO

Jane K8JGR transferred control over to NCO, Toby WT80, who continued the net with a second round of comments, before returning the repeater back to normal operations.

May 11, 2020 On-Air General Meeting

The Medina County Amateur Radio Club will *not* be holding *in-person* meetings until the threat of Coronavirus is under control.

However, Monday May 11th, the Club will hold the *May meeting during a special 2-meter net* at 7:30 pm. See page 6 for frequency and tone.

MCARC (M2M) Calendar

- May 11th On-Air General Meeting 2-Meter Net
- May 15-17 Dayton Hamvention CANCELLED
- June 15th MCARC General Meeting TBA
- June 27-28 Field Day TBA



ARRL Contests

None

April Ohio ARRL Hamfests

05/17/2020 - 05/19/2020

CANCELLED - Dayton Hamvention

Location: Xenia, OH

Type: ARRL Convention

Sponsor: Dayton Amateur Radio Association

Website: <https://hamvention.org/>

Hamateur Antix



MCARC March 9, 2020 In-Person General Meeting

Meeting was called to order at 7:30pm by Jane K8JGR, President, at the Medina Career Center, room 246.

All stood to recite the Pledge of Allegiance.

All present did a roll call and introduced themselves. 11 members were present as well as our guest presenter, N8OWS Larry Shimerka and his wife Kelly KE8AXL.

Motion was made by Doug KD8SST and seconded by Ed K8NVR to suspend the reading of the February minutes as passed around to the members. No corrections were suggested. All voted in favor of the minutes, with no opposition, so the minutes were approved as presented.

The Treasurer's report was next read: The checking account balance as of 2-1-20 was \$8,897.61, income from dues \$154.00, income from other sources \$659.00, no expenses, so a balance as of 2-29-20 was \$9,529.61. Other income was \$500.00 from the raffle, \$110.00 from the 50/50, and \$49.00 from ARRL. Expenses were \$81.00 ARRL and \$100.00 Shriner Hospital donation. The Gift Card Account began and ended with a \$4,075.60 balance. Cash and checks on hand not included in the above: \$16.00 petty expense and \$15.00 dues on hand. Motion was made by Dave S. KE8APO, seconded by Ed K8NVR to accept the Treasurer's report as read. All voted in favor, with none opposed, so the Treasurer's report was approved as read.

President's report: Jane read a letter from Mark Moro WJ8WM, last month's guest speaker, who spoke about grounding and bonding. Toby WT8O had put it in the CARS newsletter also. Mark said he felt very welcomed by the club at last month's meeting.

Jane reported that she had received a list of equipment to be donated to the club by Dave Hibbard NK0K. She has not had a chance to go through the equipment yet, but there is a lot of stuff including speakers, transceivers, power meters, Yaesu 440 etc. She will catalog and check out the equipment and present it at a future meeting,

Jane reminded everyone that the ARRL Convention was this coming Saturday March 14th, and that the Toledo Hamfest is the following Sunday March 15th. Bob K8MD said the Toledo hamlets is large and good. He also attended the NORS hamlets which he said was pretty small.

Toby WT8O who provides presentations and guest speakers for the meetings requested any ideas or suggestions for future programs. Contact him with your ideas.

Jim W8UQZ announced that he had resigned at EC. Matt, the new DEC, is looking to find a replacement for him. Jim also confirmed that his surgery is scheduled for this Thursday, March 12th as long as he does not come down with a cold. He was told he would be released the following day.

Six students are currently taking the club sponsored general license class. All appear to be doing well. A VE test session is scheduled for Wednesday March 25th at 6:30 at the Career Center in room 246. All who wish to upgrade their license, or anyone wishing to test for a technician license is welcome to participate. Ed K8NVR, Fred K8FH, and Jane K8JGR will be available to administer the tests. Another VE would be good to have on hand. Tracy W8TWL may not be available and Dave NF8O will not be available, but our guest speaker Larry N8OWS volunteered to help out if needed.

There was no other old business to be discussed, so any new business that needed to be discussed was opened. There was none.

Motion to adjourn the meeting to proceed with the guest presentation was made by Doug KD8SST, seconded by Toby WT8O, and unanimously voted in favor, so the meeting was adjourned at 7:47pm.

This month's presentation on exploring the Satellite Disc Two-Meter Antenna, by Larry Shimerka N8OWS on slot antennas for 2-meters and 70cm. His discussion and demonstration on slot antennas was very interesting and informative.

Respectfully submitted by Diane KD8SSX

US Scientists Create New Solar Cell That Blows Past Theoretical Limit, But Why?

The National Renewable Laboratory just nailed down bragging rights to the world's most efficient solar cell to date. The new PV device sails past the theoretical limit of 33% and gets pretty close to the 50% range, clocking in at an impressive 47.1%. The downside is that high-performance devices like these have an irritating tendency to price themselves out of the marketplace. They get stuck in outer space and other niche areas. Nevertheless, high performance could pay off in the sparkling green future, even though the cost of garden-variety solar is already low and falling.

A New Record For Solar Cell Efficiency

Before we get to the sparkling green economy of the future, let's take a quick look at that new photovoltaic research from NREL.

For those of you new to the topic, the basic idea is that the right combination of materials can improve the ability of a solar cell to convert solar energy to electricity.

So far, silicon has proved to be the gold standard for solar cell efficiency. The 33% limit is based on single-junction solar cells, which use only silicon.

By switching up materials, adding more junctions, and performing some impressive feats of engineering in between, you can push past that limit.

Some triple-junction solar cells, for example, can surpass 45% under concentrated sunlight.

The new NREL solar cell is a six-junction affair of the III-V variety ("III-V" refers to the position of light absorbing elements on the periodic table).

You can get all the details from the research paper, published in the journal *Nature Energy* under the title, "*Six-junction III-V solar cells with 47.1% conversion efficiency under 143 suns concentration*," but if you only have time for the plain-language version, the basic idea is that each of the six junctions capture different parts of the solar spectrum.

Through the magic of modern engineering and nanotechnology, the new solar cell consists of about 140 layers of the various materials, but it is narrower than a hair.

If that sounds rather pricey, it probably is. NREL has been working on bringing the cost of III-V solar cells down, but they are typically used in space and other niche applications where small is good and money is not an obstacle.

Expensive Solar Cell Meets Concentrating Solar Power

As for more ordinary applications in everyday life, that could be in the cards.

The research team points out that their new solar cell hit the record-setting mark of 47.1% under concentrated light. Under the equivalent of just one sun, it *only* racks up a conversion efficiency of 39.2%.

That rate of 39.2% may seem somewhat less impressive but it's still nothing to sneeze at. In fact, 39.2% sets a new world record for one-sun conversion efficiency, which the NREL team bragging rights to a solar cell efficiency twofer for the same device.

More to the point, the difference in conversion efficiency between one sun and concentrated light suggests that there may be an economical way to deploy six junction III-V cells in the mass market.

If you're guessing our old friend concentrating solar power could be the linchpin, run right out and buy yourself a cigar.

"One way to reduce cost is to reduce the required area, and you can do that by using a mirror to capture the light and focus the light down to a point," explains NREL scientist Ryan France, who co-authored the new study.

Loosely speaking, the idea is to use a big field of relatively inexpensive mirrors to balance out the cost of a small field of ultra-efficient solar cells.

How small? According to France, you could end up using a fraction of semiconductor material compared to a conventional silicon solar cell, on the order of 1/100 or even 1/1,000.

Whatever Happened To Concentrating Solar Power?

If all goes according to plan, that would be sweet vindication for concentrating solar power fans.

The US Department of energy showcased CSP during the Obama administration, but back then the technology was relatively slow to prove itself in the marketplace.

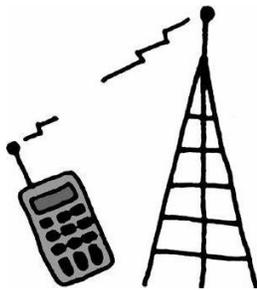
In recent years, though, concentrating solar has really taken off. The current focus is on thermal energy plus energy storage, but the potential for adding a photovoltaic angle could give the CSP industry yet another avenue of solar energy to pursue.

On the thermal side, the Energy Department has ramped up its interest in concentrating solar power in recent years with a particular focus on the high-temperature solar area. Microsoft's Bill Gates has also dipped a toe in the high-temperature CSP field, in his new guise as a high-tech energy investor.

MCARC (M2M) Repeaters

05/11/2018

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



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
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

MCARC (M2M) Monday Night 2-Meter Net Control

30-Mar-2020	K8NVR	06-Apr-2020	K8IIT
13-Apr-2020	Meeting	20-Apr-2020	
27-Apr-2020	K2KSU	04-May-2020	KE8APO

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.)

M2M GROUP, INC

We're on the Web!

See us at:

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:

Ken Koyan K8TV
Ed Eyerdom K8NVR

State Certification:

Don Duman W8DD

Trustees:

Doug McClure KD8SST

Dave Swancer KE8APO

Dave Oravec N8JNX

Amy Panchumarti K2KSU

Ed Eyerdom K8NVR

Sunshine:

Diane Snider KD8SSX

Newsletter:

Jane Reed K8JGR

Field Day:

Fred Helwig K8FH

Website:

Jane Reed K8JGR

Net Scheduling:

Baji Panchumarti K8IIT

Social Events:

Gail Helwig KD8GGM

Skywarn:

Tracey Liston W8TWL

MECARS/ARES:

Jim Bodnar W8UQZ

RACES:

Dave Rickon NF80

Program:

Toby Kolman W8TO

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 (M2M) INC.
DBA: MEDINA COUNTY AMATEUR RADIO CLUB
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. 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